

# Monitoring Bicycle Traffic

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**COPENHAGEN  
TOGETHER**

CITY OF COPENHAGEN  
The Technical and  
Environmental Administration

# Today's presentation

1. Why and how are we monitoring bicycle traffic?
2. Communicating data
3. Examples

# Why?



1/3 public transport  
1/3 biking  
Max. 1/3 car



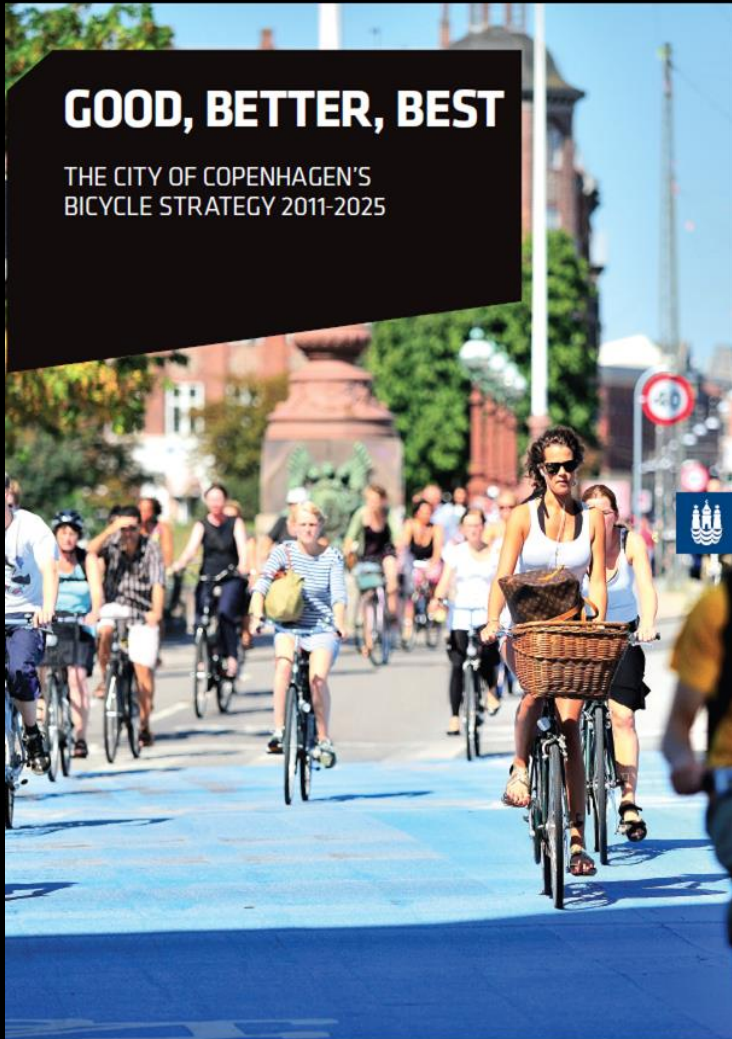
100 % carbon  
neutral



Max. 25 % of  
trips by car in  
2025



# Bicycle Strategy 2011-2025



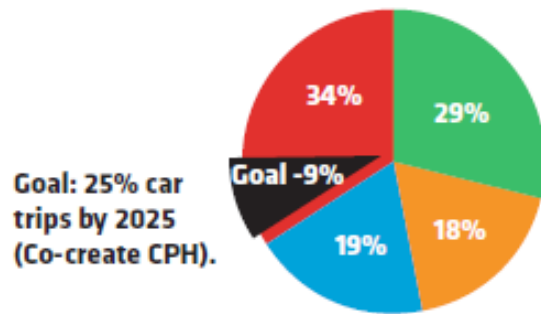
## Goals 2025

- **World's best city for cyclists**
- **50 % of trips to work and study by bicycle (41 %)**
- **90 % feel safe when cycling (76 %)**
- **15 % reduction of total travel time by bike (6 %)**
- **70 % satisfaction with bicycle parking (37 %)**

# How? (data collection)

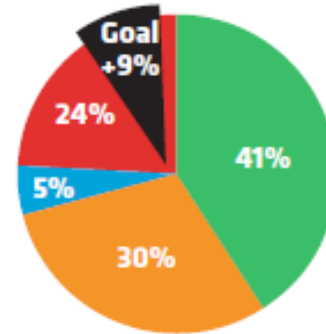
- A) Modal split
- B) Copenhageners' satisfaction with the Cycling City
- C) Manual countings

# A) Modal split (2016)



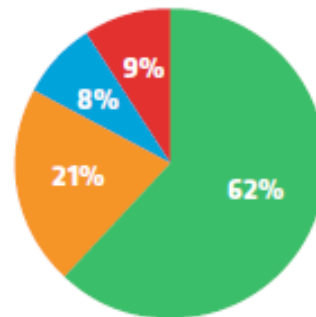
Goal: 25% car trips by 2025 (Co-create CPH).

All trips with start and/or stop in the City of Copenhagen.



Goal: 50% bicycle trips by 2025 (Co-create CPH and Copenhagen Bicycle Strategy).

Trips to work and education in the City of Copenhagen.



Copenhageners' trips to work and education in the City of Copenhagen.

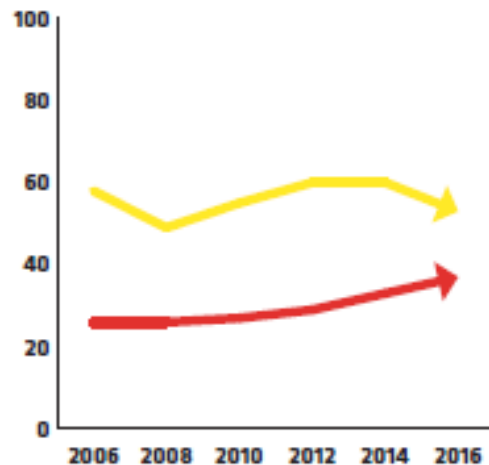
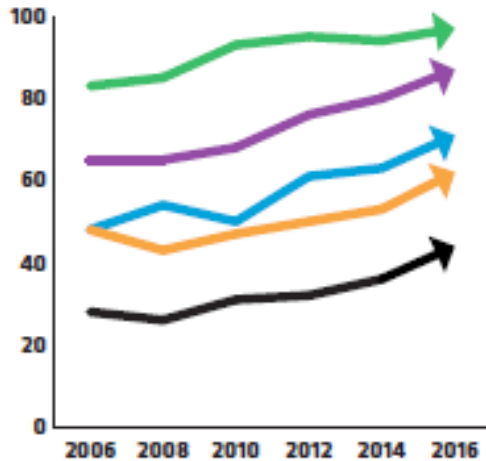
Car

Public transport

Walk

Bicycle

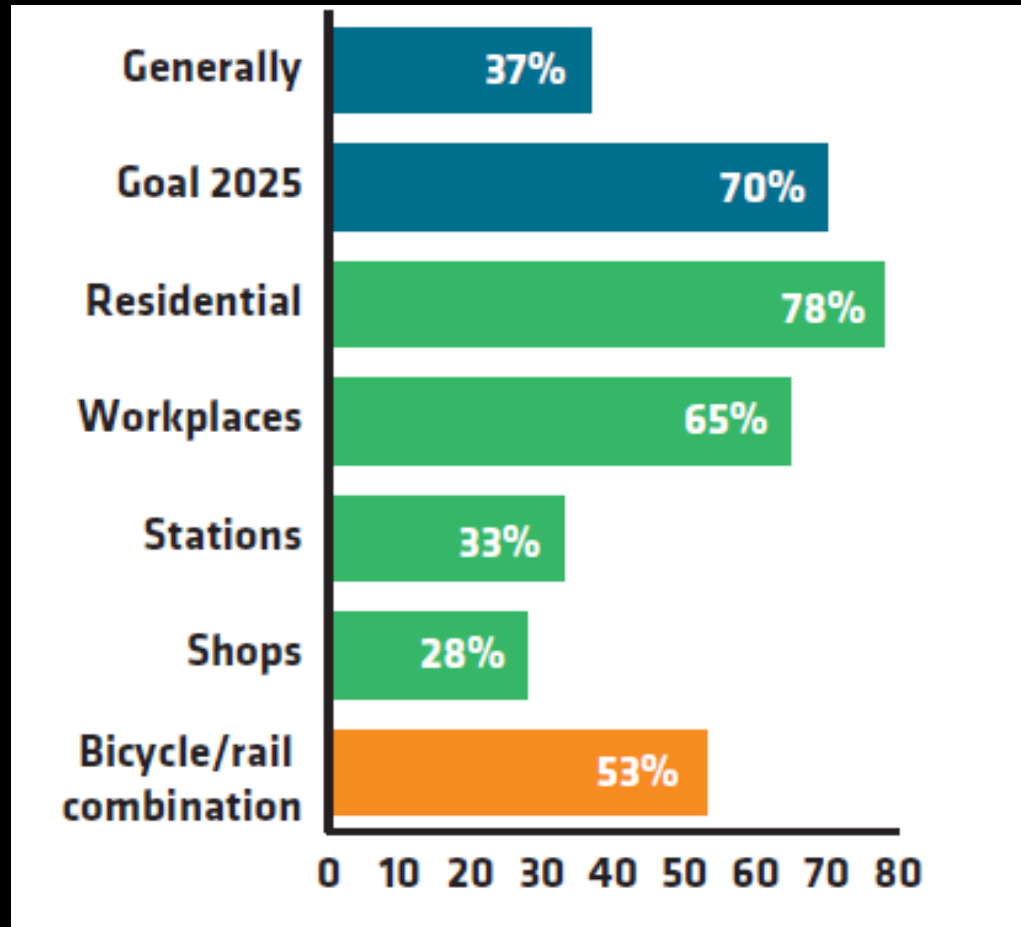
# B) Copenhageners' satisfaction with the Cycling City



**COPENHAGENERS' SATISFACTION WITH THE CYCLING CITY\***

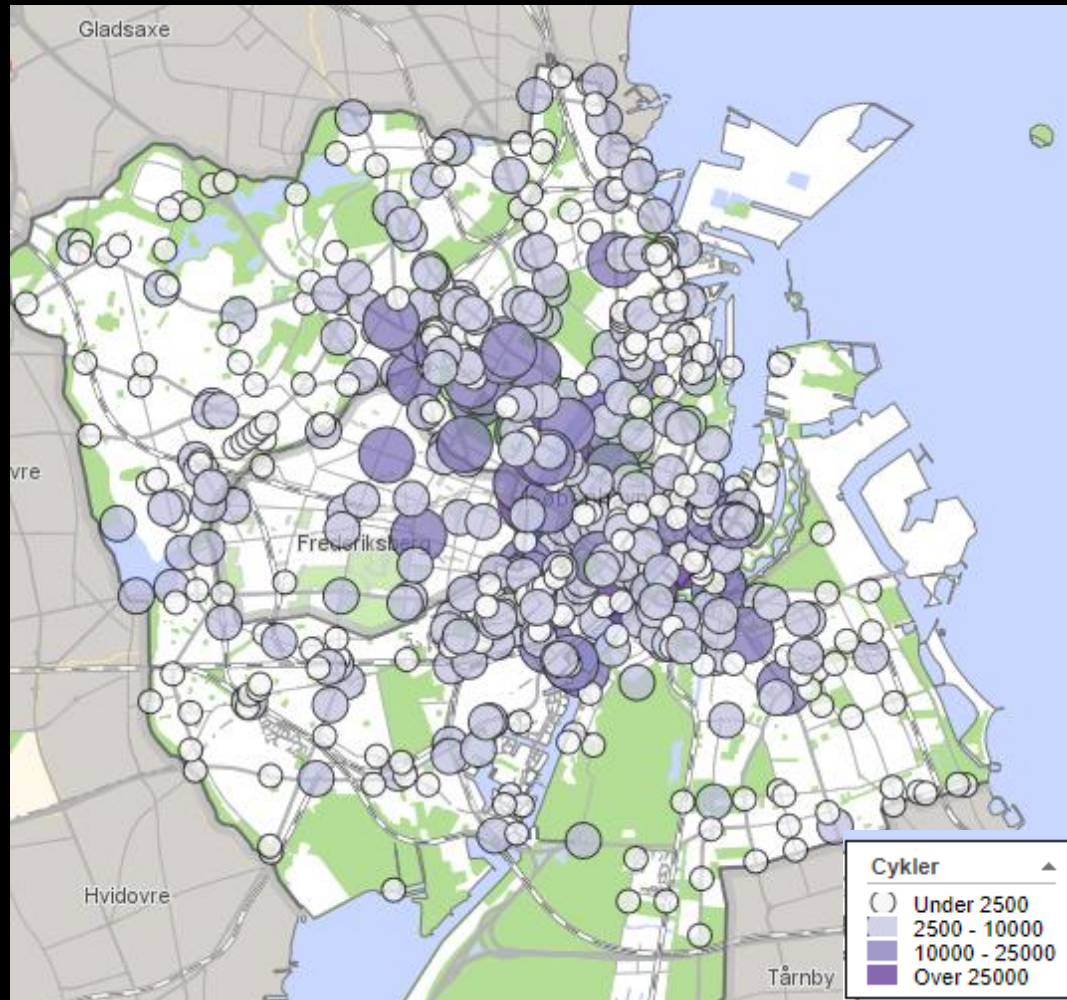
'06	'08	'10	'12	'14	'16	
83	85	93	95	94	97	Copenhagen as a cycling city <span style="color: green;">■</span>
65	65	68	76	80	87	Amount of cycle tracks <span style="color: purple;">■</span>
48	54	50	61	63	71	Cycle track maintenance <span style="color: blue;">■</span>
48	43	47	50	53	62	Cycle track width <span style="color: orange;">■</span>
28	26	31	32	36	44	Road maintenance <span style="color: black;">■</span>
58	49	55	60	60	53	Combination of bicycle and public transport <span style="color: yellow;">■</span>
26	26	27	29	33	37	Bicycle parking generally <span style="color: red;">■</span>

# Satisfaction with bicycle parking (2016)



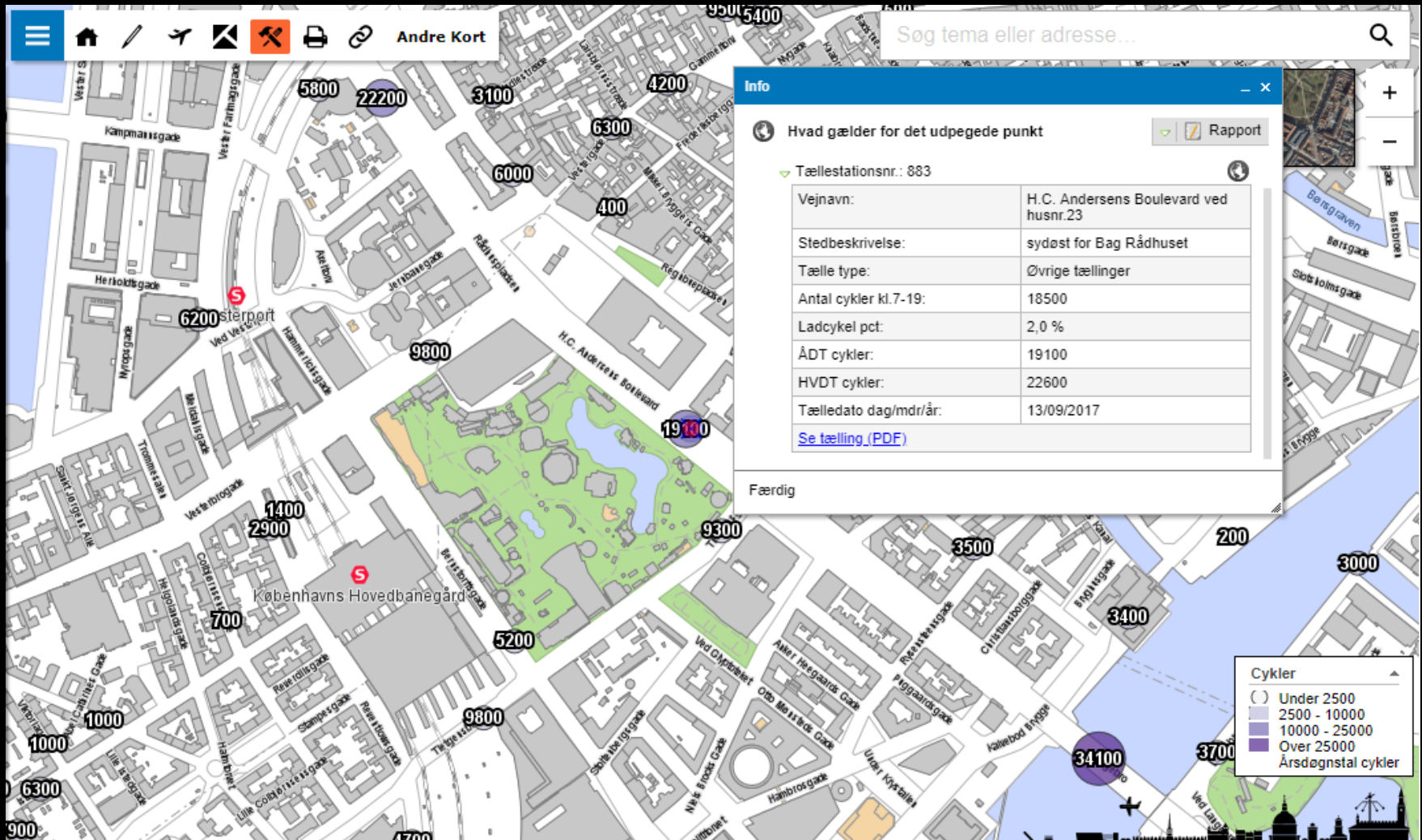


# C) Manual countings



<https://kbhkort.kk.dk/spatialmap?>

# Manual countings



# Manual countings



København Kommune  
Teknik og Miljøforvaltningen, Center for Trafik og Byliv  
Njalsgade 13, 1. sal, 2300 København S

**Manuel tælling**

Tællested: 883

H.C. ANDERSEN BOULEVARD ud for miljømålestationen (husnr. 23)																Sum begge retn.	
	Mod nordvest (mod Rådhuspladsen)										Onsdag d. 13. sep. 2017						
KLOKKESLÆT	7-19	%	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	%	Kl. 7-19	
PERSONBILER	17.310	74,0	1.799	1.545	1.041	966	988	1.239	1.224	1.614	1.791	1.880	1.809	1.414	74,3	35.566	
VAREVOGNE (MAX. 3,5 t)	4.292	18,3	416	348	421	396	444	413	479	429	341	258	199	148	18,4	8.792	
TAXA	859	3,7	48	57	81	50	73	62	85	85	93	59	83	83	3,4	1.630	
MOTORCYKLER	67	0,3	10	6	6	7	5	3	1	2	7	3	8	9	0,3	128	
A: LET TRAFIK I ALT	22.528	96,3	2.273	1.956	1.549	1.419	1.510	1.717	1.789	2.130	2.232	2.200	2.099	1.654	96,3	46.116	
LASTBILER, 2 aksler	186	0,8	15	38	27	23	29	13	17	19	2	3	0	0	0,7	359	
LASTBILER, 3 aksler	87	0,4	11	12	12	12	11	13	5	4	4	1	1	1	0,4	198	
LASTBILER, 4 - flere aksler	268	1,1	47	25	31	40	28	23	25	20	13	9	6	1	1,0	500	
BUSSER I FAST RUTE	205	0,9	16	22	17	17	15	16	17	16	17	21	16	15	0,9	423	
ANDRE BUSSE	130	0,6	3	19	13	4	8	14	15	14	12	11	11	6	0,6	297	
B: TUNG TRAFIK I ALT	876	3,7	92	116	100	96	91	79	79	73	48	45	34	23	3,7	1.777	
A+B: KØRETØJER I ALT	23.404	100,0	2.365	2.072	1.649	1.515	1.601	1.796	1.868	2.203	2.280	2.245	2.133	1.677	100,0	47.893	
LADCYKLER	205	2,2	16	22	17	17	15	16	17	16	17	21	16	15	2,0	377	
CYKLER + KNALLERTER	9.047	97,8	1.057	1.495	612	389	312	311	264	482	1.123	1.496	1.010	496	98,0	18.123	
CYKLER + KNALLERTER I ALT	9.252	100,0	1.073	1.517	629	406	327	327	281	498	1.140	1.517	1.026	511	100,0	18.500	

Vejret: 13 grader, regn og meget blæsende

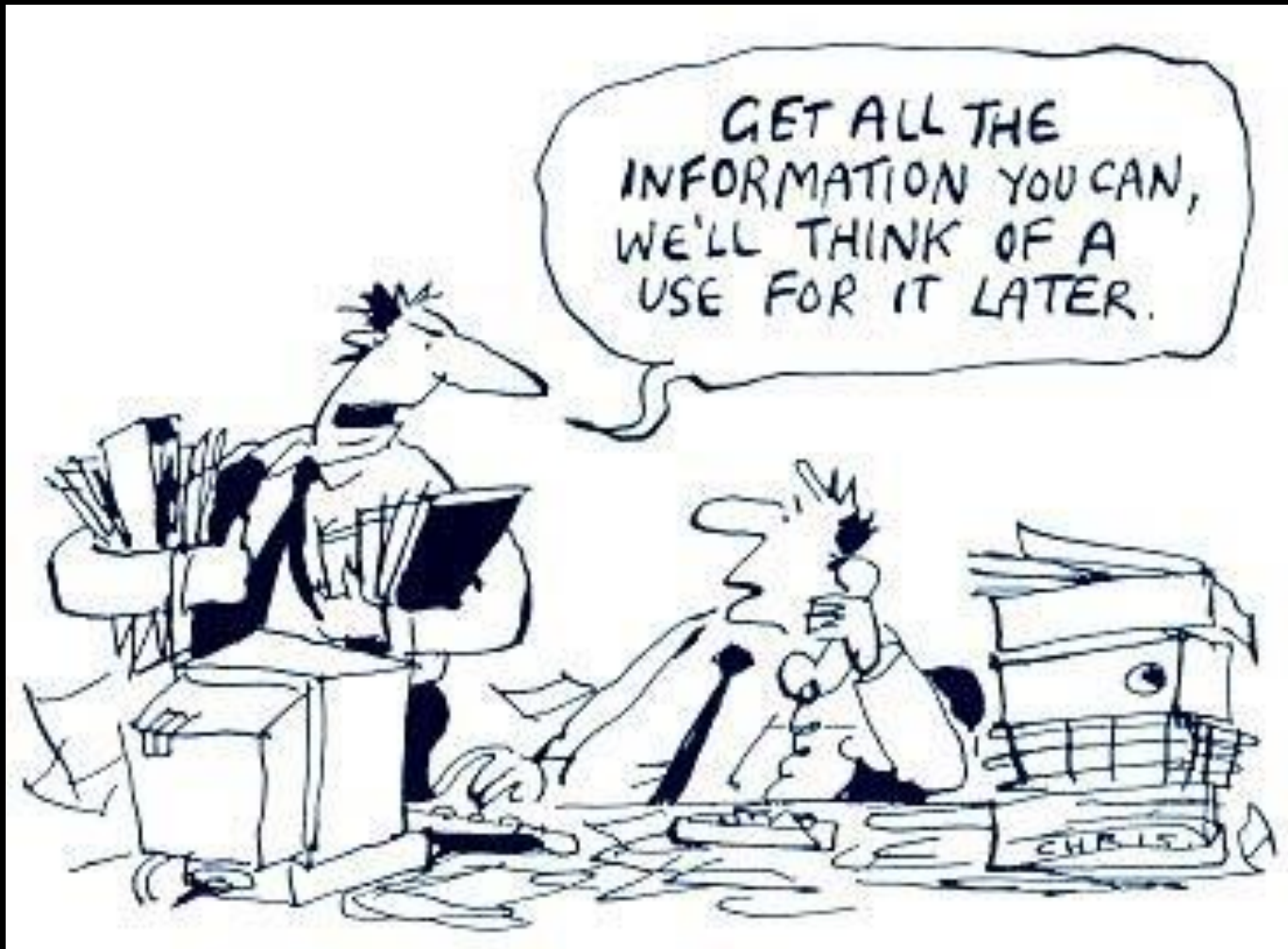
SUM KØRETØJER AFRUNDET	47.900
SUM CYKLER AFRUNDET	18.500

ADT KØRETØJER	56.000
ADT CYKLER	19.100

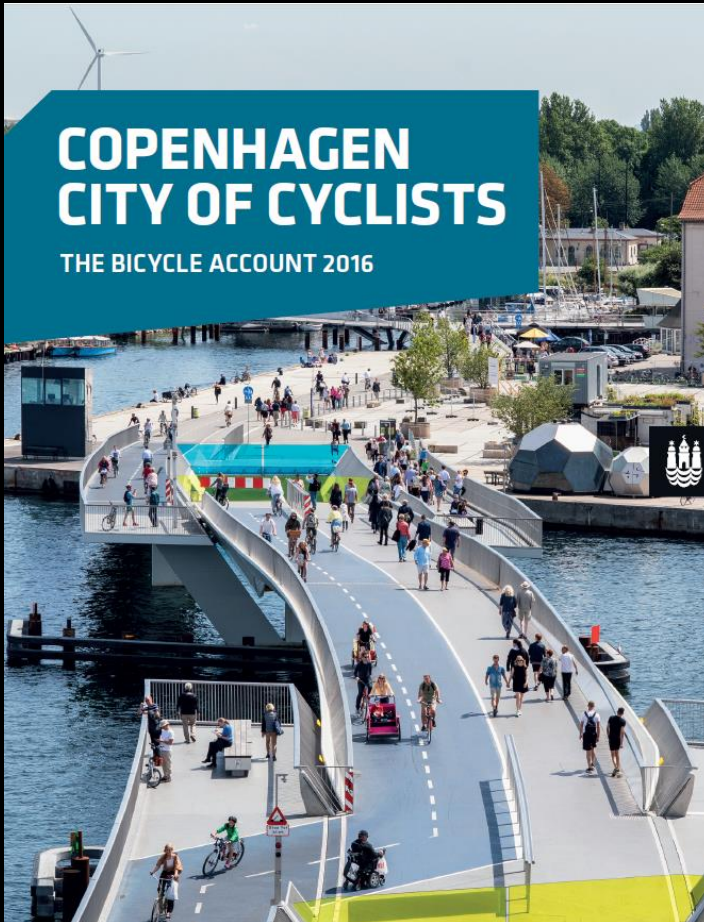
HVDT KØRETØJER	62.700
HVDT CYKLER	22.600



# Then what?

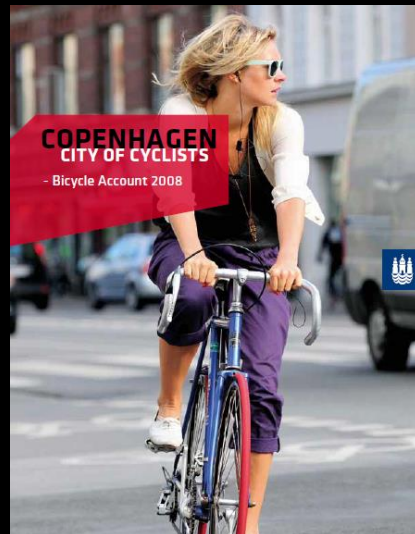
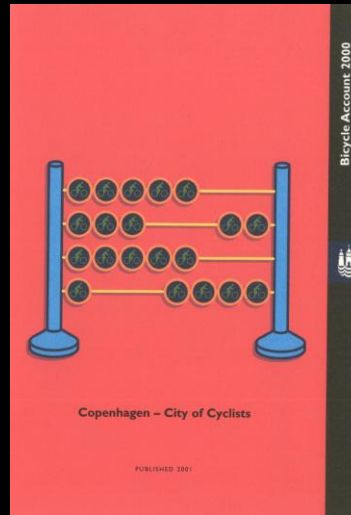
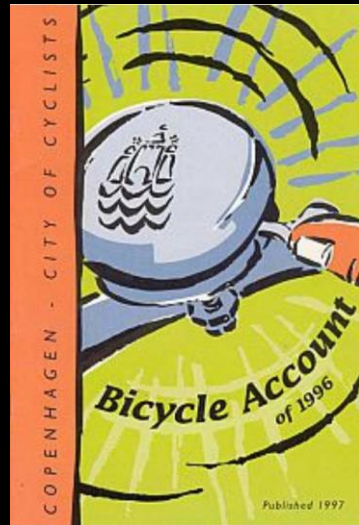


## 2. Communication





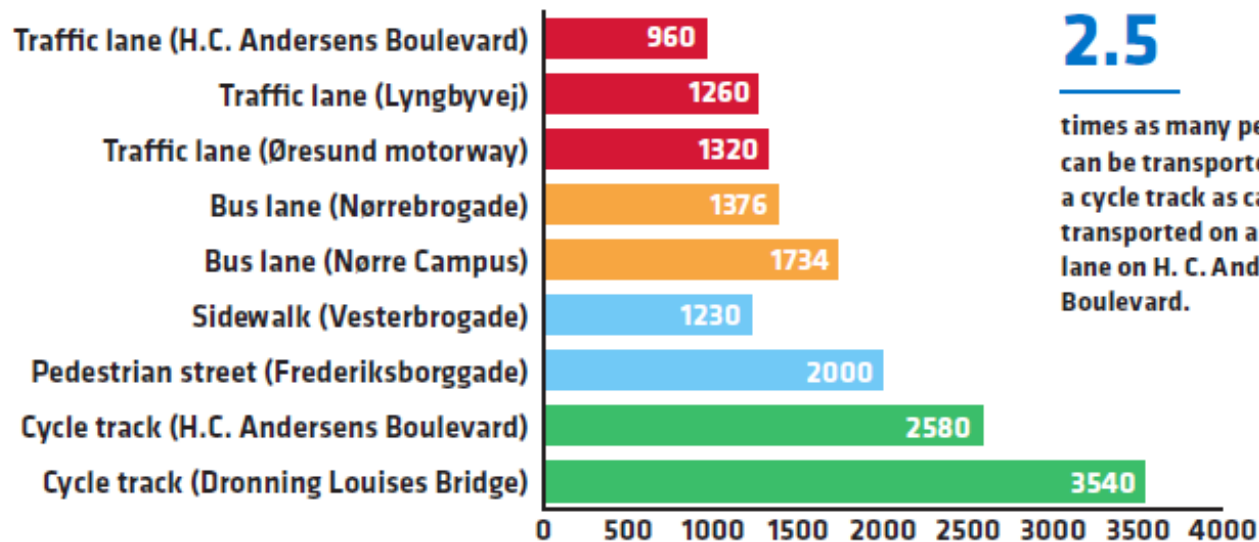
# The Bicycle Account





# Distribution of road space

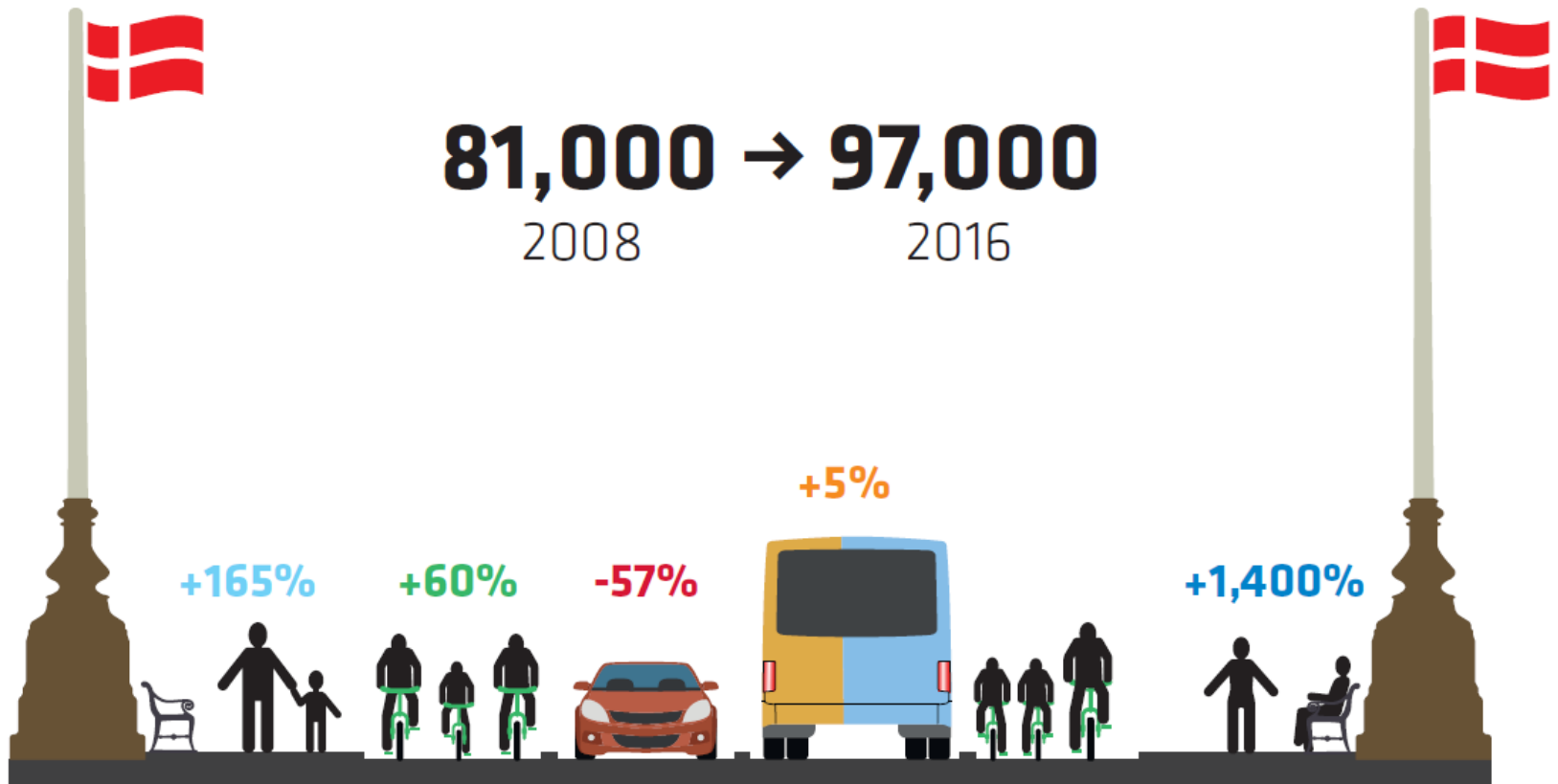
*PERSONS PER DIRECTION PER LANE AT PEAK TIMES*



**2.5**

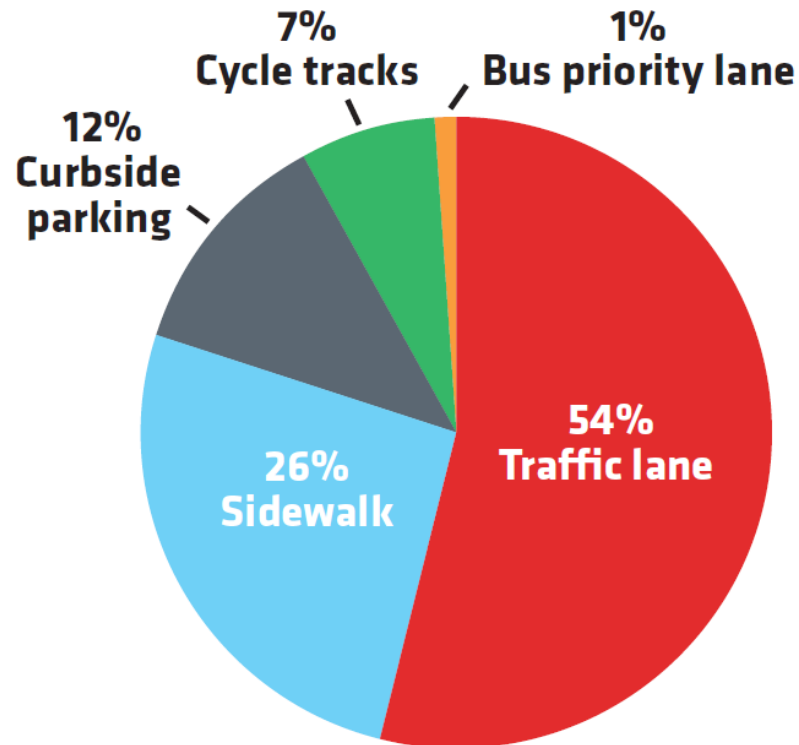
times as many people  
can be transported on  
a cycle track as can be  
transported on a traffic  
lane on H. C. Andersens  
Boulevard.

# Distribution of road space – Dronning Louises Bridge



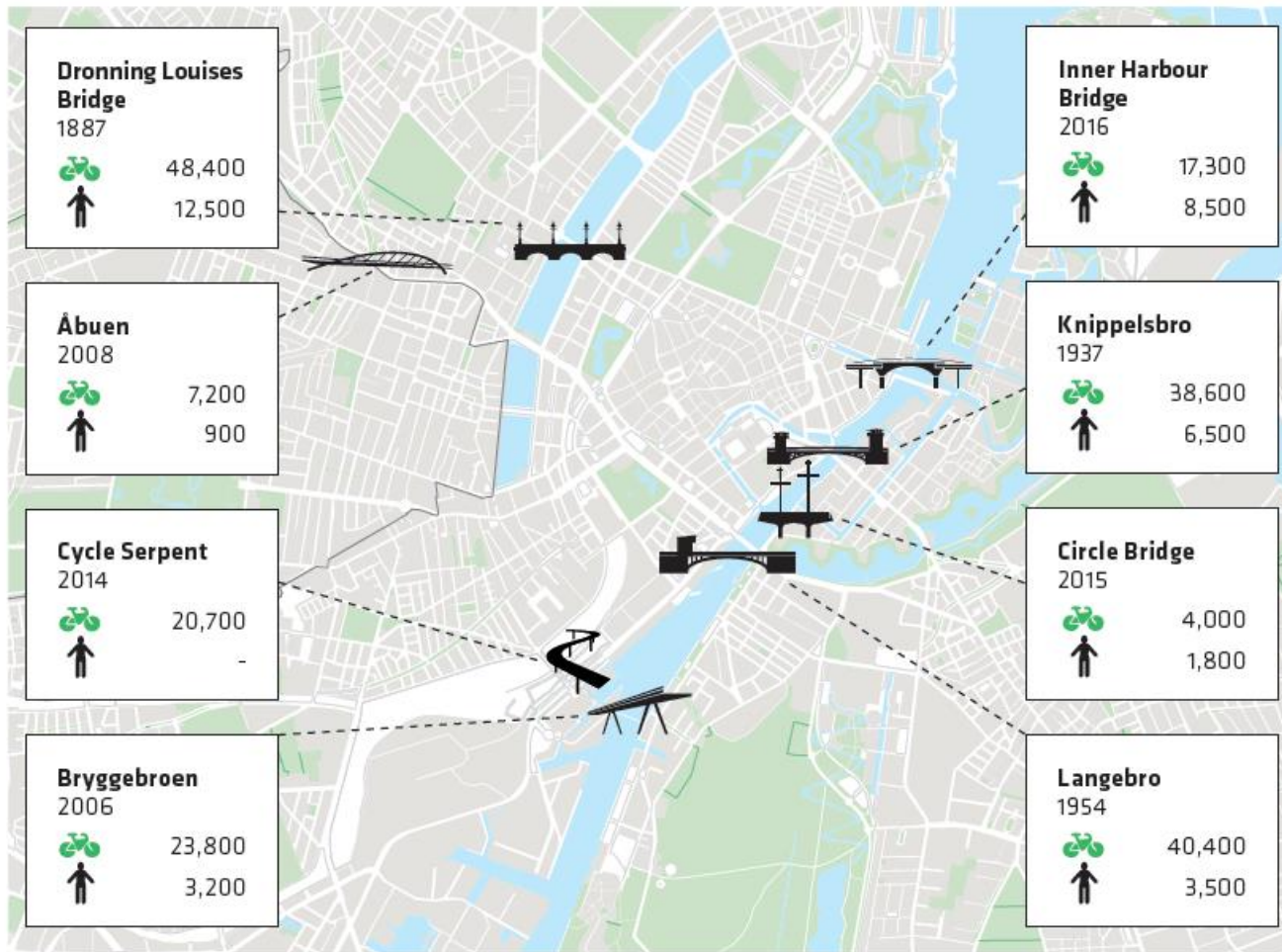
Growth in number of persons per transport mode on Dronning Louises Bridge from 2008- 2016.

# Distribution of road space



Distribution of road space between buildings  
in Copenhagen 2016.

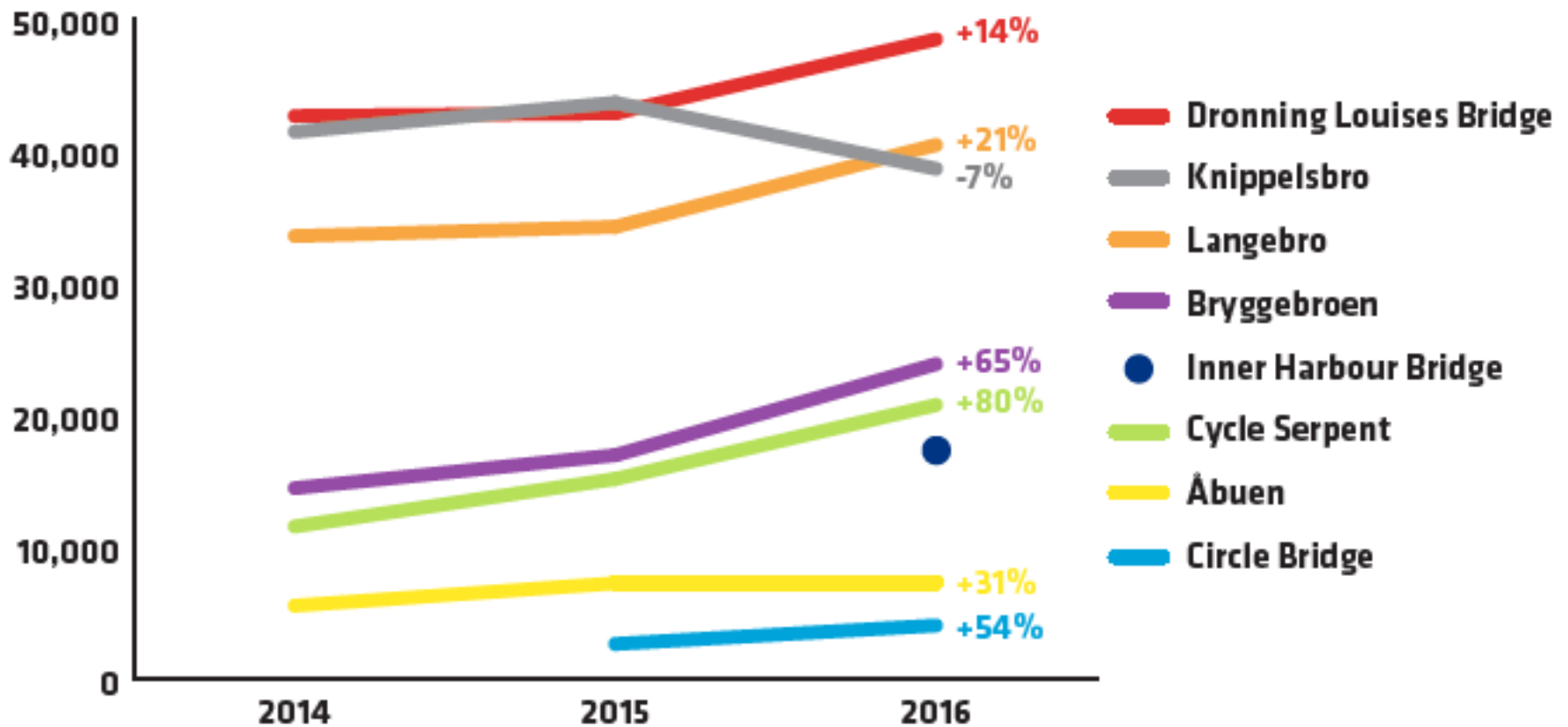
# Bridges



The number of cyclists is measured in 24-hour weekday traffic and the pedestrians between 7 am and 7 pm.

# Bridges

*BICYCLE TRAFFIC TRENDS ON BRIDGES 2014-2016 (24-HOUR WEEKDAY TRAFFIC)*



# Healthy transport

**DKK 0.99**

is saved by the City of Copenhagen in health care costs per cycled km.



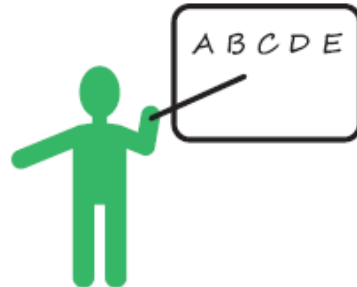
**DKK 4.04**

is the socio-economic impact of 1 km cycled rather than driven at peak times.



**4 hours**

children who cycle to school can concentrate for up to 4 hours longer than children who are driven to school.



**19**

The health benefits from switching from car to bicycle are 19 times higher than the drawbacks from accidents and air pollution.



**5-6 years**

longer life expectancy is a consequence of a physically active life style compared with physical inactivity.



**30%**

reduced mortality rate as a consequence of cycling 30 minutes a day over a longer period.



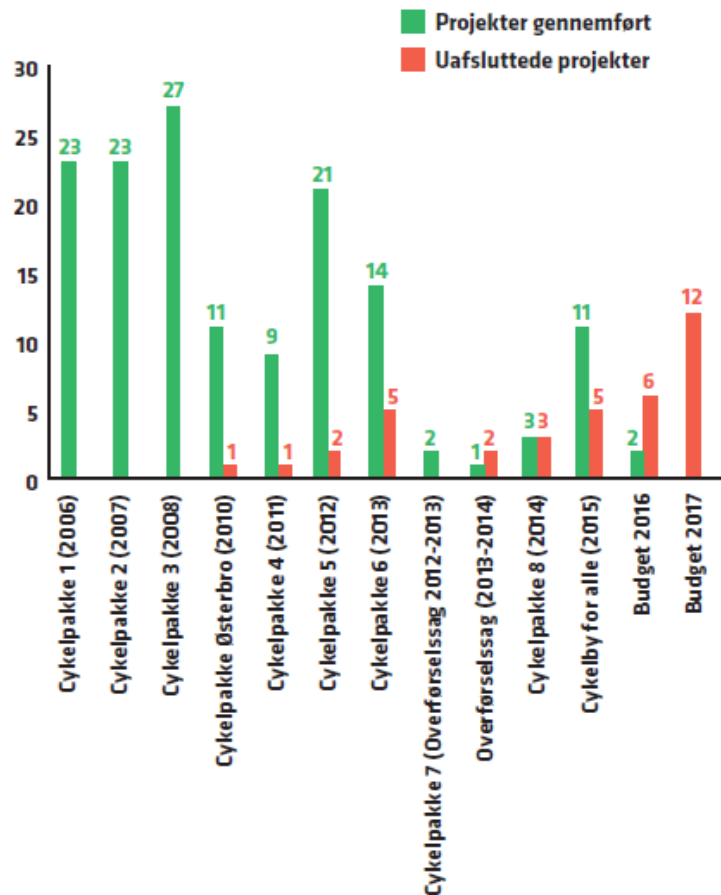


# Annual Bicycle Report



# Progress in projects and maintenance

## CYKELPAKKER



## DRIFT OG VEDLIGEHOLD PÅ CYKELOMRÅDET 2016

Vedligeholdelse af belægning på cykelstier, løbende renovering	19,3 mio. kr.
Vedligeholdelse af belægning på cykelstier, genopretning*	12,9 mio. kr.
Saltning og snerydning	7,9 mio. kr.
Oprydning i parkerede cykler	1,8 mio. kr.
Opmærkning og afhentning af efterladte cykler	1,8 mio. kr.
KBH Cykelhåndtering*	1,0 mio. kr.
Renhold af cykelstier	3 % af samlet timeforbrug til renhold
*Finansieret via anlægsmidler	

# Last years improvements





# Description and cost of new projects

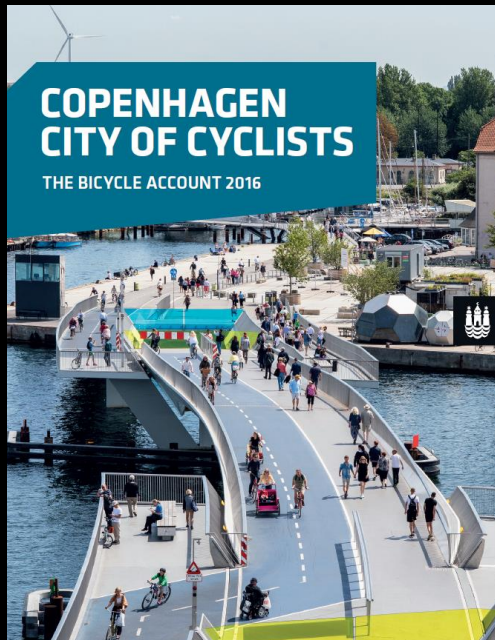
## 3.3. CYKELPARKERING I KONSTRUKTION I INDRE BY

Forvaltningen er gennem en foranalyse bevilget i Budget 2017 nået frem til, at et fuldautomatisk cykelparkeringsanlæg principielt set er meget anvendeligt i København, både over og under jorden.

Denne type anlæg vil markant øge antallet af cykelparkeringspladser per m<sup>2</sup>. Skal de tilsvarende pladser fra anlæg i konstruktion etableres i gadeplan vil det ofte kræve inddragelse af bilparkeringspladser, fortov eller udeservering. Anlæggene vil have særlig værdi for ejere af dyre cykler såsom el-, lad- og racercykler, idet der i Indre By er meget begrænsede muligheder for tyverisikkert cykelparkering. 12 % af københavnernes svarede i 2016, at de har fået stjålet en cykel indenfor det seneste år og 55 % for et år eller mere siden.

Markedet for fuldautomatiske cykelparkeringsanlæg er begrænset, og brugbare erfaringer med etablering, drift og brug er sparsomme. Derudover er der usikkerhed omkring integration med omkringliggende byrum på de sensible placeringer i Indre By. Derfor anbefales det, at der etableres et pilotprojekt med et overjordisk anlæg, der let kan etableres og flyttes igen uden komplicerede udgravninger. Hermed kan der indhentes erfaringer med reel drift samt københavnernes holdning til og brug af et fuldautomatisk anlæg på forskellige lokationer.

BESKRIVELSE AF INITIATIVET	ANTAL PLADSER	ESTIMERET ANLÆGSBUDGET (MIO. KR.)
Indkøb og opsættelse af mindre fuldautomatisk overjordisk cykelparkeringsanlæg, der kan afprøves forskellige steder. Formålet er at tilbyde københavnernes tiltrængt ekstra cykelparkeringskapacitet i Indre By og oparbejde reelle erfaringer ift. drift og brug.	122	Anlæg: 4 mio. kr. Pris pr. plads: 32.800 kr. To flytninger: 1,5 mio. kr. Projektering, evaluering mv. 500.000 kr.
Initiativ 3.3. i alt		6 mio. kr.



# Key points

- Remember to monitor the bicycle traffic consistently
- Communicate the results
- Be aware of the target group

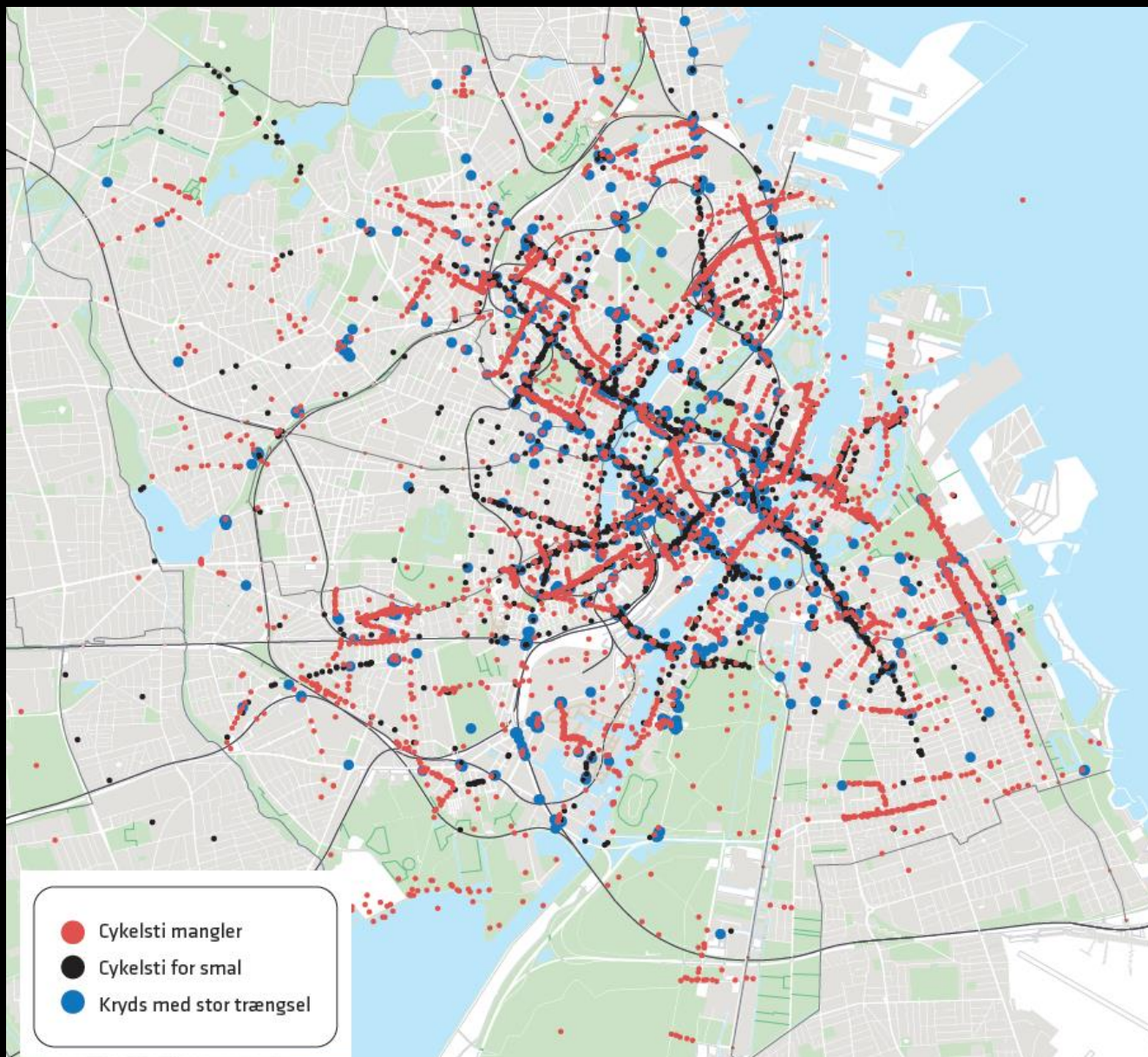


### 3. Examples



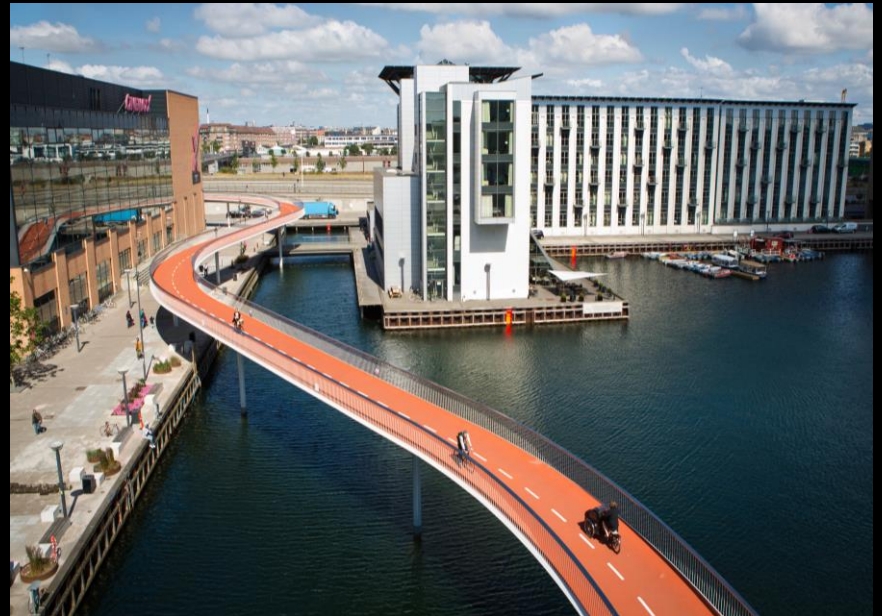
# The Bicycle Track Priority Plan 2017-2025



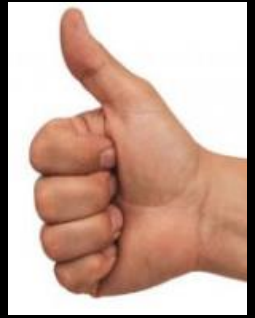




# Bryggebroen & the Cycle Serpent



# Bryggebroen & the Cycle Serpent



2006 = 3000  
2016 = 23.800



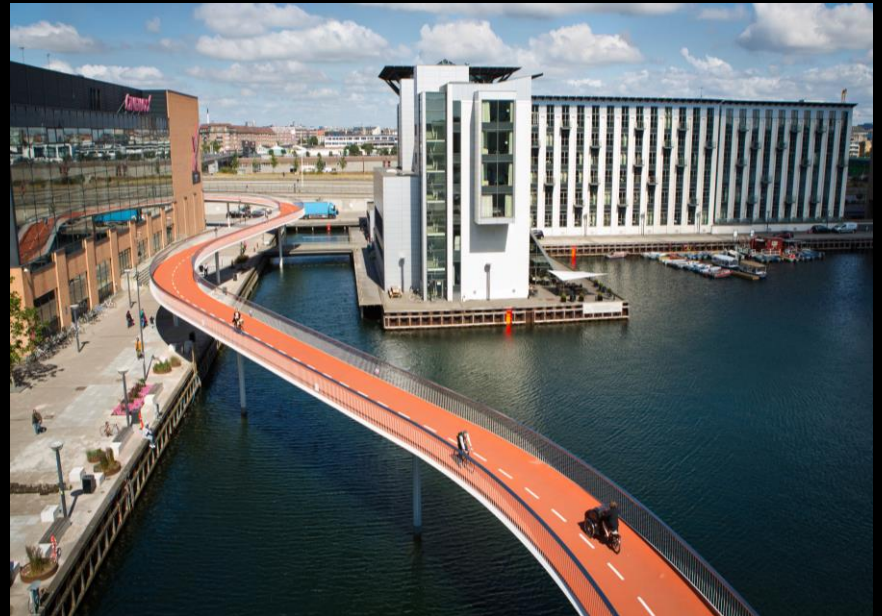


# Bryggebroen & the Cycle Serpent



2006 = 3000  
2016 = 23.800

2014 = 11.500  
2016 = 20.700







**City transport** Cycling the city

# Why can't all cities have bike bridges like Copenhagen's new Cycle Snake?

The two-lane elevated orange *Cykelslangen* – the latest of the city's continuous and safe bike lanes – is a joy to ride as it wriggles its way over the harbour

● [Helsinki's ambitious plan to make car ownership pointless](#)



**i** 'We have been doing this for cars for decades' ... Copenhagen's *Cykelslangen*. Photograph: Sandra Hoj

# 10 new bridges for cyclists and pedestrians since 2014



Trangravsbroen 2015



Proviantbroen 2015



Cirkelbroen 2015



Laboratoriegravenbro 2015



Inderhavnsbroen 2016



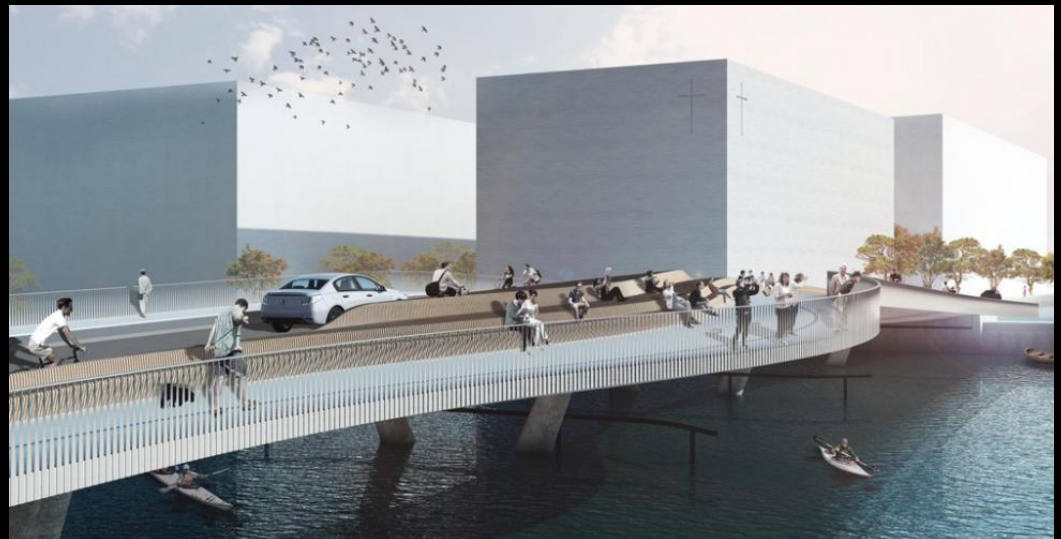
Belvederebroen 2016



# Inner Harbour Bridge



# New bridges coming up...



# Discussions/reflections for later

- How do you monitor bicycle traffic in your city?
- Do you have a fixed procedure for evaluating your cycling projects?
  - Saying from Velo City 2016:  
*“The Dutch are good at building bicycle infrastructure, the Danes are good to talk about how they are good at building bicycle infrastructure”*



# Thank you!

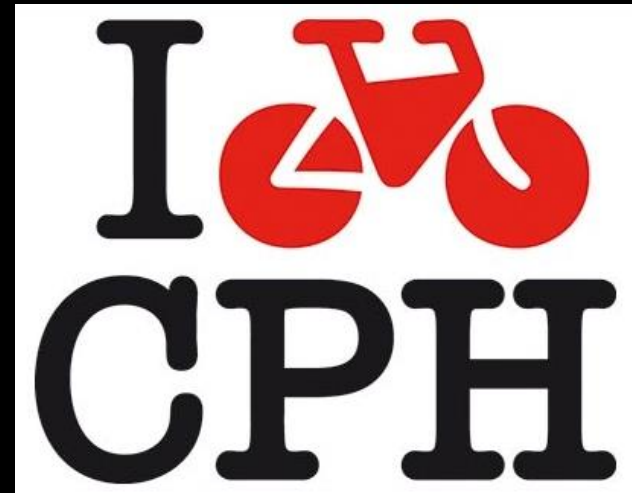
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<https://international.kk.dk/artikel/city-cyclists>