

Mobility of Tomorrow

**A sustainability hackathon visioning the future of
The Capital Region of Denmark**



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About the organizer: Sustainability Advocates

Volunteer & educational program

running for 6 months with about 20 students
from multiple educational backgrounds.

Mobilize, engaging & empower

students to lead for a sustainable future.

We believe in partnerships

which are vital in propelling sustainable
development, e.g. the Capital Region





The mission of the **Sustainability Advocates** is to mobilize, engage and empower students to take action on sustainability issues. The programme combines bottom-up thinking with a wish to have broad influence on important institutions in society. The volunteers actively participate in the sustainability debate - bringing in the youth voice. They do this by interacting with students and professionals, participating in workshops and events, and engaging with key sustainability practitioners.

The Hackathon Team



Frida & Kristine | Project Leads



Clara & Annabelle | Stakeholder Outreach



Emma & Tahmid | Human Resources



Ana | Communication

Regional mobility trends



The Capital Region has a strong collective network of buses, local, regional and suburban trains, light rail and metro; and together with the extensive network of roads and cycle super-highways the infrastructure ensures that we can reach our destinations.

But increasing congestion on our roads is putting pressure on us on a daily basis, with cars and buses getting stuck in both morning and afternoon traffic.

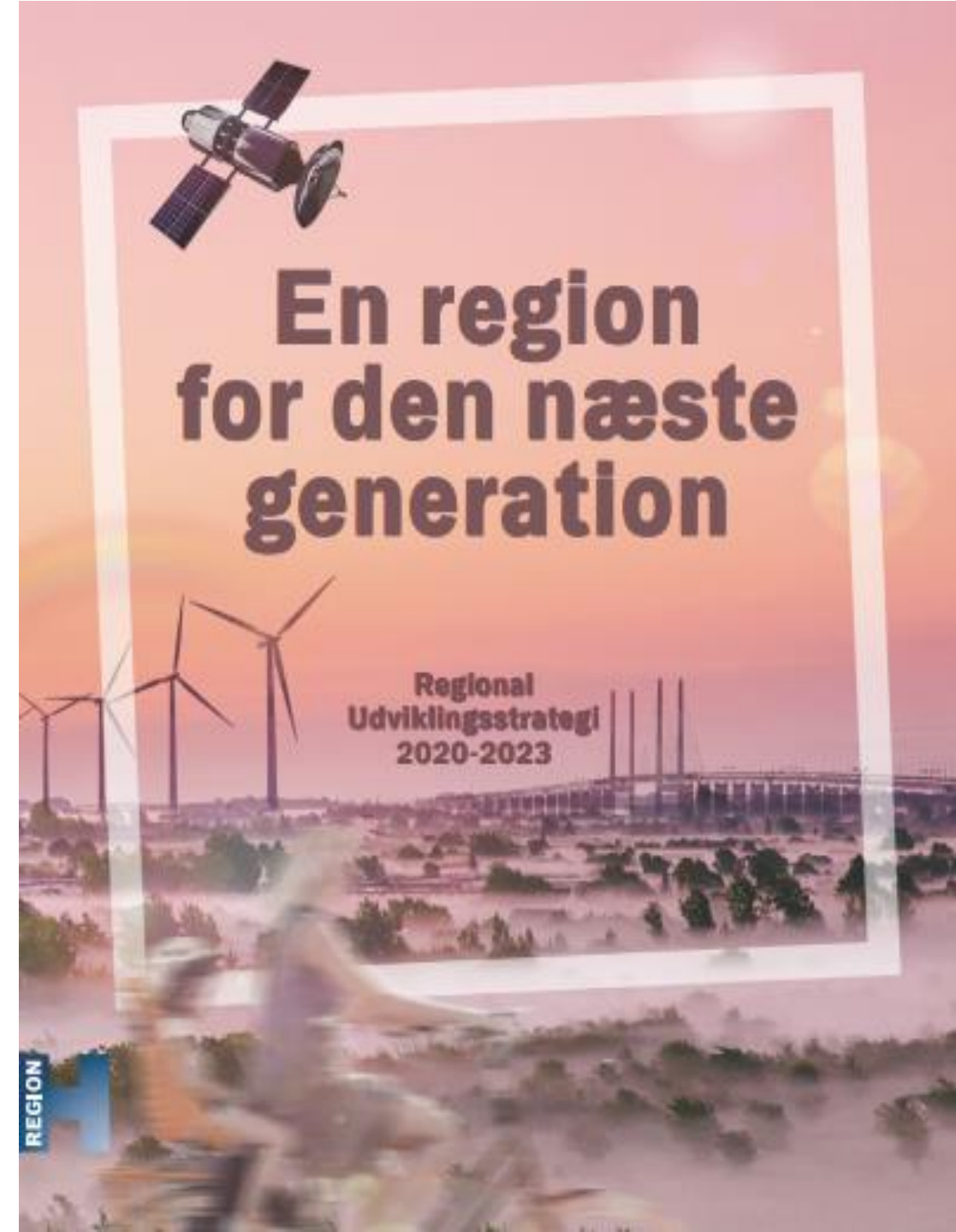
Choosing alternatives to the car must be an attractive option, making it easy to have an everyday life with sustainable and efficient transportation.

The number of people in the Capital Region is increasing. So is the number of cars. The increase in cars on the roads is three times higher than the rise in population. This causes more congestion, longer car queues and more time wasted in traffic. Forecasts indicate a doubling of downtime by 2035, lessening the individual's quality of life, the region's cohesion and increased CO2 emissions. We have to reverse that trend.



Strategic framework: Efficient & sustainable mobility

The regional development strategy «*A region for the next generation*» is underpinning Station's collaboration with The Capital Region of Denmark. The hackathon project in specific has been guided by the strategic target focusing on how to develop greener mobility solutions for the future region.



The purpose of the hackathon

With this event, we aimed to involve students and graduates in problem solving relevant for challenges the Capital Region of Denmark is facing with regards to sustainable development. Young professionals from different disciplines were brought together to provide new insights into future mobility solutions, to benefit the citizens and businesses in the region. Together with renowned actors from the mobility sector the participants came together to rethink the mobility of tomorrow.



Welcome! Let us shape the future
mobility



The event

Timetable & agenda

DAY 1 16:00-21:30	DAY 2 08:30-22:00	DAY 3 08:30-17:00
16:00-16:30 Registration	08:30-09:00 Croissants & coffee	08:30-09:00 Croissants & coffee
16:30-17:45 Kick off & introduction to Sustainable Mobility	09:00-09:40 Collective kick off	09:00-09:30 Kick-off: Almost there!
17:45-18:00 Short break	09:40-10:00 Agenda presentation	09:30-11:30 Concept finalization & pitch preparation
18:00-19:00 Case presentation & group formalization	10:00-11:30 Research phase	11:30-13:30 Lunch in your group
19:00-19:45 Dinner	11:30-12:30 Lunch	13:30-15:30 Pitch time
19:45-20:00 Collective kick off of group work	12:30-14:00 Ideation	15:30-16:10 Jury votes
20:00-20:45 Get to know your group	14:00-15:00 Alternative activity	16:10-16:20 Award ceremony
20:45-21:30 Problem specification	15:00-18:00 Ideation & conceptualization	16:20-17:00 Reception & celebration
21:30 End of Day 1	18:00-19:00 Dinner	17:00 Wrap up
	19:00-22:00 Prototyping & testing	
	22:00 End of day 2	

The agenda





Expert involvement

During the event, the participants were guided by external experts both from the public and private sector.

We were happy to have Søren Have from Concito, Frederik Hoedeman from Gate 21, Thomas Sick Nielsen from the Danish Road Directorate, Torun Israelsson from Akatingo and Emil Bender Lassen from Home.Earth supporting the participants in their problem solving.



The case owners

About our partner:

EASYPARK

EasyPark is Copenhagen's number one parking app. With cities all over the world putting effort to become more sustainable, EasyPark is joining them on this quest and looking into the development of a Park&Ride concept in Denmark.



EasyPark's case challenge

EasyPark challenged the participants on how they, as the most used app to pay for parking in Copenhagen, could become the main driver for Park & Ride solutions in the Region if, or *when*, it appears as an offer.

The case: How can we create and get people to use Park & Ride solutions in Greater Copenhagen to reduce cars in city center and leverage public transport?

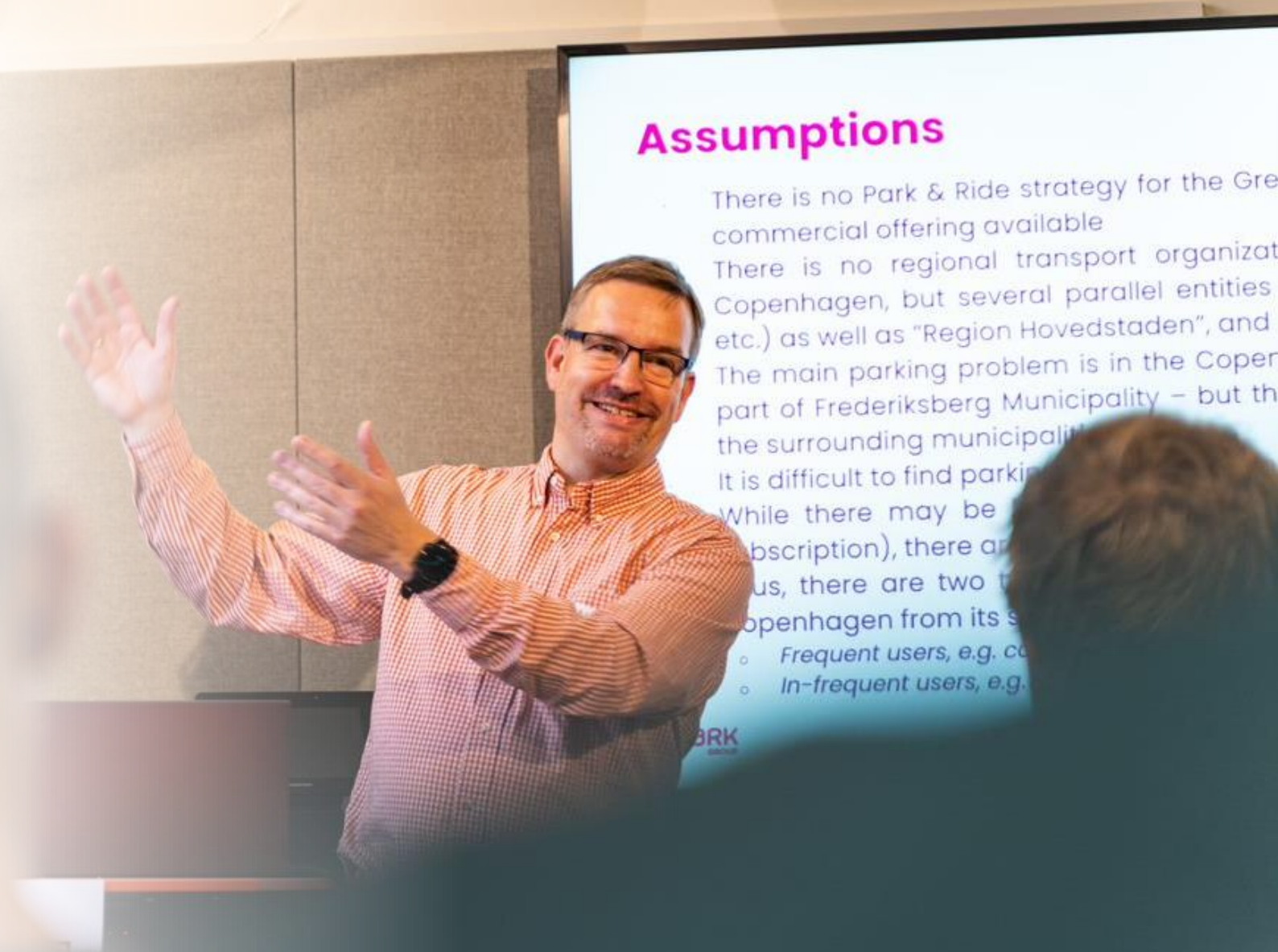


Park & Ride in Copenhagen – how?

May 16, 2022

Park & Ride - parking your car outside the city center and taking a train/metro the “last miles” - is not really available in Greater Copenhagen in a structured way today. Thus, there is potentially a lack of appropriate parking spaces (or at least information about available spaces), lack of attractive commercial offerings to customers (especially for infrequent users), and lack of information about solutions.


Reducing car traffic into the city and moving it to public transport will support sustainable mobility.



Assumptions

- There is no Park & Ride strategy for the Greater Copenhagen area, and no commercial offering available
- There is no regional transport organization for Greater Copenhagen, but several parallel entities (e.g., Copenhagen Municipality, Region Hovedstaden, etc.) as well as “Region Hovedstaden”, and
- The main parking problem is in the Copenhagen part of Frederiksberg Municipality – but the problem also exists in the surrounding municipalities
- It is difficult to find parking spaces in the city center
- While there may be some commercial offerings (e.g., subscription), there are no commercial offerings for infrequent users
- Thus, there are two types of users when it comes to Park & Ride in Copenhagen from its strategic perspective:
 - Frequent users, e.g. commuters
 - In-frequent users, e.g. visitors

Amsterdam

City of Amsterdam 

P+R information

P+R involves parking on the outskirts of the city and using public transport to travel to the city centre. You pay separately for public transport to and from the city centre. You pay your parking fee afterwards. Some of the things you need to bear in mind when using P+R are:

- Driving into the P+R: use the special entrance (if there is one) or press the P+R button!
- Return trip on public transport to the P+R: final check-in in the city centre!
- Pay parking fee at the P+R within one hour of last check-out!
- Paying the parking fee: first insert the parking ticket, next scan the public transport ticket, and then pay!

This map shows the public transport stops in the city centre where you have to check in on the return trip to the P+R location. The stops are shown as white dots. Only these stops entitle you to the discount P+R parking rate.

P+R Rate

Parking

€ 1
Enter on weekdays after 10:00
weekends and public holidays
€ 1 for 24 hours

or

€ 8
Enter on weekdays before 10:00: € 8 first 24 hours, then € 1 per 24 hours

Regular rate

What if you don't meet the conditions for P+R? Then you pay the regular rate this ranges from € 1.40 to € 3.60 per hour or there is a standard daily rate at P+R RAI.

Travel

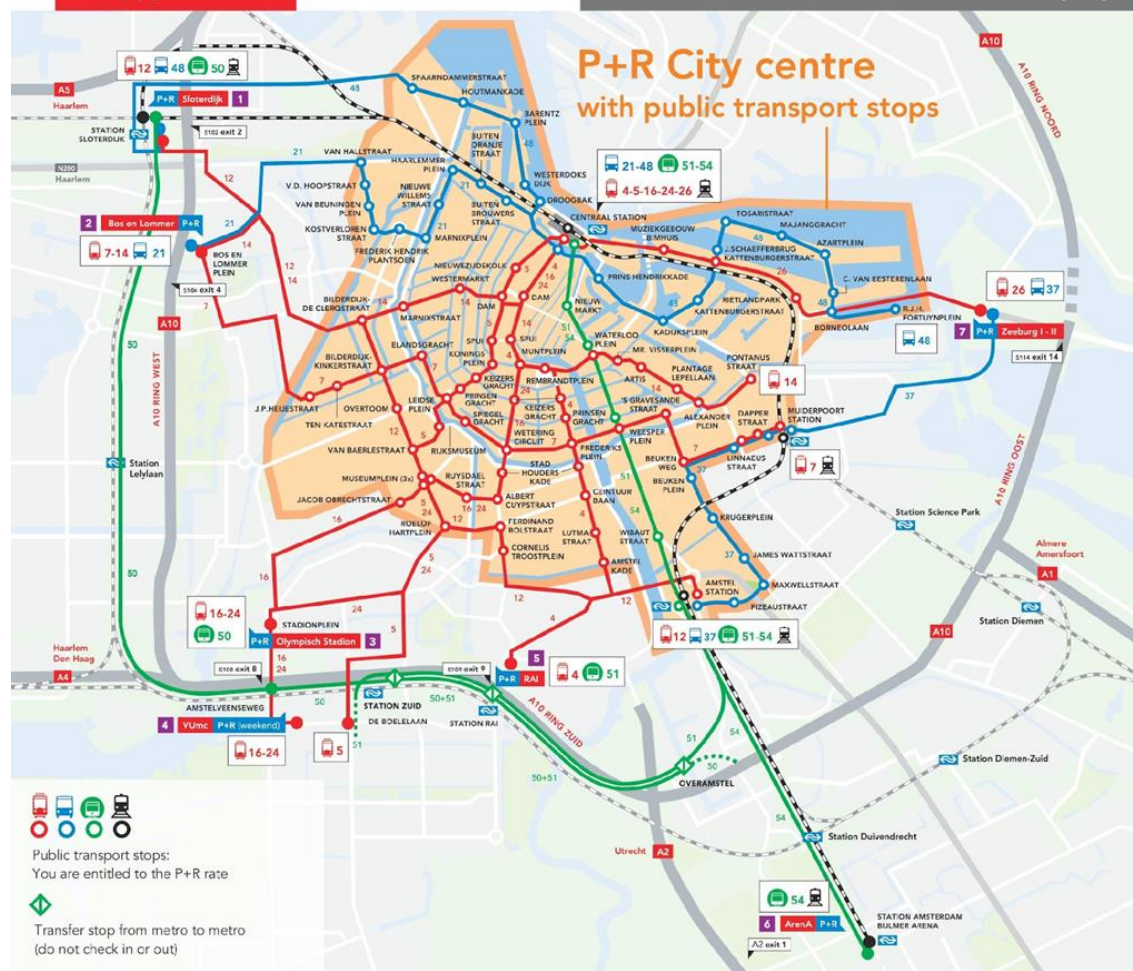
Regular public transport rate, using OV chipkaart (public transport chip card), train ticket, or GVB tickets, for example.

or
P+R GVB cards are available at the P+R locations. These cards can be used for travel on GVB bus, tram and metro services, and back.





1 person: € 5
2 persons: € 5
3 persons: € 5.90
4 persons: € 6.80
5 persons: € 7.70

These amounts are total prices
Children under 4 travel free of charge

The P+R GVB card is valid for 1 hour, both on the outward and return journeys.

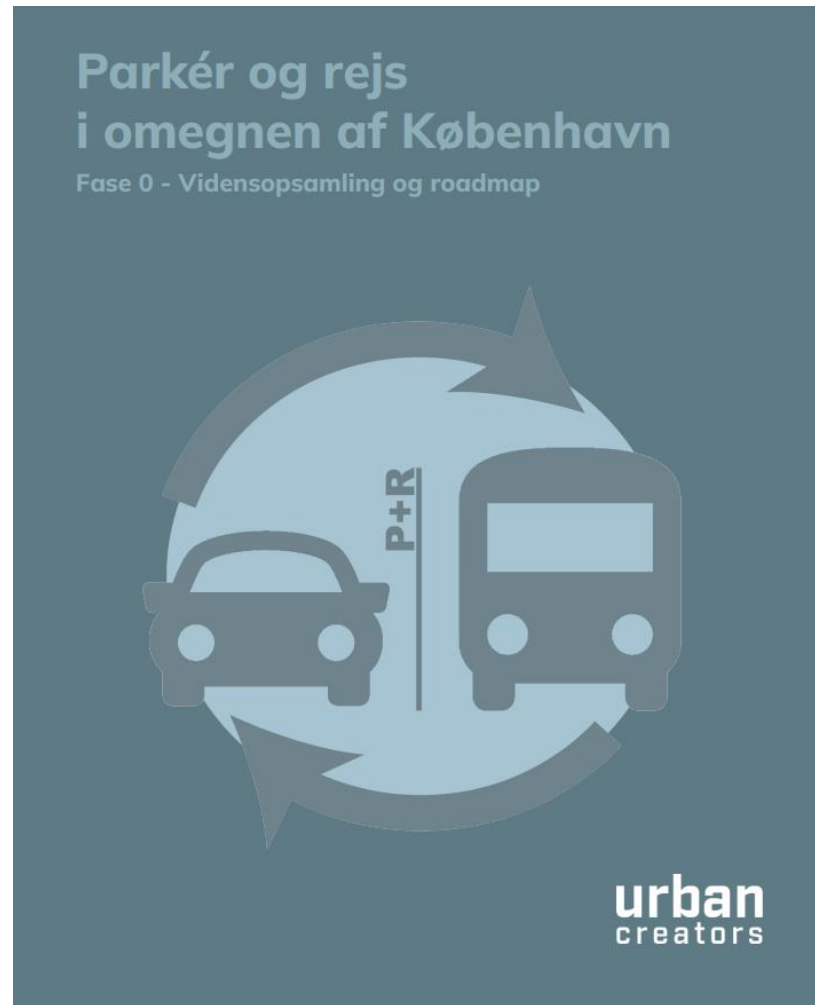


How does P+R work?

- Coming to Amsterdam city centre by car?**
Park at one of the P+R locations on the A10 or A2.

Check P+R opening hours before travelling, at www.iamsterdam.com/parkandride
- At the P+R entrance**
Use the special entrance (if there is one) or press the P+R button. You will get a parking ticket or your car's registration number will be recorded, and the barrier will open.

Do not use your credit card when entering.
- Public transport ticket**
Regular ticket:
When travelling by public transport, you can use any regular tickets that contain a public transport chip. For instance, your OV chipkaart (public transport chip card), train ticket, or regular GVB tickets. Using these, you can go straight to the public transport vehicle!

P+R GVB cards:
These cards are only valid in GVB buses, trams and metros. For up to one hour after driving in, you can purchase a maximum of five discount P+R GVB cards at the blue payment machine in the P+R. You can use this card to travel to the city centre and back.

One card per person
Payment: debit card (PIN) or credit card only.
Want to travel on the night bus? See reverse!
Connexion bus tickets are not valid for P+R.
- Travel by public transport from P+R to city centre.**
Check in and out!
Visit the city. Have fun!
- Travel by public transport from city centre to P+R.**
On the return trip to the P+R, your last check-in must be in the city centre. Do not forget to check out and to pay your parking fee within the following hour! Transferring to a connecting service? A transfer counts as a new check-in. Except if you transfer from metro to metro, see the adjoining map.
- Paying your P+R parking fee**
First insert your parking ticket (at RAI enter your car's registration number) and then hold your public transport ticket against the indicated part of the payment machine (50p). The machine will check whether your last check-in was in the city centre. And whether you are paying your parking fee within one hour of checking out. Only then will you be entitled to the discounted parking rate and the special rate will be displayed on the screen. Follow the payment instructions on the machine (payment by debit card (PIN) or credit card only).
- At the P+R exit**
After payment you will receive your parking ticket. Use the ticket to open the barrier at the P+R exit. If you entered your car's registration number when paying your parking fee, the barrier will open automatically. Have a good trip!

See reverse for further details

Recent pre-study for Copenhagen



Belægning for udvalgte parkér og rejs bilparkeringspladser i hovedstadsområdet. Dette er et øjebliksbillede, og data er fra 2019, primært hentet fra DSB's hjemmeside suppleret med data fra nyere anlæg.

About our partner:



Donkey Republic is a Danish company with headquarters in Copenhagen, operating in 14+ countries with 16.000+ bikes and e-bikes. It is one of Europe's leading bike share services, contributing to increasing the European cities' sustainability through micromobility solutions. They operate a bike sharing services as well as provide cities and partner organisations with the turnkey Donkey bike- and ebike solution.

Donkey Republic's case challenge

Donkey Republic challenged the participants to help frame how The Capital Region of Denmark can prioritize an efficient and sustainable bike-sharing system that takes social value creation into account and avoids siloed thinking.

The case: How can we improve the connectivity and mobility between and across the municipalities making up the Capital Region?



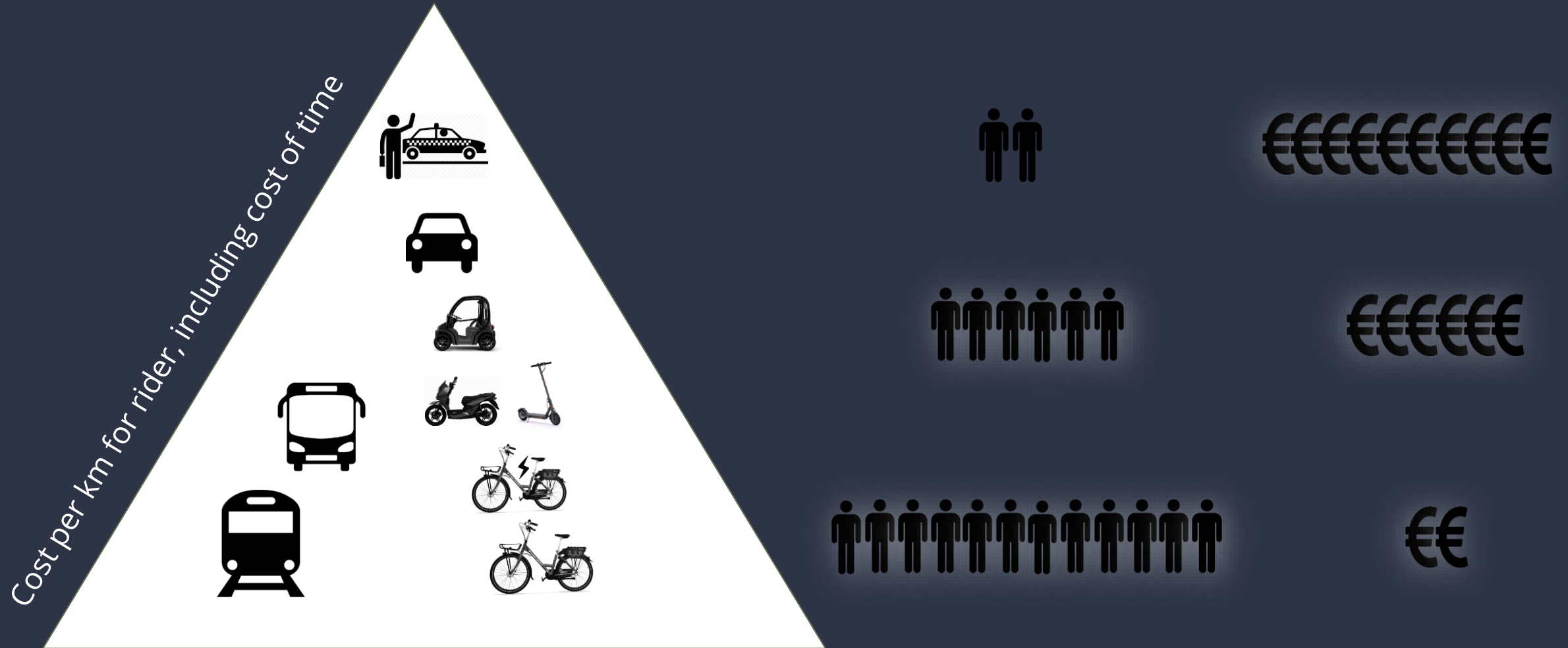


With the population expected to grow it is a challenge to ensure convenient and sustainable transportation and avoid further growth in car usership.

There is a need for solutions that are financially efficient while considering a broader scope of social value creation in addition to being convenient and sustainable.

The Urban Transport Pyramid

Bikes plus Rail provide most affordable overall mobility



Expected market in Europe

About our partner:



Movia is the largest mobility company in Denmark. Every year 20 million customers use their busses, local trains, and on-demand services. Movia is owned by the 45 municipalities and two regions of Zealand. They are aiming for more people to travel together and to travel more climate friendly. In 2030, their approximately 1.300 busses must be fossil free - at least half the fleet must be electric. Their on-demand services must be fully electric, and their new local trains battery driven.

Movia's case challenge

Movia provided us with a case oriented towards how to tap into and highlight the good aspects of public transport, like sustainability, efficiency, and sense of community.

The case: How to make shared transport by bus, train and metro the “travel of choice”?



Madly in love with public transport



From "travel of need" to "travel of choice"

Shared mobility is the mode of the future

A place that evokes positive emotions,
community and shared moments

**How to tap into and highlight the good aspects
of public transport**



» movia

We need to articulate the movement and the perception of Public Transport from:

- ✓ Inconvenience to *invitation*
- ✓ Time wasted to *time invested*
- ✓ Time efficiency to *time liberation*
- ✓ Lesser choice to *loved choice*

The pitches

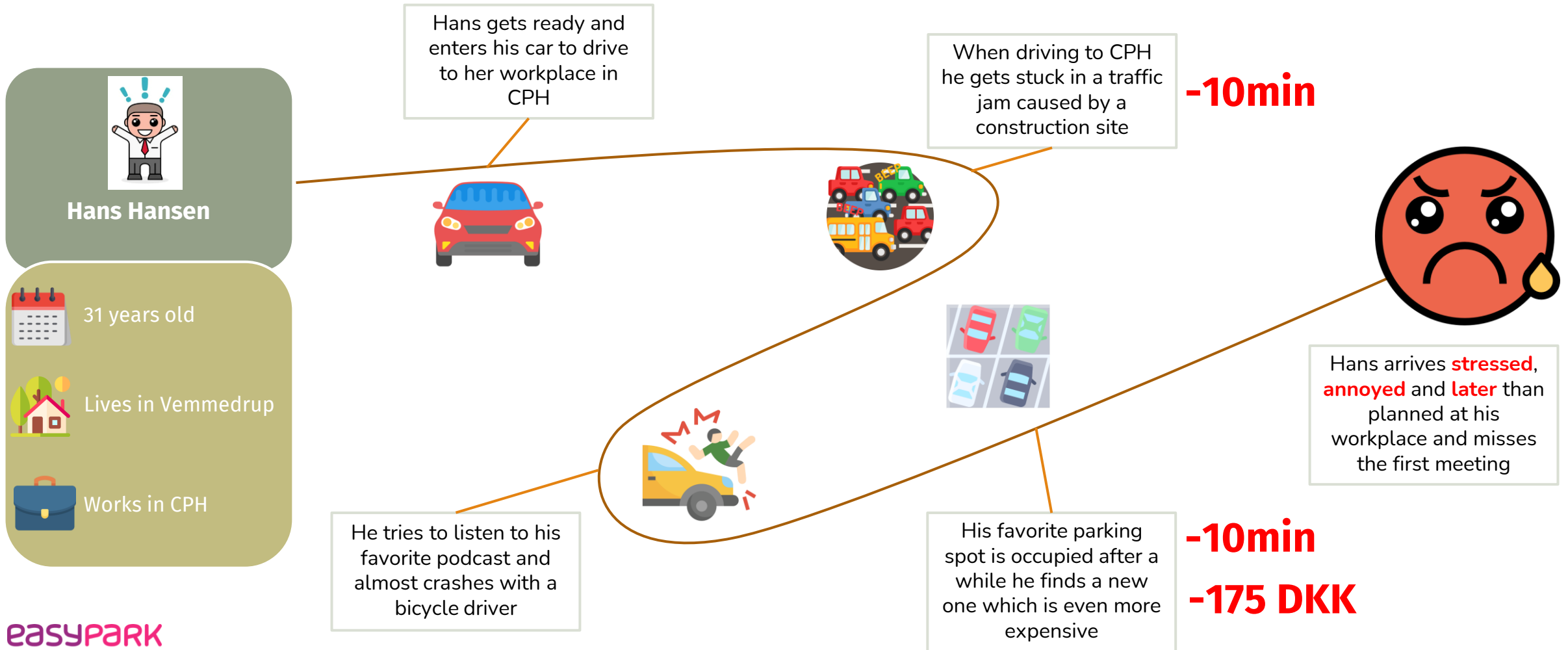


easyPARK

Park & Ride in Copenhagen

How to convince commuters to change their habits

Hans Hansen faces several annoying and stressing moments when commuting with his car to Copenhagen



The new Park & Ride Full-Concept offers comfortability and financial incentives for commuters



The P+R Feature will be embedded in the already existing Easypark app

Be Flexible

Get informed about the connection to the center of Copenhagen



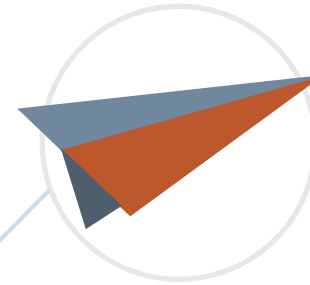
Be Located

Be informed about the closest P&R opportunity for you



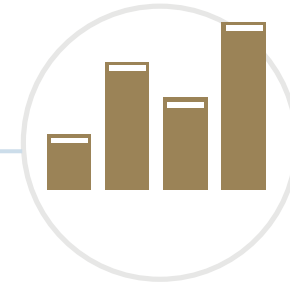
Be Digital

No physical tickets are needed. Get access to the parking lot and the tickets via the app.



Be Informed

Get informed about available parking spots at your wished P&R destination in beforehand



Hans wakes up in the morning and looks for P+R on easypark app

Order by

☒ Distance/Journey ☐ € Price

Filters

Vehicle

- ☒ Car (Height ≤ 1.9m Length ≤ 5m)
- ☐ Van (Height ≤ 2.2m Length ≤ 6.5m)
- ☐ Motorcycle (Length ≤ 2.2m)

Height

Please choose ▾

Features

- ☐ Handicap access
- ☐ 24h 24h service
- ☐ Electric Charger
- ☐ You can get in and out during your stay.
- ☒ 24h Park and ride available



Search results for P+R locations in Copenhagen:

Location	Walking Time	Price	Features
Q-Park Vesterport	12 min	31.00 €	24h, 24h
P + R Køge Nord	13 min	Free	24h, 24h, P+R, Handicap access, 24h service, Electric Charger, You can get in and out during your stay.
Q-Park Adelgade	15 min	52.50 €	24h, 24h, 24h
Q-Park Codanhus	18 min	30.00 €	24h, 24h
Q-Park Scandic Kødbyen	21 min	30.00 €	24h, 24h, 24h

The map on the right shows the location of the selected parking spot (P + R Køge Nord) relative to the city center and the harbor.

Reset filters

Apply filters

He can directly book the P+R ticket on the app



Duration: 1 hours [Change dates](#)

Arrival	Departure
23-05-2022 8:15 am	23-05-2022 6:30 pm

P+R Køge Nord [Details](#)

Address: Vodroffsvej 1. Frederiksberg C.
Schedule: This car park is always open (24/7).

Maximum height of the car park: 2m. [\(Read more\)](#)

[Choose another rate](#)

Vehicle Car
Height: 1.9m. Length: 5m.

Access type **P+R Ticket**

Book a Park and Ride ticket: travel to Copenhagen by train and park your car for a reduced fee at the P+R stations

☒ **Make this my regular parking**

Stay price Rate: 1 h.	63,75 DKK
Management fee Management fee will not be refunded.	11,25 DKK
Total booking price	75 DKK

Car only is expensive and inefficient

Fuel and car DKK 4.200

Parking ticket DKK 3.000

Total DKK 7.200



Car smart saves money and makes Hans happier

Fuel and use of car DKK 800

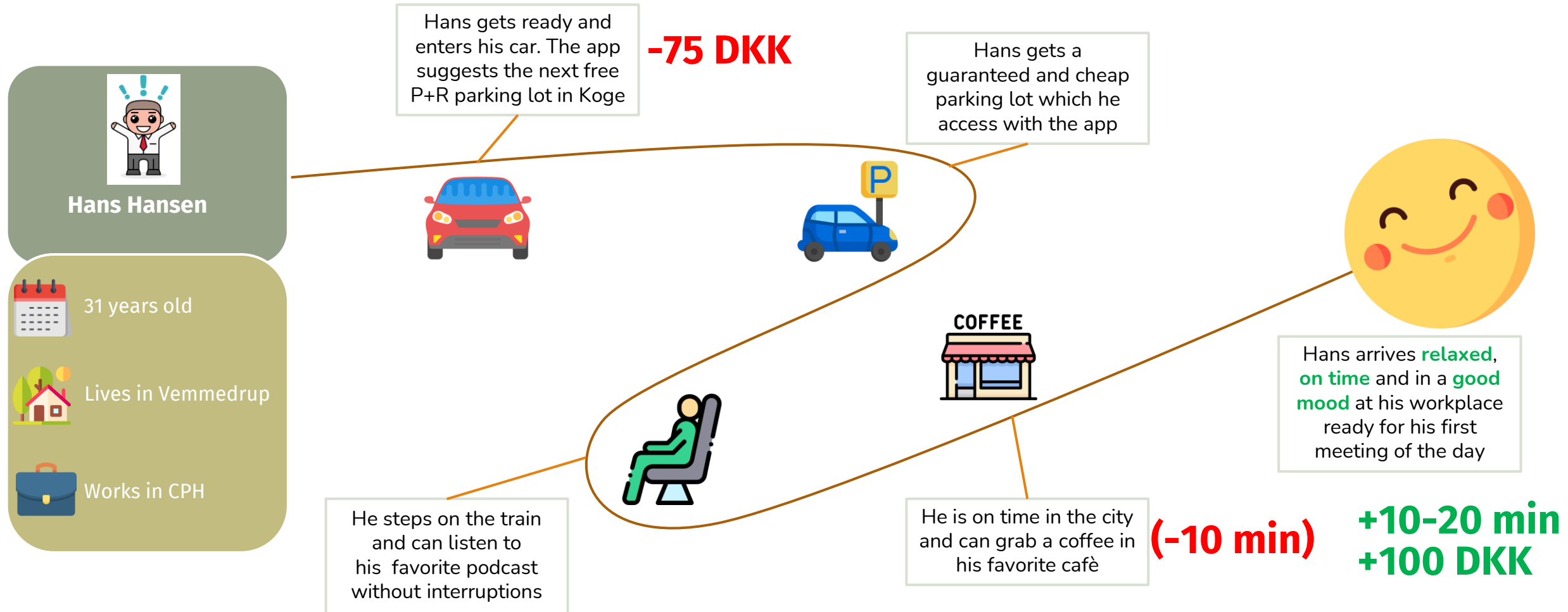
Train ticket DKK 1.500

Parking ticket DKK 1.500

Total DKK 3.800



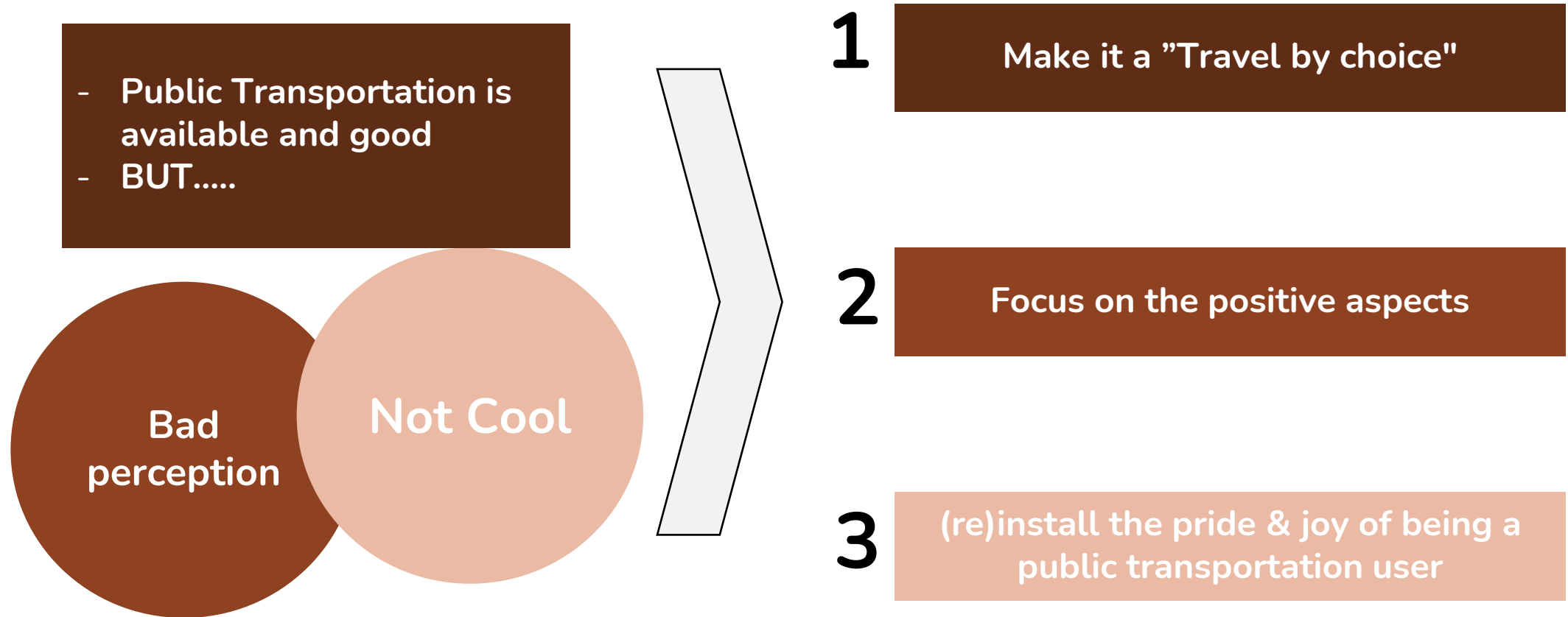
Through the P+R option Hans Hansen gets a more relaxed and stressfree opportunity to get to work

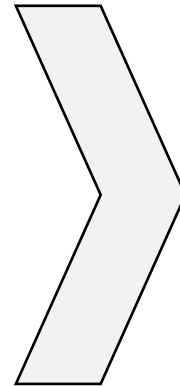
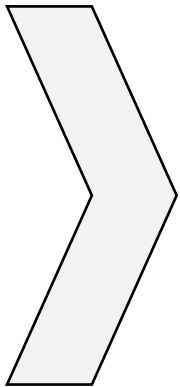
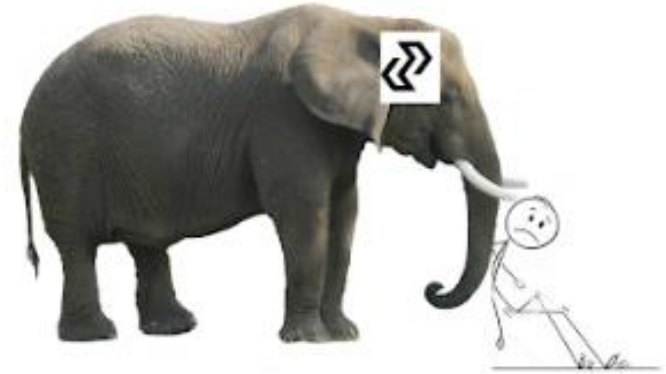
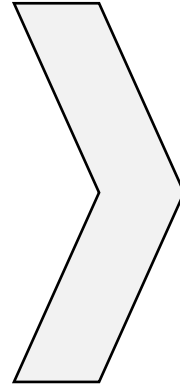
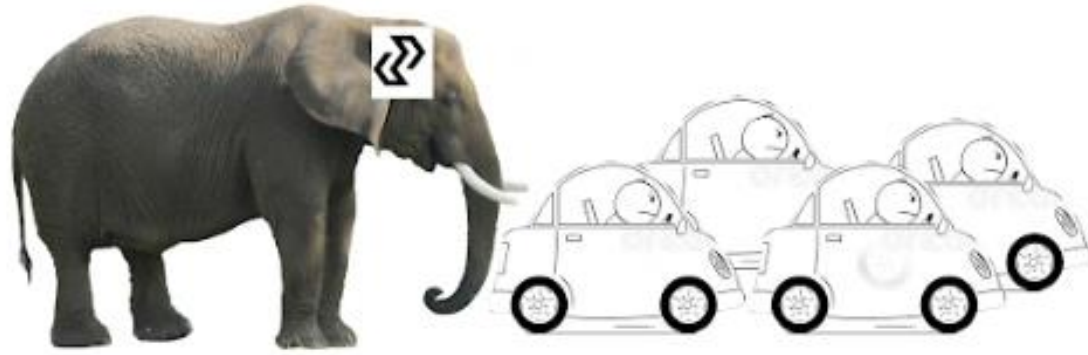




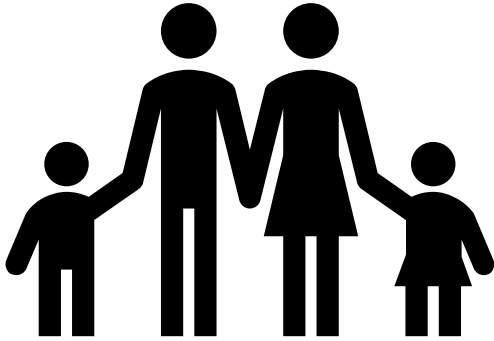
How to fall madly in love with public transport

Problem Statement





The Journey

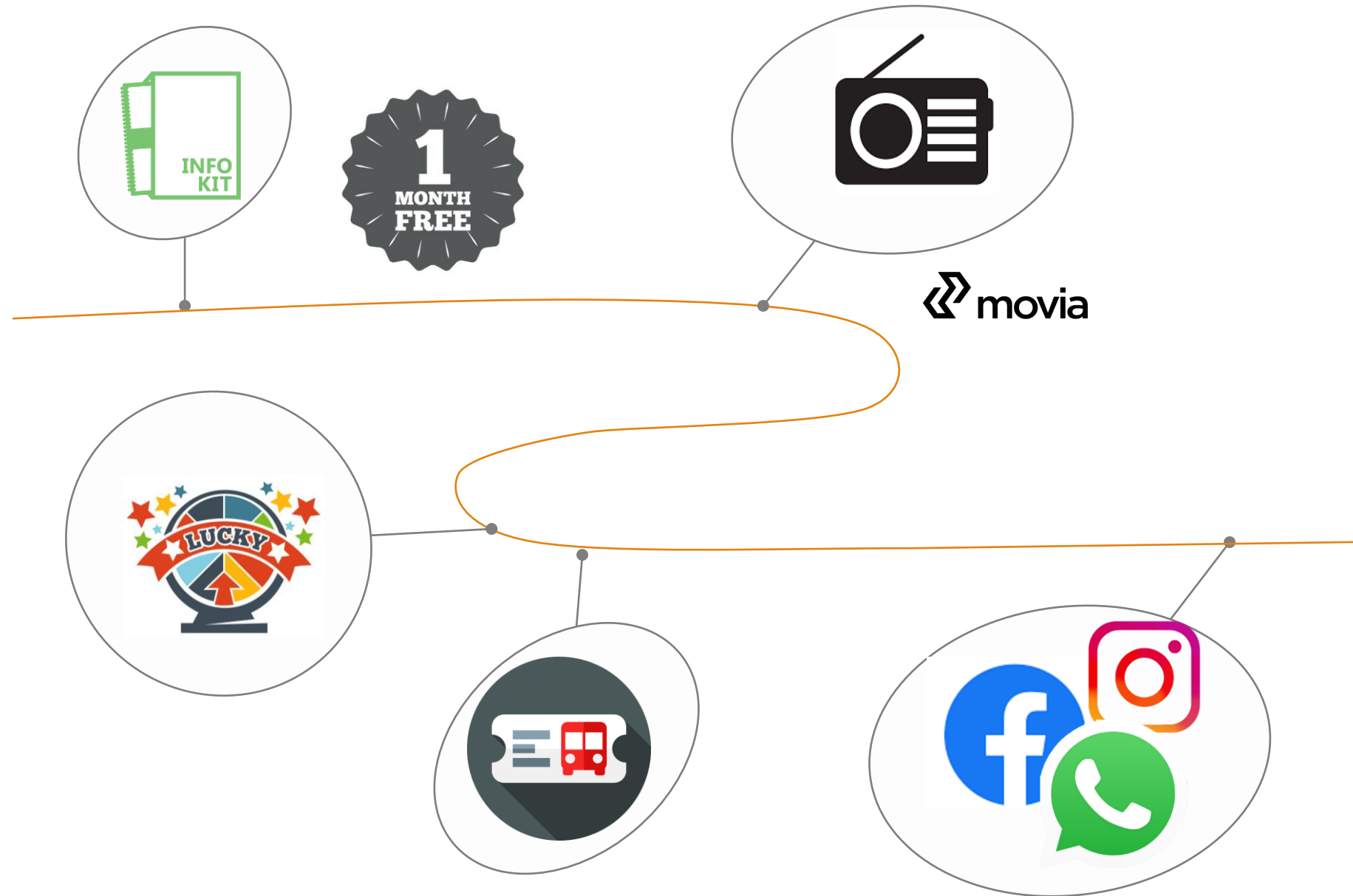


Background:

Just move house out of CPH

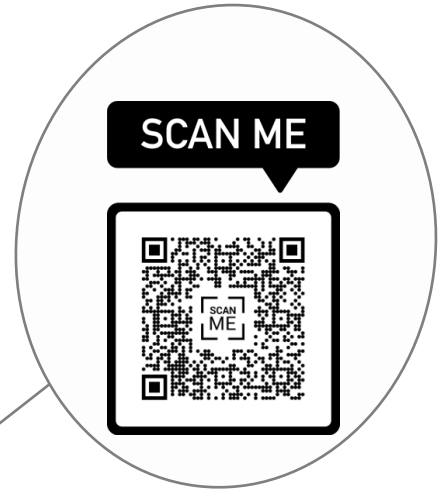
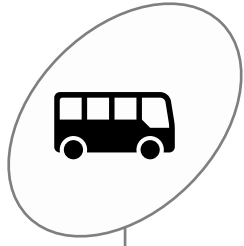
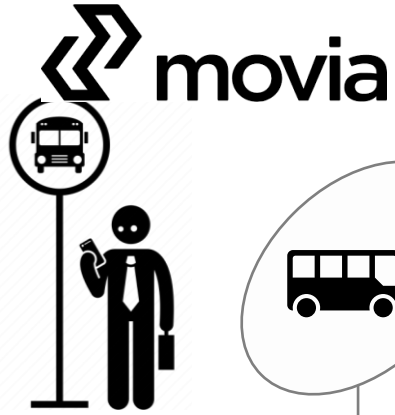


A family





Chris



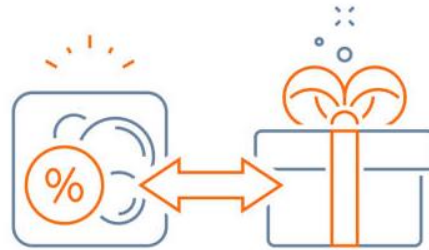
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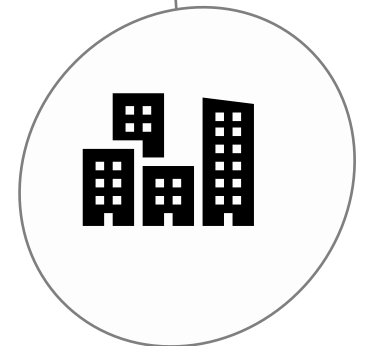
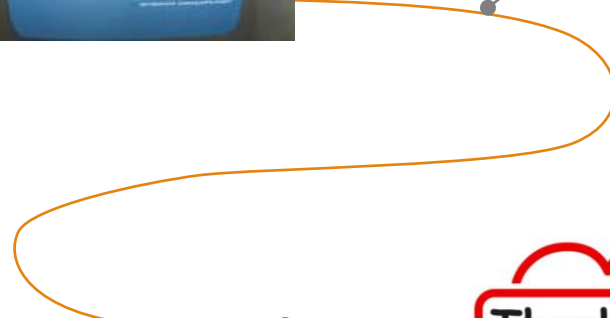
Working in a caproate company



Always drive with the own private car and rarely use the public transport



Earn points get reward



The Solution

Nudges everywhere



**Public Transportation
„October Challenge“**



Bonus Program



Push-Up notifications







DONKEY
R E P U B L I C

How to improve the connectivity and mobility between and across the municipalities making up the Capital Region?



Capital region in 2045

300 000

new residents

would that mean

+150 000*

cars?

*In Denmark in 2018 amount of passenger cars per 1000
habitants was 447



What if bike was a part of a mobility offer?



Integrated!

One journey - one payment

Don't need a separate app!





Integrated!

Bike ride as part of your whole *mobility* journey

Smooth & easy makes it an attractive alternative to a car





Net gain for both

- More commuters arrive to trains by bike
- Cutting down ineffective lines
- Expansion to rural areas
- More commuters choose bikes



**Tænk
grønt**

**Kør
gult**

Tænk
grønt



Kør
~~grønt~~
Orange



Main learnings

On a general basis we found that all groups looked into how to make the mobility and transportation offers in the region more integrated and accessible. They investigated park & ride solutions enabling better transitions from car to public transport, how an eventual cooperation between Movia and Donkey Republic could be envisaged and the potential of nudging people to see public transport as an attractive travel by choice. All solutions involved the development of an app or investing in extensions of existing solutions making offers between different providers more compatible.



Award ceremony

The jury evaluation

Innovation



Value



Sustainability



Potential



The criteria

Innovation



To what degree has the group developed a creative and innovative solution in comparison to existing products/services/concepts?

Value



How much value does the solution create for the target groups (residents, tourists, businesses etc.)?

Sustainability



To what degree does the solution contribute to creating a more sustainable mobility sector, and to help implement the UN's Sustainable Development Goals?

Potential



How much business potential does the proposal have? How implementable is it? How likely is it for the solution to still be relevant after a year? What potential positive ripple effects does this solution stimulate?



The team working on the Donkey Republic challenge won this year's sustainability hackathon! As a part of the prize, they are invited to hold a presentation at a meeting of the Committee for Traffic and Regional Development this fall. Regional actors will thus get direct inputs from the young on how to face future sustainable mobility challenges and thereby get an even better chance to ensure that the coming regional strategies supports the aim of making the Capital Region of Copenhagen "*a region for the next generation*".



Thank you!