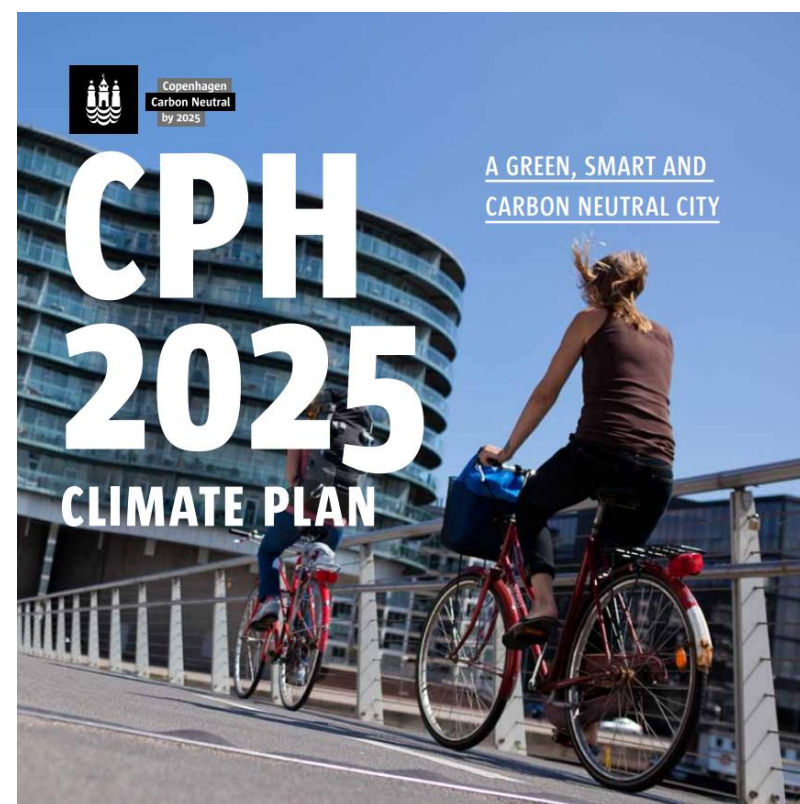


TS – GRØN OG EFFEKTIV
FREMKOMMELIGHED I
KØBENHAVNS KOMMUNE

0



SERVICEMÅLENE FOR 2018/19



AUGUST 2014

Københavns Kommunes administrationsgrundlag for trafikledelse 2014-2018

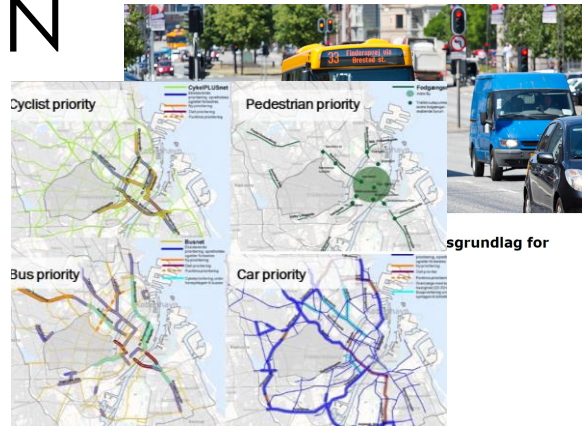


KØBENHAVNS KOMMUNE

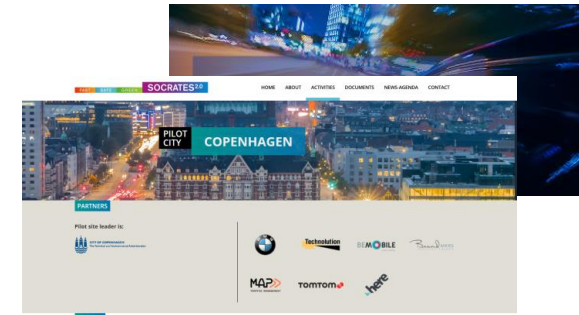
RAMBØLL

	Servicemål for 2018 (basis 2011)
Cykler	- Den gennemsnitlige rejsetid på det udpegede stinet skal reduceres med 10 % - således at den gennemsnitlige hastighed øges fra 15,7 km/t til 17,3 km/t - Antallet af stop skal reduceres med 10 %
Fodgængere	- I indre by skal fodgængerne have tilstrækkelig grøntid i signalerne til at krydse vejene uden at skulle stoppe på midten. Desuden må omløbstiden ikke overstige 80 sek. for at sikre, at fodgængere ikke venter for lang tid på at få lov at krydse vejen - Udenfor indre by skal der tages særligt hensyn til fodgængere på strøggader samt ved trafikknudepunkter og særlig fodgængerskabende byrum
Busser	- Den gennemsnitlige rejsetid med bus skal reduceres med 5-20% i myldretiden afhængig af strækning - Rejsetidspålideligheden skal øges med 10 %
Biler	- Den gennemsnitlige rejsetid på det udpegede vejnet må ikke forringes og skal på enkelte strækninger reduceres med 5 % - Rejsetidspålideligheden skal øges med 10 % i myldretiden i retningen med mest biltrafik - Antallet af stop på det prioriterede vejnet skal reduceres med 10 %¹

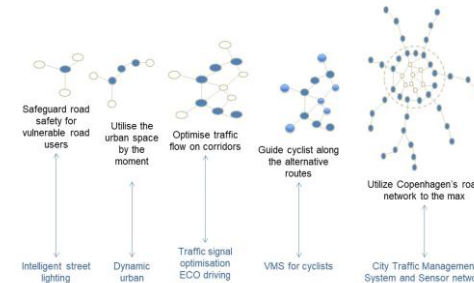
ITS-, SIGNAL- OG TRAFIKINFORMATION



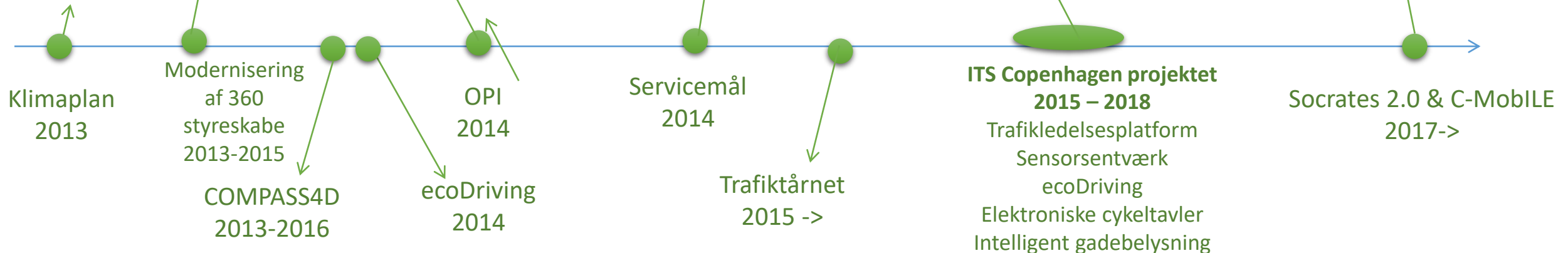
sgrundlag for



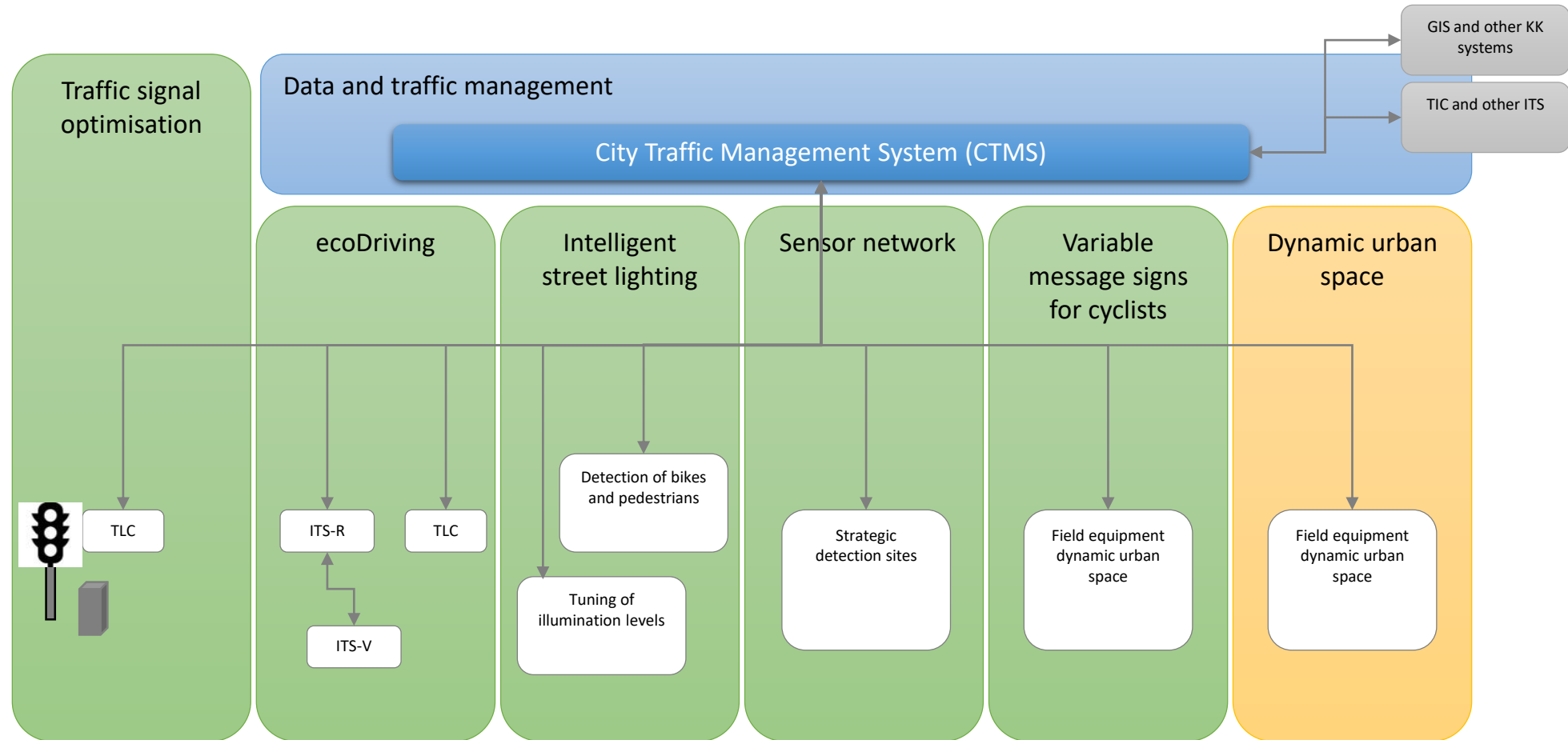
The region of Copenhagen
The objective of this activity is to deploy interactive traffic management in the city of Copenhagen. This will be done by realising changes to the sub-systems, performing system integration tests and operate the sub-systems during the integration tests and the evaluation period. The representation of interactive traffic management (ITS) perfectly in the city's role in mobility as described in "Vision mobility in Copenhagen".



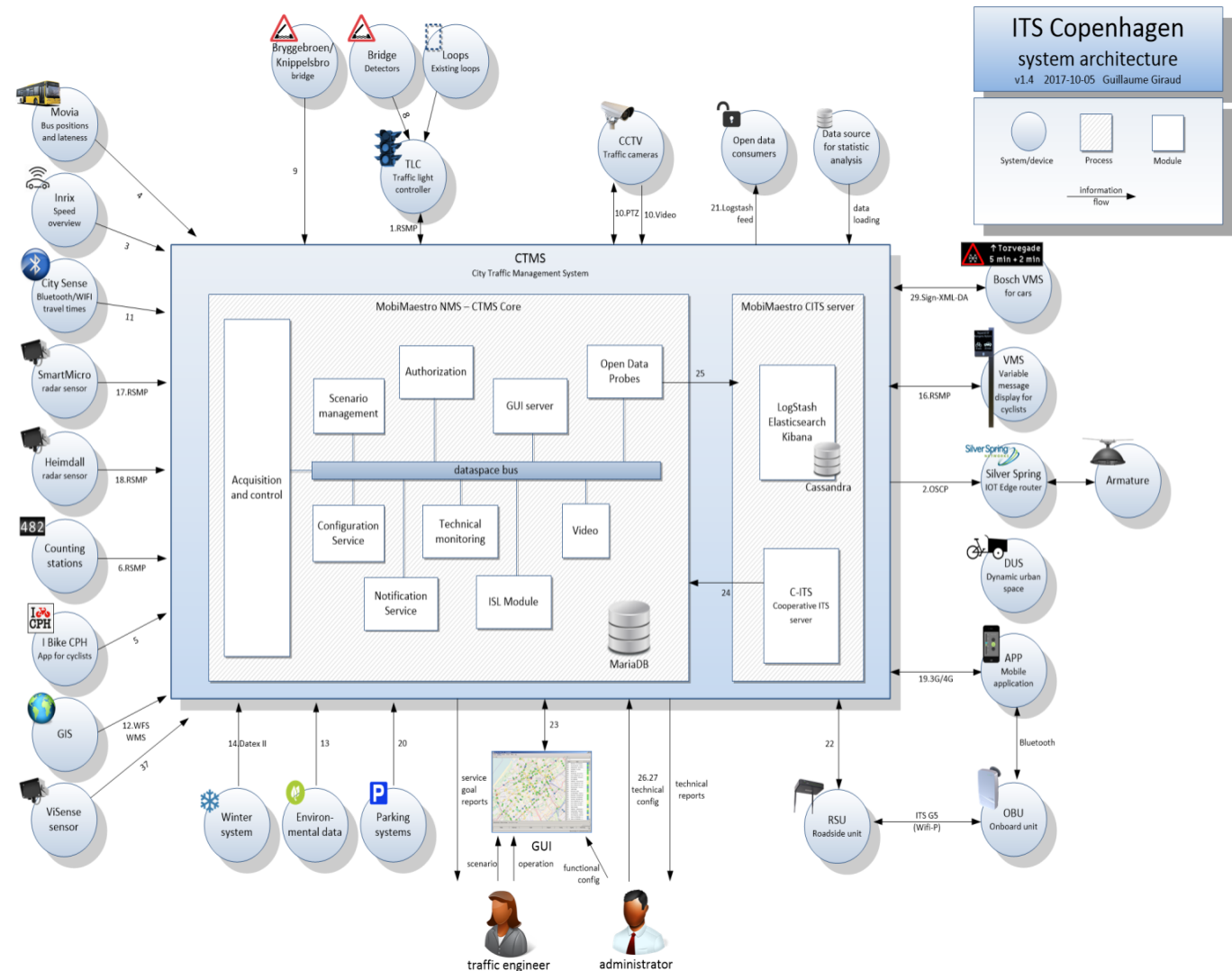
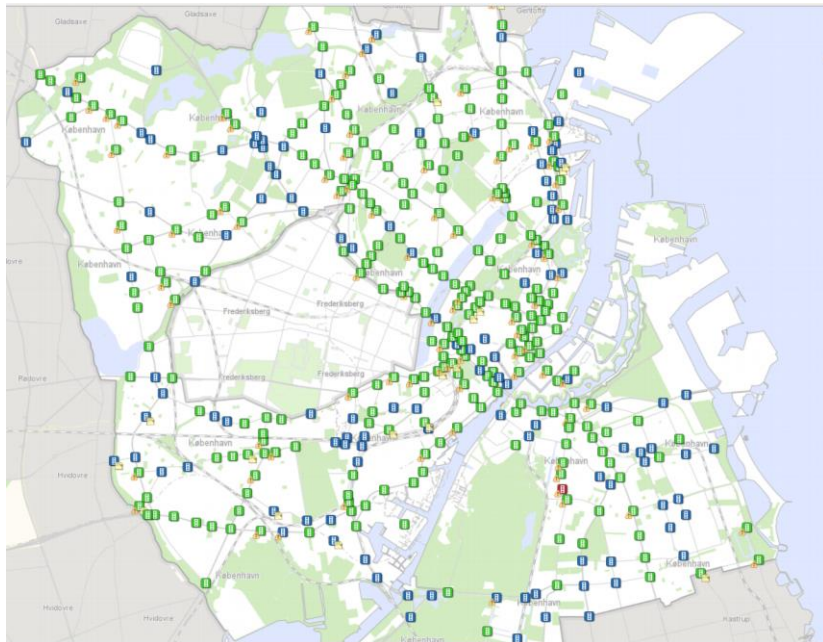
- TEMA 1
EKSTRA LYS PÅ CYKELSTIERNE
- TEMA 2
GADELIV PÅ PARKERINGSPLADSERNE
- TEMA 3
BEDRE FLOW I GADERNE
- TEMA 4
BOKS FORNEMMER GADENS PULS
- TEMA 5
BUSSE TIL TIDEN
- TEMA 6
DET SMARTE MOBILITETSVALG
- TEMA 7
PARKEN TØMMES PÅ 20 MINUTTER
- TEMA 8
CYKLISTER RIDER PÅ DEN GRØNNE Bølge



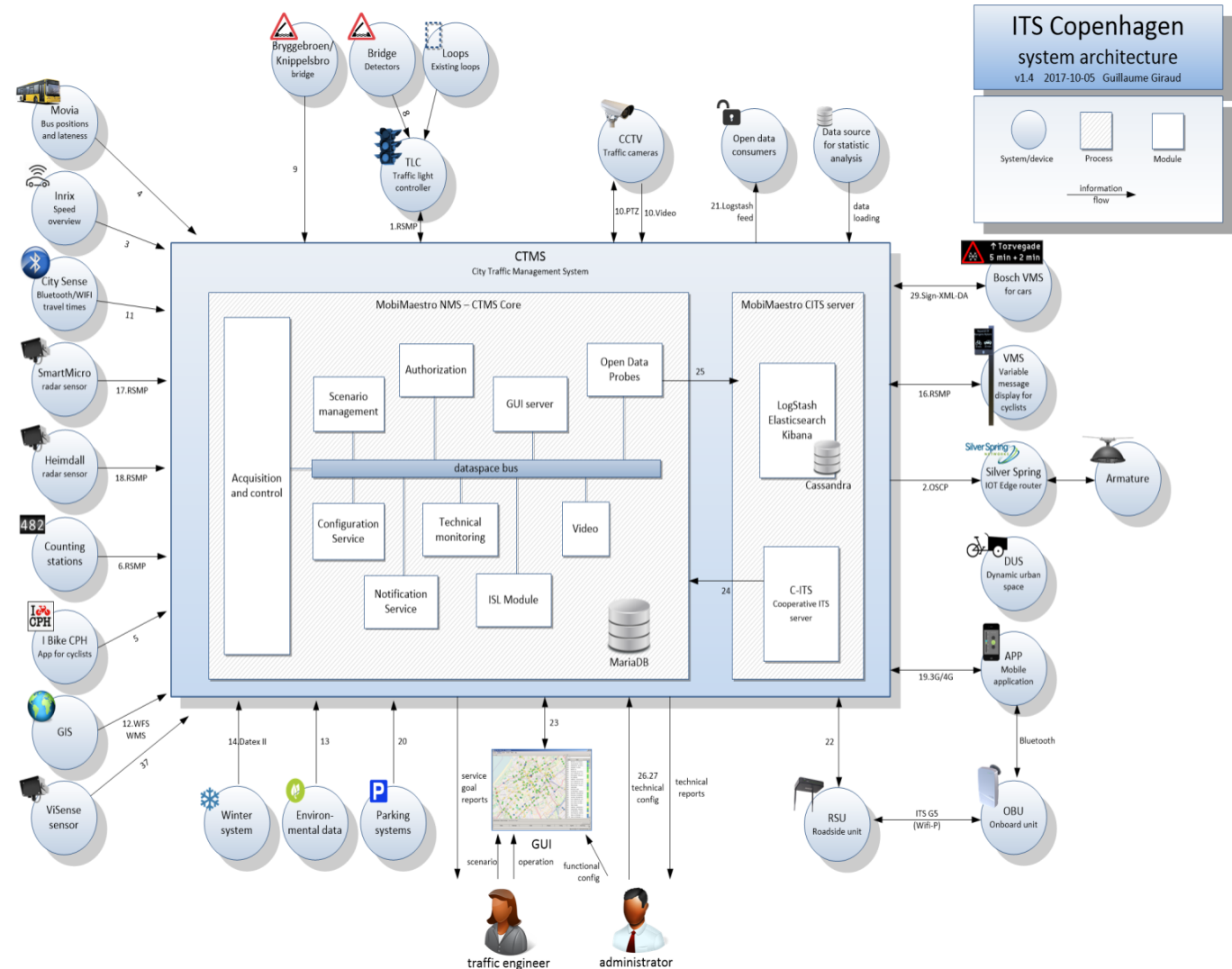
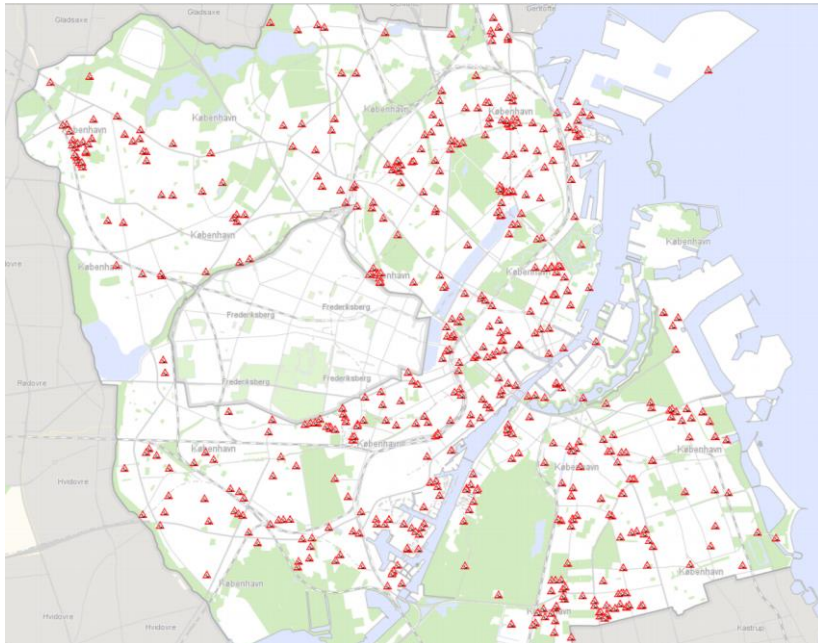
ITS-ARKITEKTUREN – EN ARKITEKTUR TIL OPERATIV TRAFIKLEDELSE



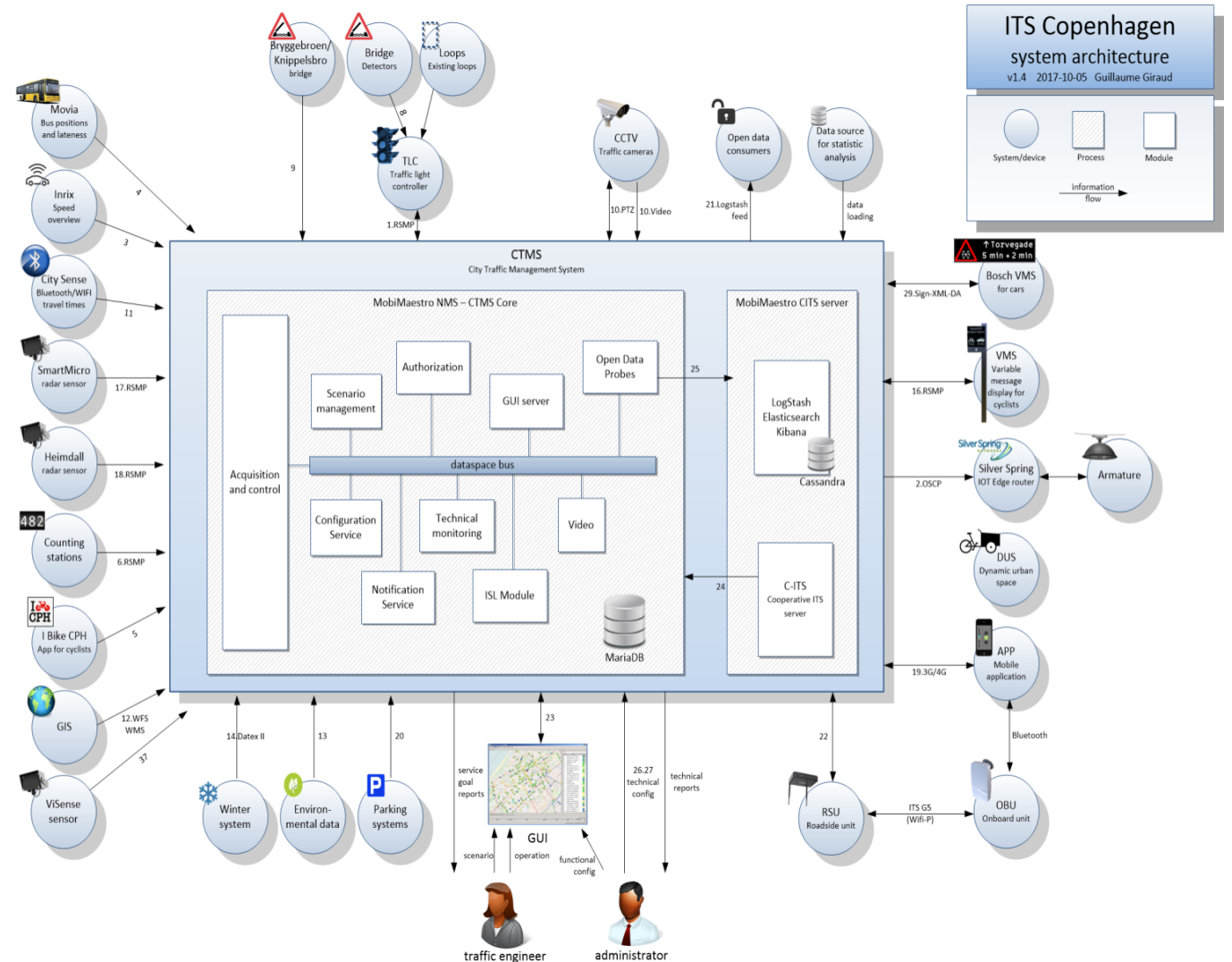
ÅBEN, MODULÆR OG SKALERBAR ARKITEKTUR



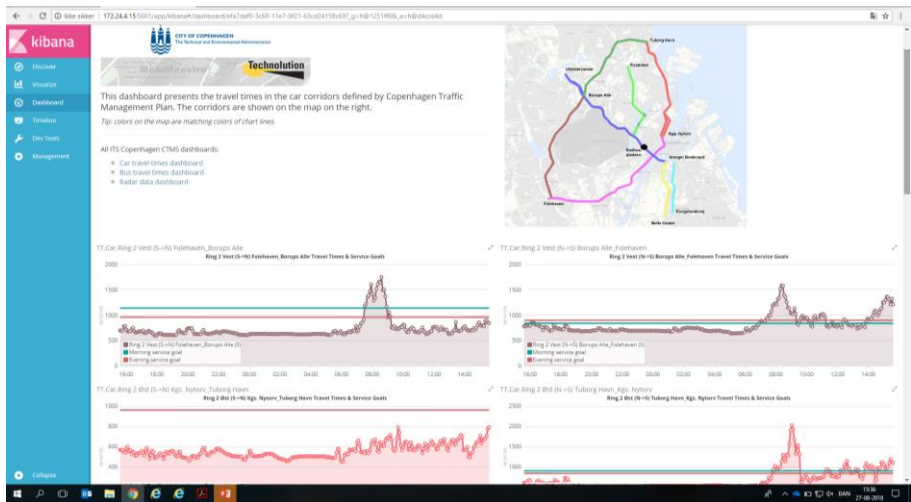
ÅBEN, MODULÆR OG SKALERBAR ARKITEKTUR



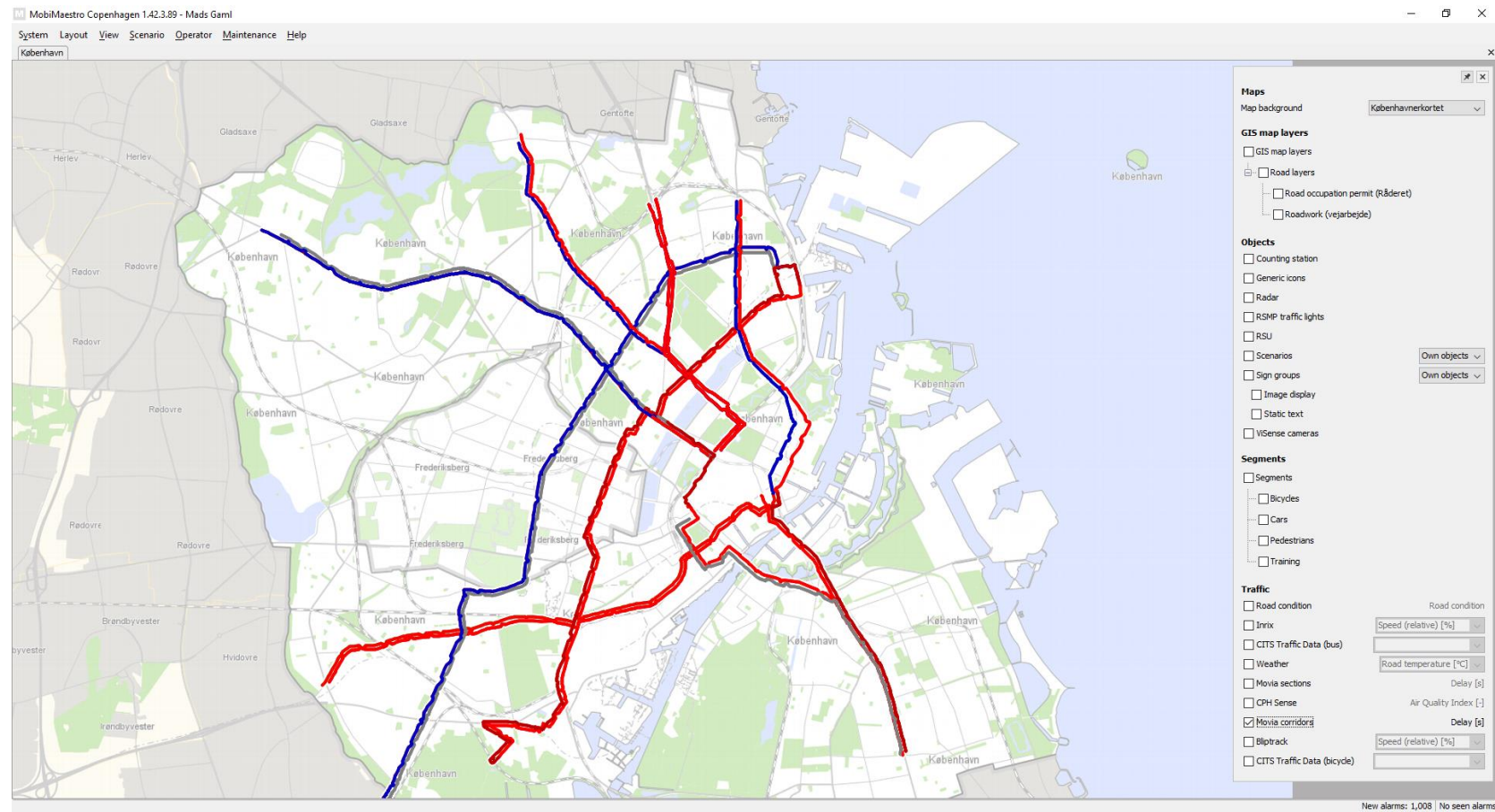
ÅBEN, MODULÆR OG SKALERBAR ARKITEKTUR



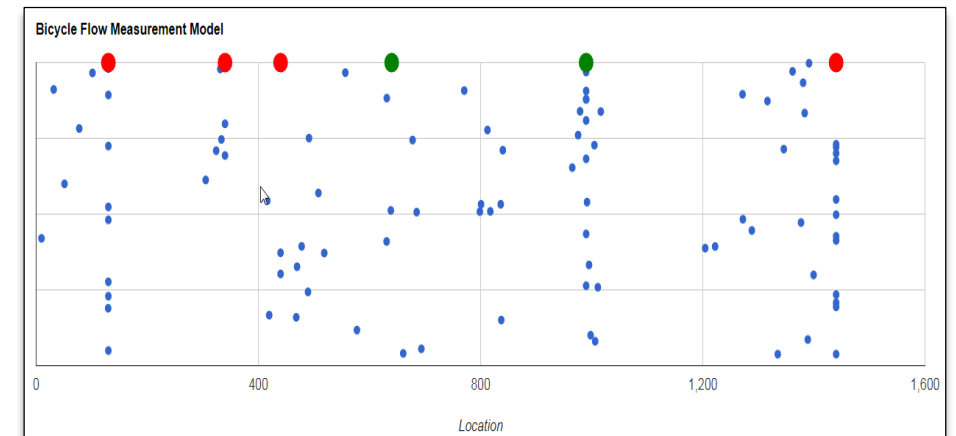
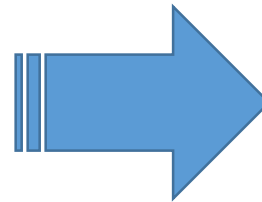
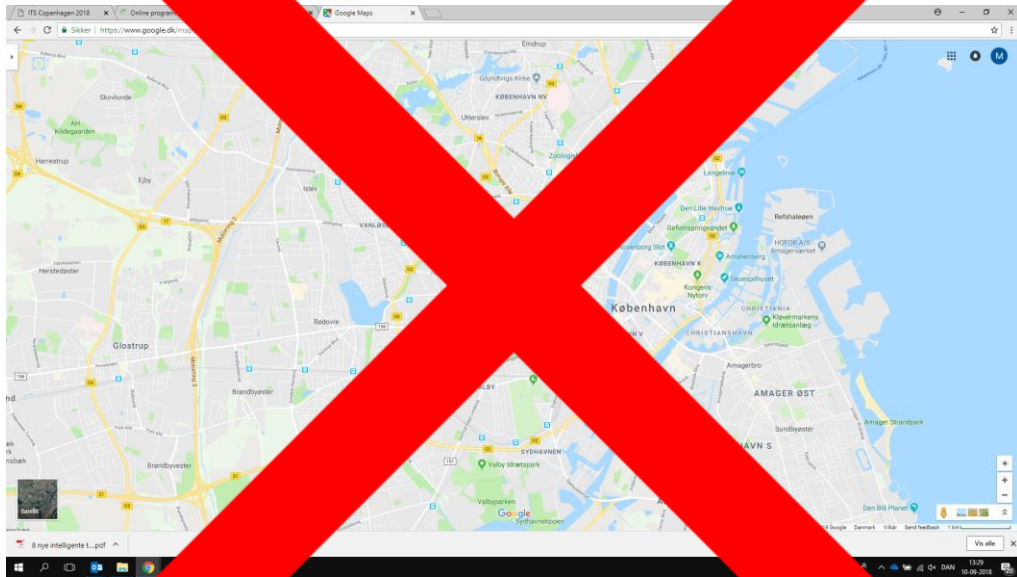
VISUALISERING AF BILERNES FREMKOMMELIGHED OG ANTAL



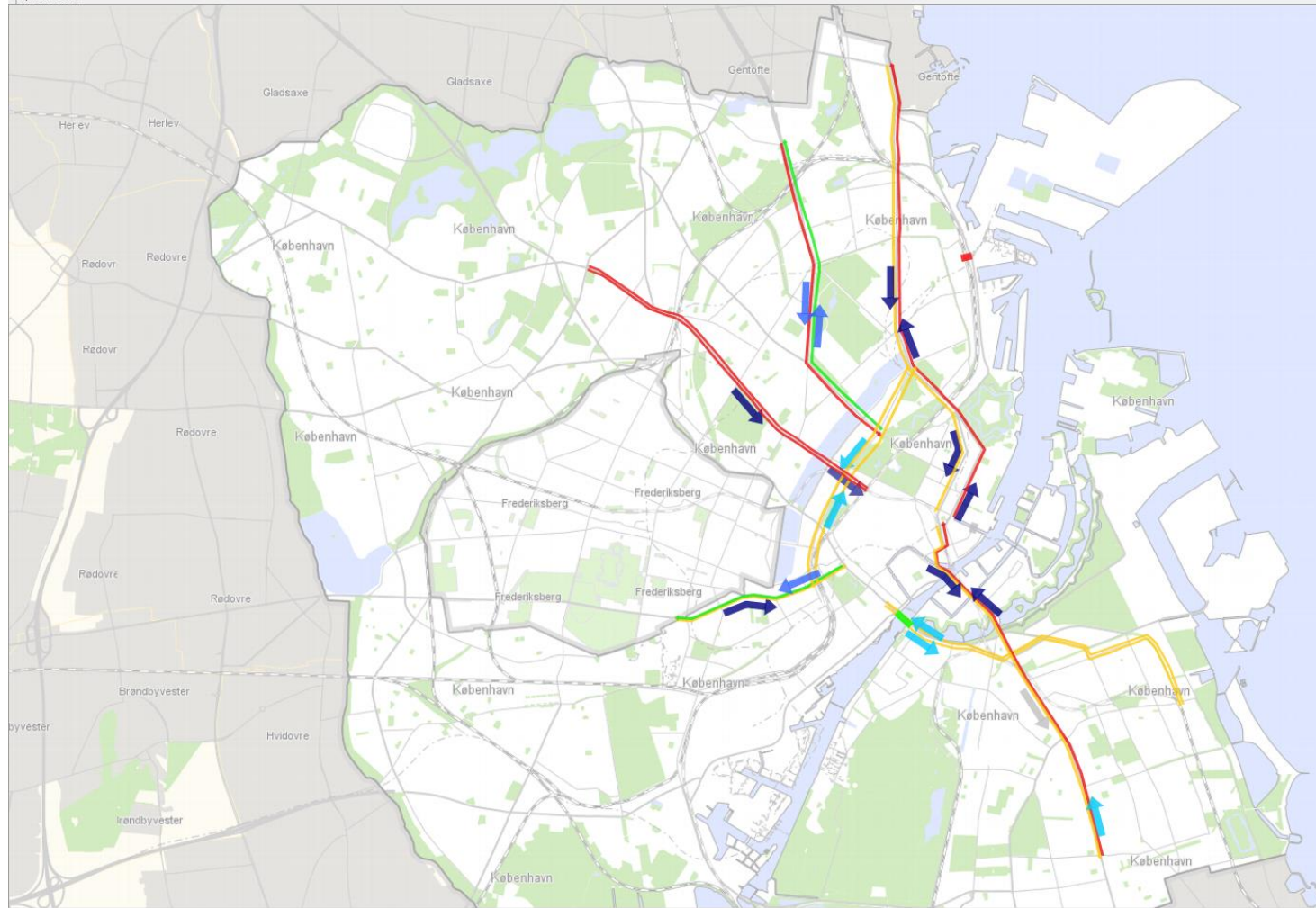
...OG FOR BUSSE



...REALTIMESDATA FOR CYKLISTER OG FODGÆNGERE?!



...ALGORITME FOR CYKLERNES OG FODGÆNGERNES FREMKOMMELIGED



Maps

Map background

Københavnskortet

GIS map layers

☐ GIS map layers

☐ Road layers

☐ Road occupation permit (Råderet)

☐ Roadwork (vejarbejde)

Objects

☐ Counting station

☐ Generic icons

☐ Radar

☐ RSMP traffic lights

☐ RSU

☐ Scenarios

☐ Sign groups

☐ Image display

☐ Static text

☐ ViSense cameras

Own objects

Own objects

Segments

☒ Segments

☒ Bicycles

☐ Cars

☐ Pedestrians

☐ Training

Traffic

☐ Road condition

☐ Inrix

☐ CITS Traffic Data (bus)

☐ Weather

☐ Movie sections

☐ CPH Sense

☐ Movie corridors

☐ Bliptrack

☐ CITS Traffic Data (bicycle)

Road condition

Speed (relative) [%]

Road temperature [°C]

Delay [s]

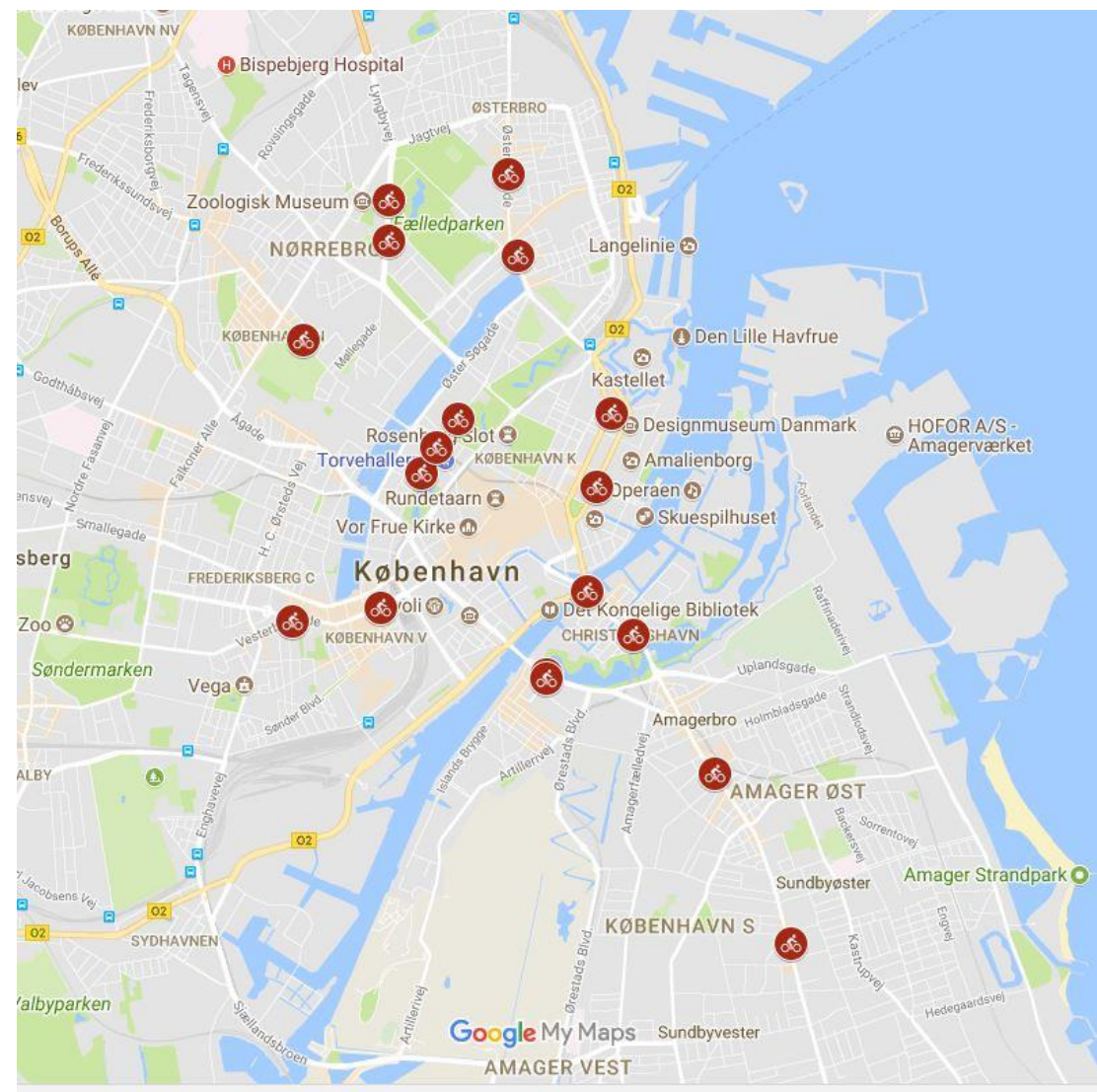
Air Quality Index [-]

Delay [s]

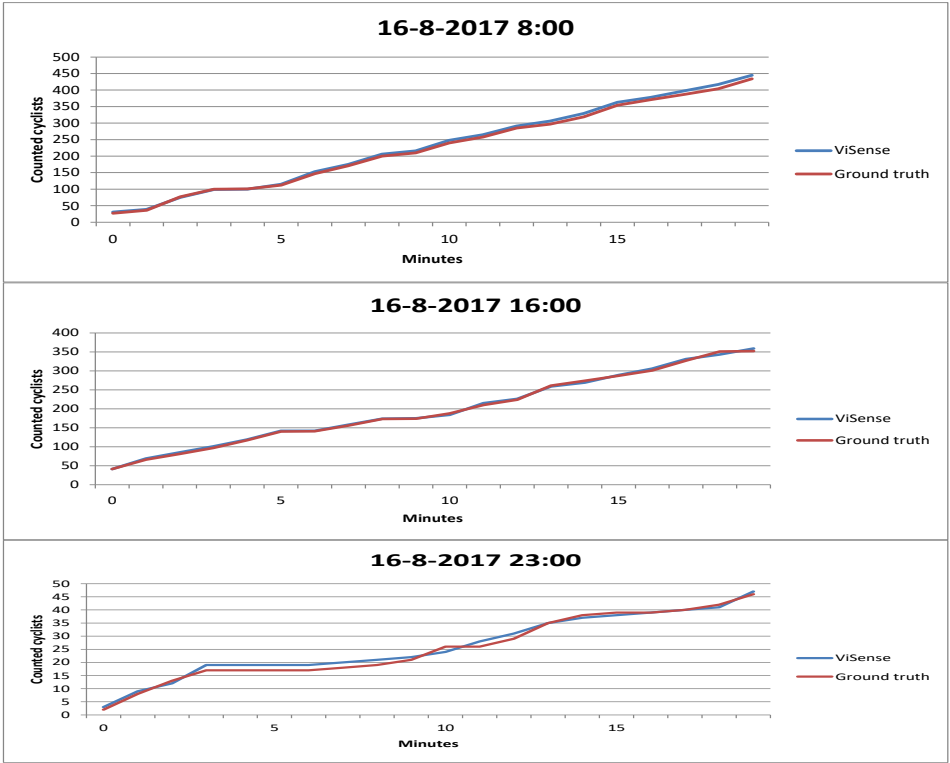
Speed (relative) [%]

New alarms: 1,008 | No seen alarms

CYKELTÆLLINGER



More than 95% accuracy



	Detected	Ground truth	Inaccuracy
8:00	445	434	2.53%
16:00	359	352	1.99%
23:00	47	46	2.17%



Interreg

Öresund-Kattegat-Skagerrak
European Regional Development Fund



EUROPEAN UNION

RSMP Nordic

*Trafikverket,
Vejdirektoratet
Stochholm Stad
Københavns Kommune
Gøteborg Stad*

KONCEPTET INDARBEJDET I TRAFIKLEDELSESPLATFORMEN

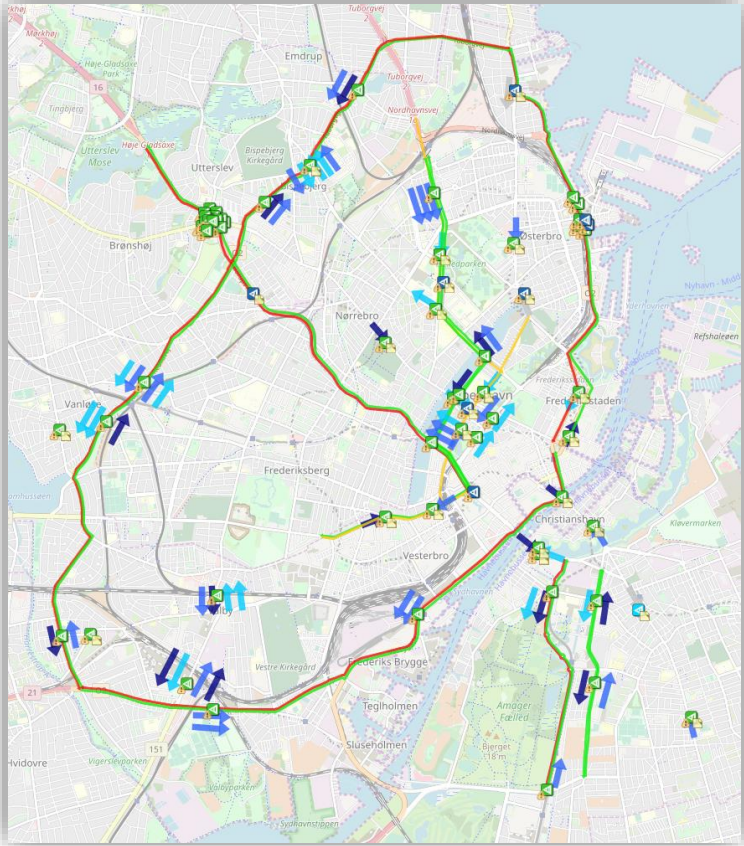
Prioritering af trafik ad
Nørre Farimagsgade mod syd

Prioritering af trafik ad
Frederiksborggade, Vendersgade og Gothersgade

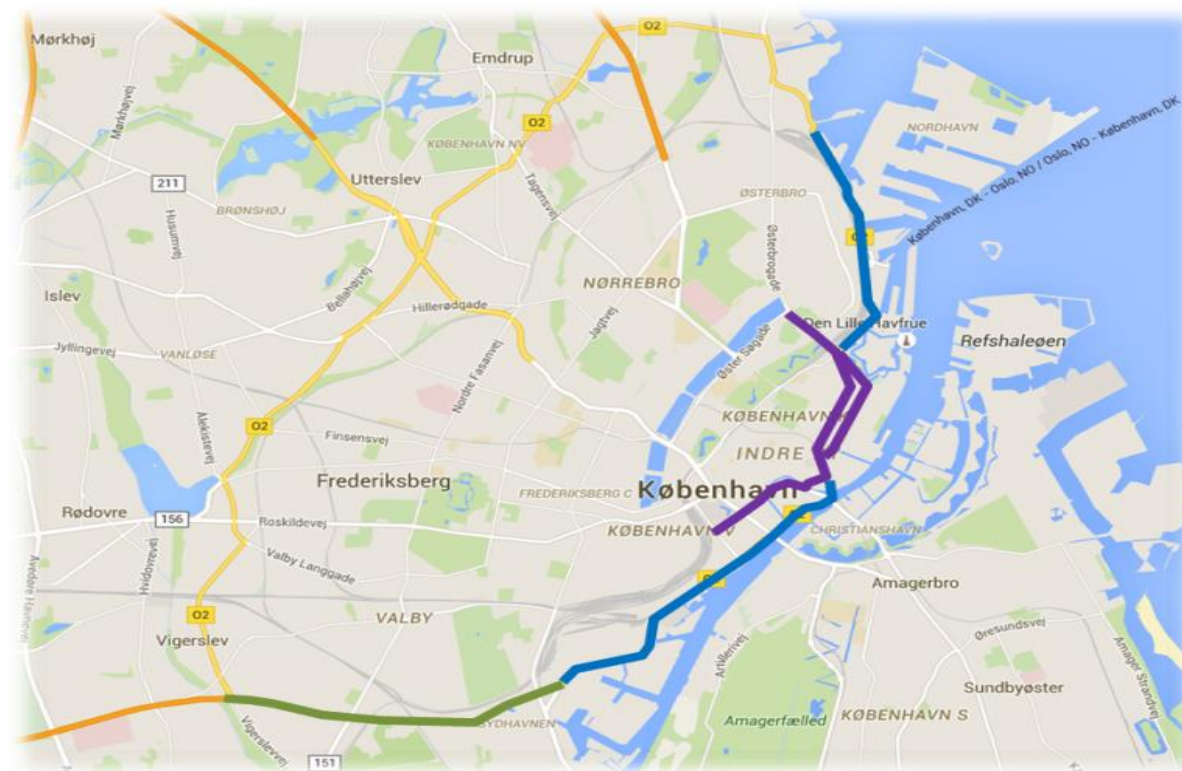


Hvis...

Hvis...



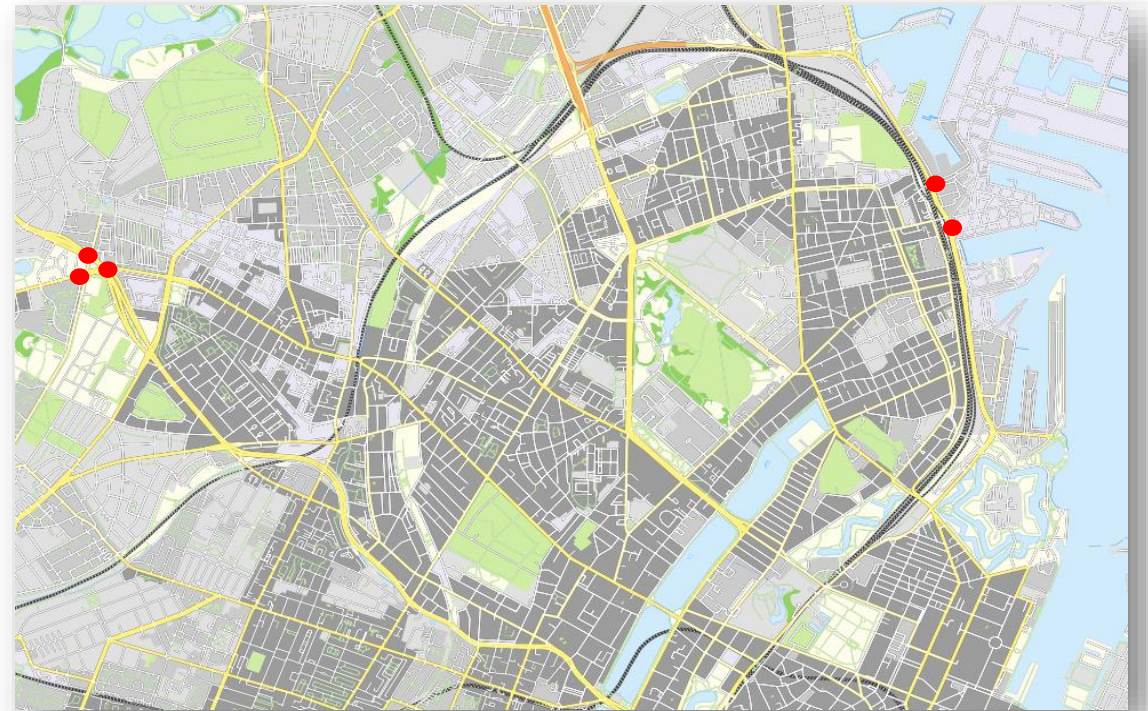
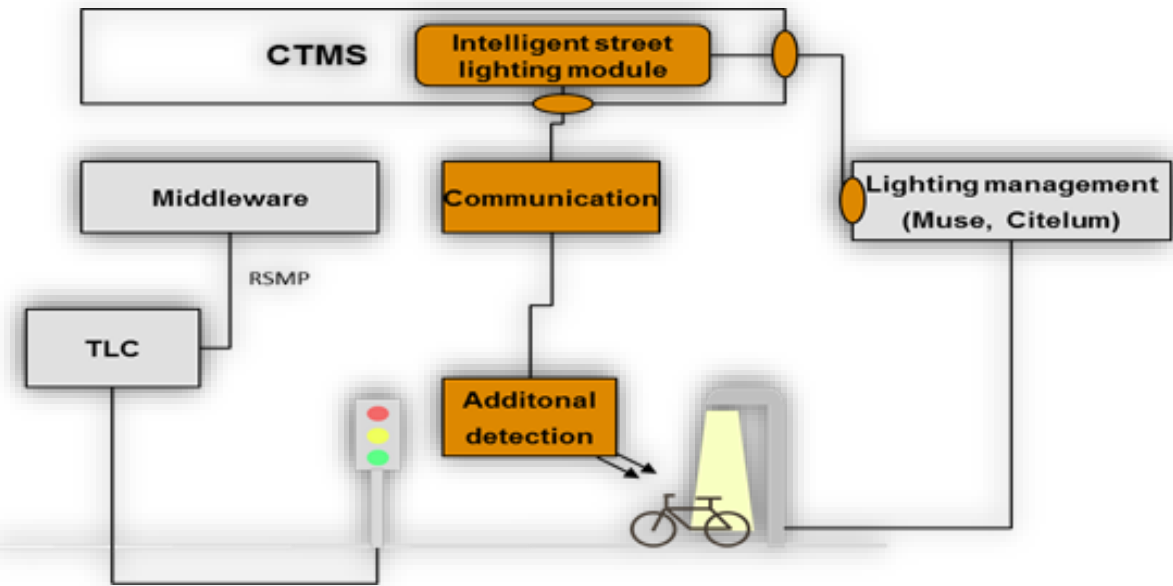
COPENHAGEN
TOGETHER



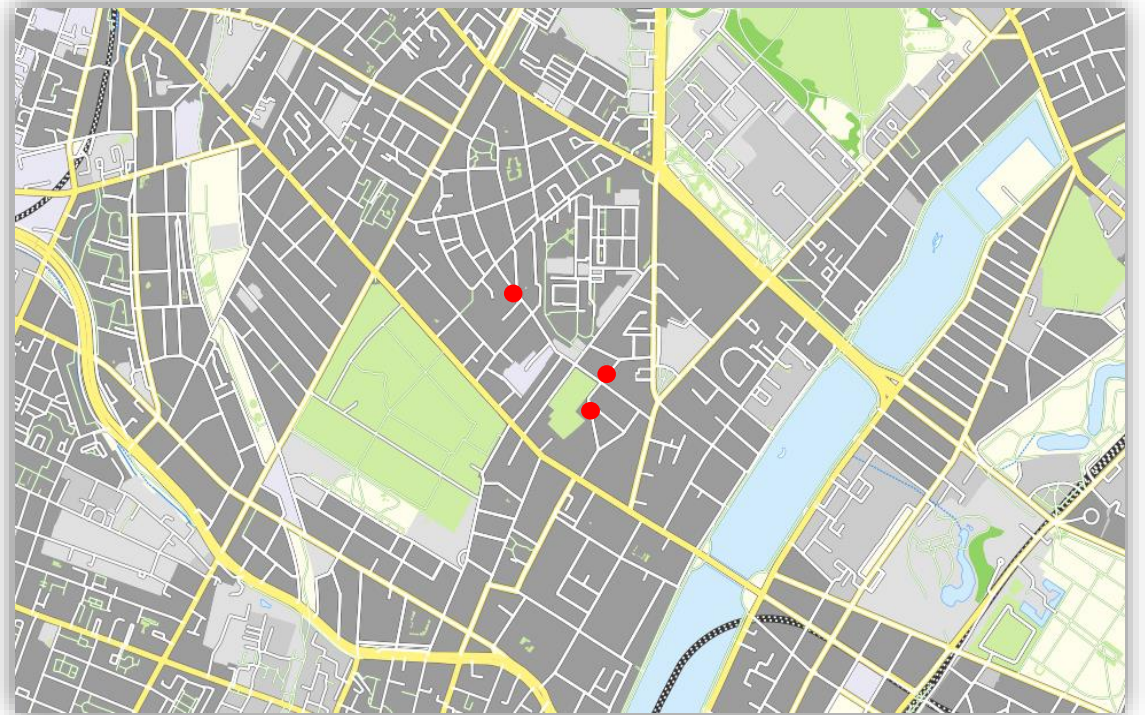
Green - Folehavn
Purple - Compass 4D
Blue – ITS Copenhagen, ecoDriving



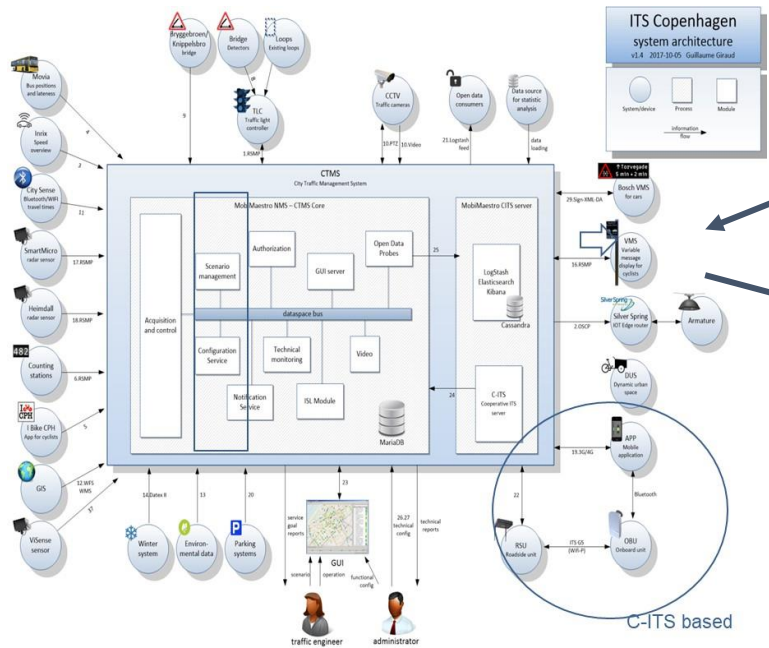
Photo: Troels Heien





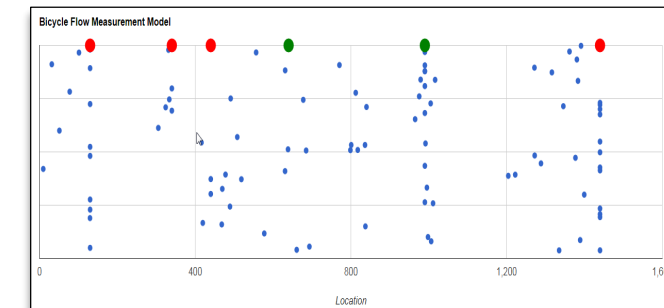
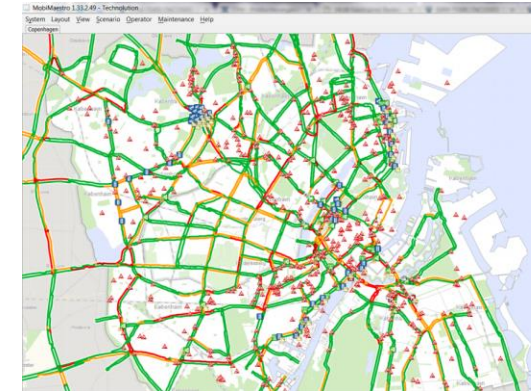


ANVENDE DATA TIL AT SKABE KONTINUERLIGE FORBEDRINGER FOR GRØNNE TRANSPORTFORMER I KØBENHAVN

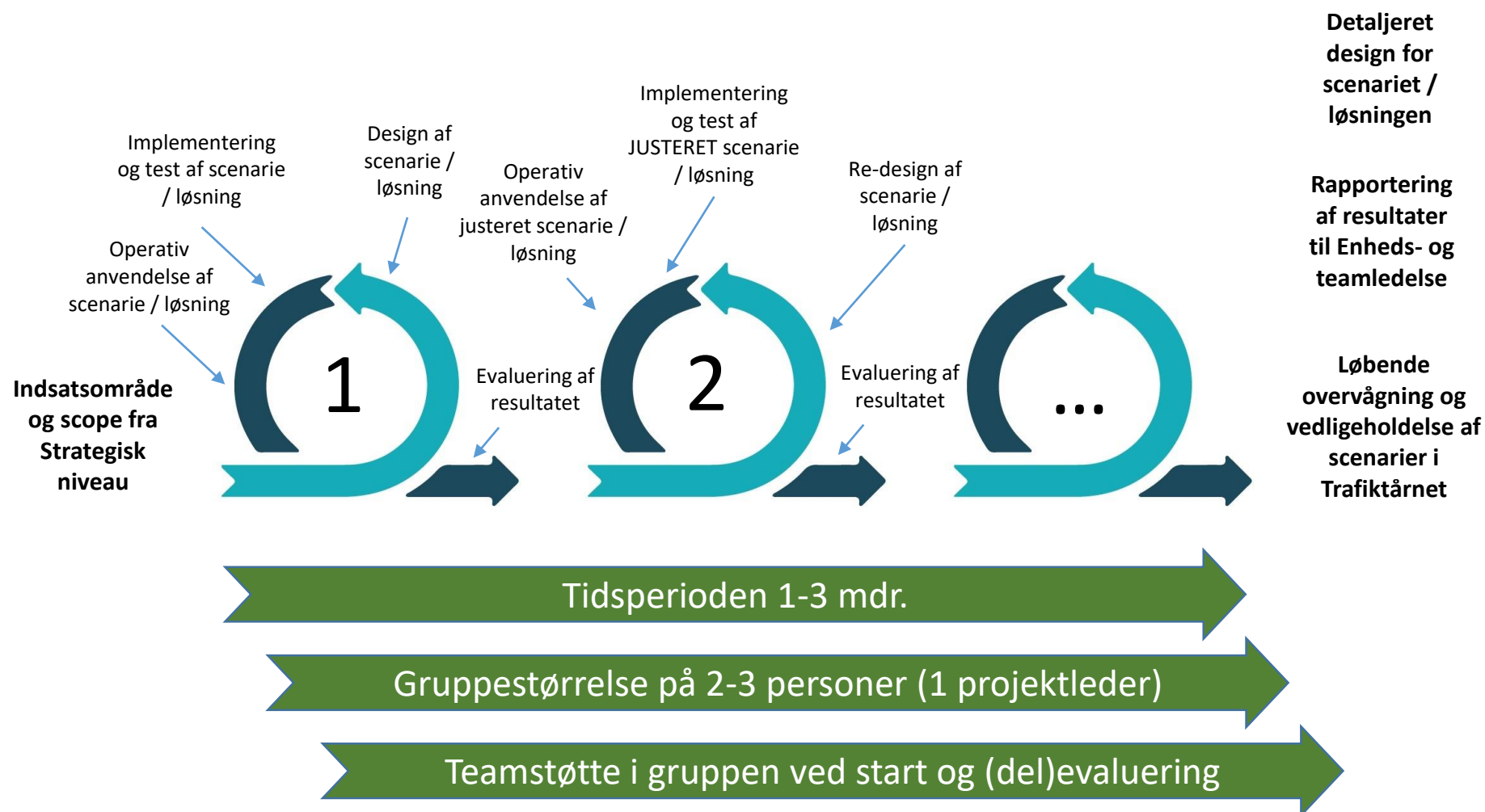


FCD som en virtuel sensor

Sammenligne forskellige transportformer

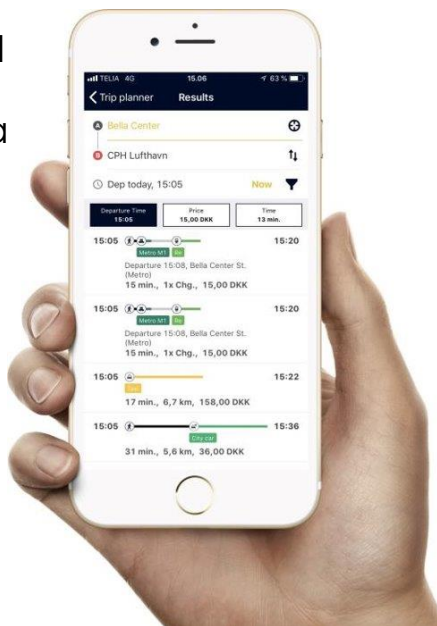


PROCES OG FORLØB I OG MELLEM ENHED- OG TEAMLEDELSE OG PROJEKTGRUPPE



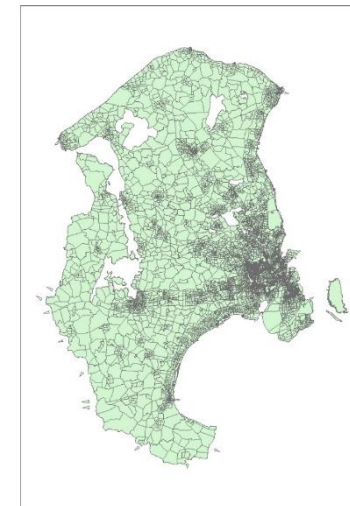
MAAS – "MIN REJSEPLAN"

- App som integrerer busser, tog, Metro, Taxi, Delebiler og Bicyklen
- Innovativ MaaS løsning testet i og senere under ITS Verdenskongressen i København 2018



COMPASS - NY ACTIVITETSBASERET TRAFIKMODEL

- Byerne vokser
- Perspektiverne i modellen
 - Strategisk (Malro)
 - Mindre anlægsprojekter, fx. Vejarbejder, lukning af gader m.m.
 - Operational trafikledelse
- Brugervenlig
- All transportformer
- Beregning af korte ture (cykler og fodgængere)





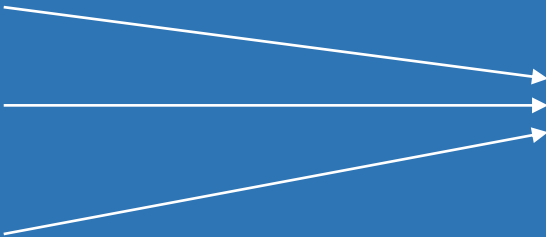
Pilot progress overview

Activity 5 | 13 March 2019



SOCRATES^{2.0}
is co-funded by
the European
Commission

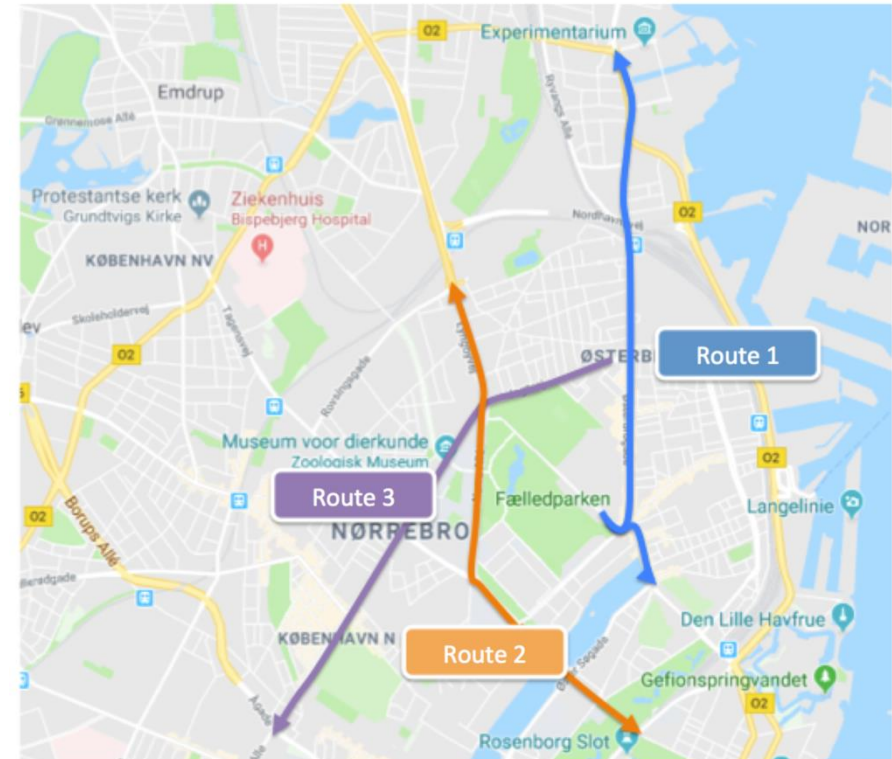
THE INVITING PROSPECT OF THE THREE USE CASES FOR THE CITY OF COPENHAGEN

- Network optimisation
 - Smart destination
 - Quality of Environment
- 
- highlighting the need for modal shift and optimizing traffic flow for green modes of transport within a geofenced area.

TEMPORARY STRATEGIC ROUTES IN THE “EVENT” AREA

ELEMENT 1 IN THE TRAFFIC MANAGEMENT PLAN (=SCENARIO)

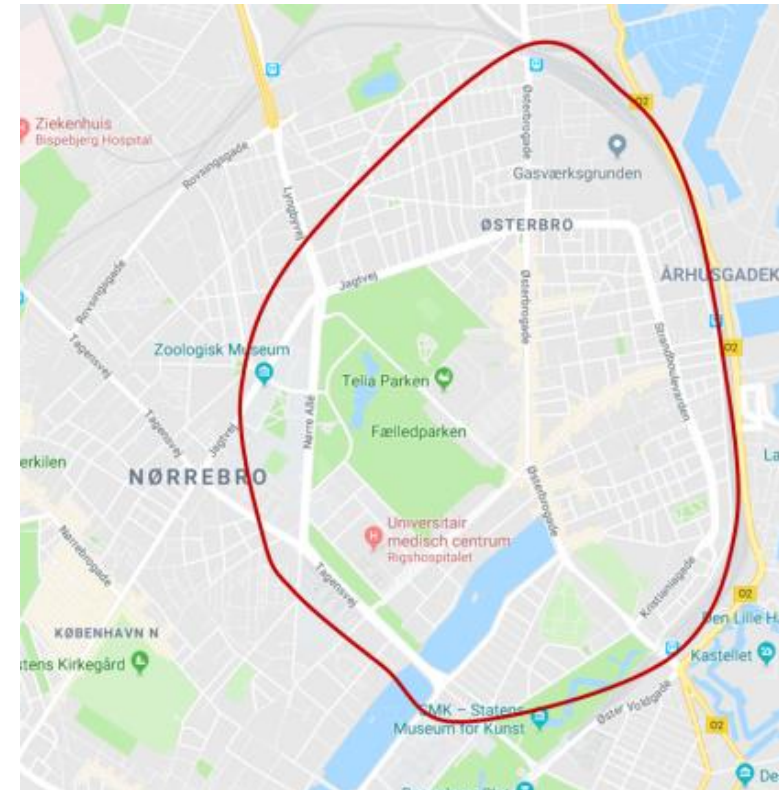
- **Main condition**
- IF
 - Timeslot 00:30h before an event ends – 01:00h after an event has ended
- OR
 - Manual activation
- THEN
 - Route 1 Østerbrogade: increase the outflux of the traffic from the route and give way for the massive pedestrian streams in Trianglen towards Nordhavn station and Østerport station.
 - Route 2 (Lyngbyvej/Nørre Allé): increase the outflux of the traffic from the route
 - Route 3 (Jagtvej): increase the outflux of the traffic from the route
- All routes will be activated simultaneously, but could be manually switched off by making use of the CTMS.
- TMEX
- Strategic route
 - activate strategic routes 1, 2 and 3
 - make vehicle drivers that bypass the *Parken* area aware of the alternative routes for the Routes 1,2 and 3.



TEMPORARY CONTROLLED ZONES IN THE “EVENT” AREA

ELEMENT 2 IN THE TRAFFIC MANAGEMENT PLAN (=SCENARIO)

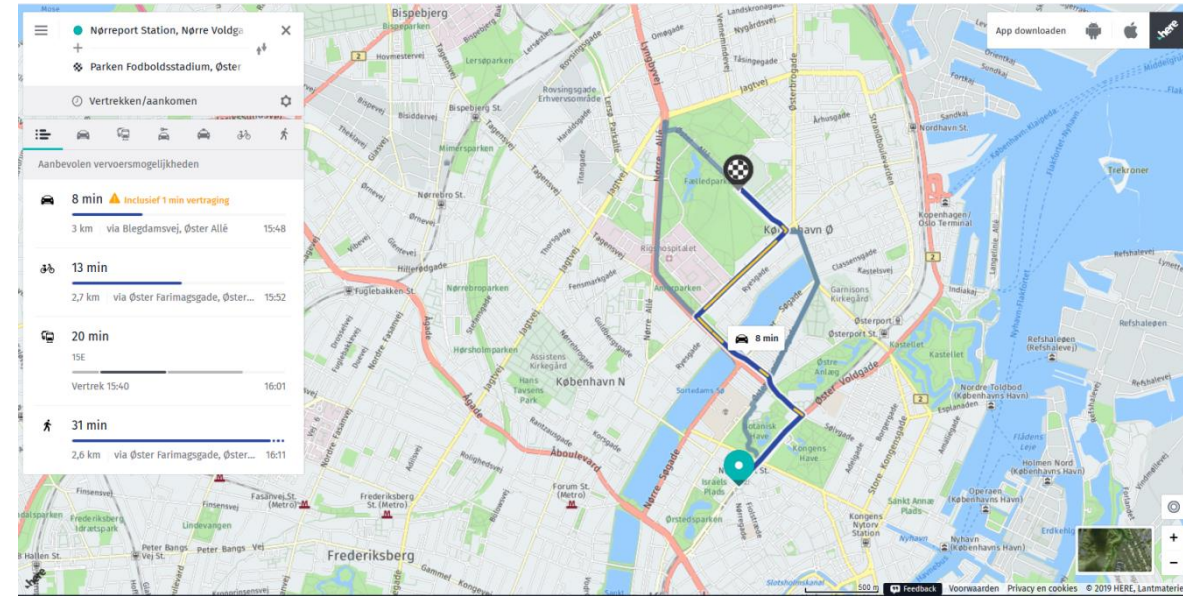
- Main condition
- IF
 - Resolving power of Step 1 is insufficient
- OR
 - Manual activation
- THEN
 - Service request to reduce the influx to the activated zone 2 (= area of indirect influence), which implies a:
 - Route 1 Østerbrogade: service request to reduce the influx of the traffic to the route
 - Route 2 (Lyngbyvej/Nørre Allé): service request to reduce the influx of the traffic to the route
 - Route 3 (Jagtvej): service request to reduce the influx of the traffic to the route
- TMEX:
- Geofence
 - activate geofence Zone 1
 - additional attribute: “accessCondition” is **avoid** (besides **allowed** and **prohibited**)



TRANSFER POINTS AROUND THE “EVENT” AREA

ELEMENT 3 IN THE TRAFFIC MANAGEMENT PLAN (=SCENARIO)

- Main condition
- IF
 - Resolving power of Step 1 and 2 is insufficient
- OR
 - Manual activation
- THEN
 - Service request to advice passenger vehicle driver to change transport mode:
 - Nørreport Station:
 - cycling time = X min, @@@ shared bikes available
 - Travel time public transport = Y min, frequency public transport every Z min.,
- TMEX
- Additional Message: mode shift ?
- Parameters coming with this message:
 - Transfer point (id – string, / name – string / entrance – georeference / number of free parking places – Enum / possibility to reserve parking place – Enum / number of available shared bikes – Integer / average travel time by bicycle = Enum / possibility to reserve share bicycle – Enum / frequency public transport - Enum / average travel time by public transport – Enum)



TAK

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