International Transport Forum

Shared Mobility for Cities

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(with Luis Martinez, Francisco Furtado, Olga Petrik)

5th WORLD COLLABORATIVE MOBILITY CONGRESS, October, 2017

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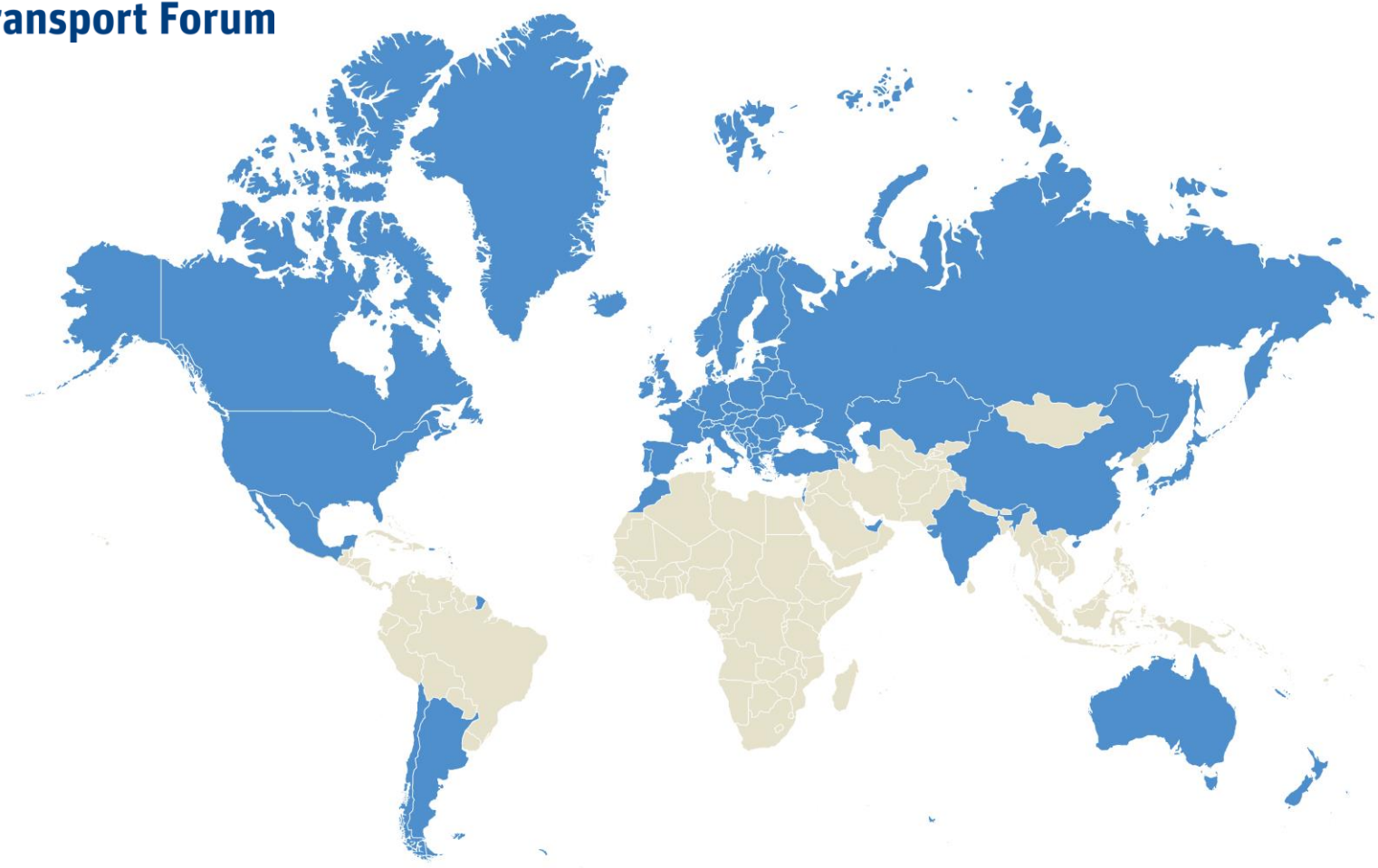

disruption

data

CAR 2GO
autolib'
チョイモビ
Korttelіauto
www.citizenn.com
A vantagem de andar à hora.
Cité lib
autopartage pour tous
DriveNow
Premium Car Sharing by BMW i and MINI
CITYCARCLUB
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when you need to drive
Hertz
On Demand
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CITY CAR SHARE.org
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city car club
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TOYOTA
GO CAR.ie
Community CarShare
bcs.
Bundesverband CarSharing
bluely
Hertz
delebilen
GREEN WHEELS
liftshare.com
travel together
multicity
CITROËN
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lyft
ORIX
CarShare
ZEN CAR
Times Car PLUS
goget
Mu by PEUGEOT
Quicar
Share a Volkswagen
Respiro Car Sharing
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City of Stockholm

10% of 18 years old

have a driver's licence

Aretun & Nordbakke, 2014

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JAGUAR
RENAULT
GM
TOYOTA
NISSAN
VOLVO
Mercedes-Benz
Google
TESLA
Ford
BMW
Audi

Future obsolescence of the drivers license

...

2017 **2035** **2052**

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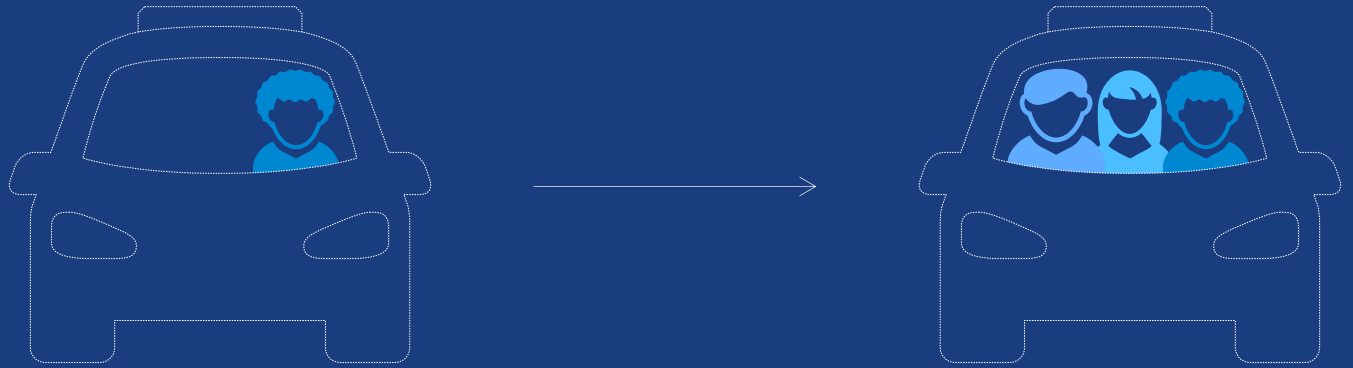
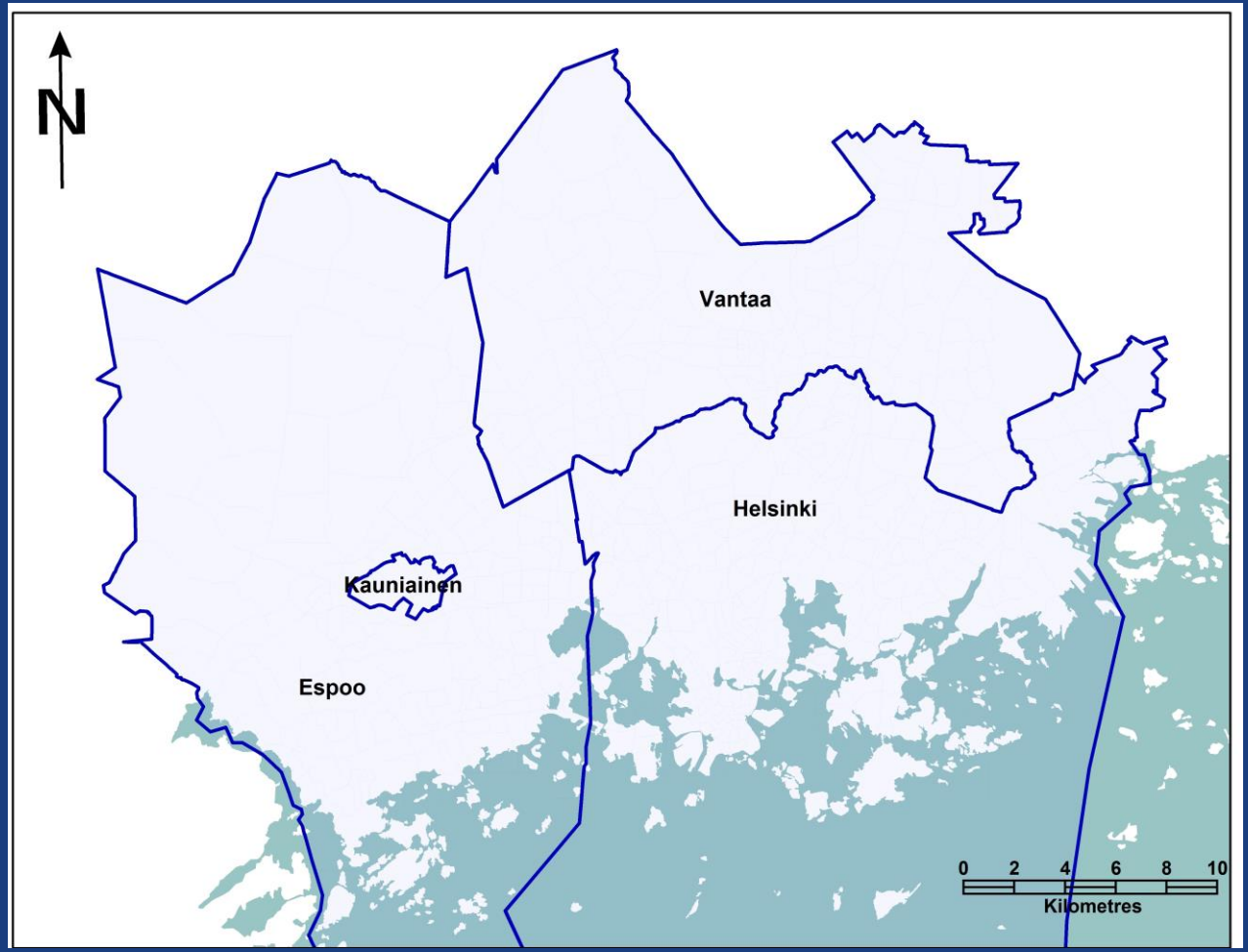
what if?



real city

Helsinki Metropolitan Area



real* trips

real routes

same quality

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Shared “taxis”

simultaneous ride-sharing

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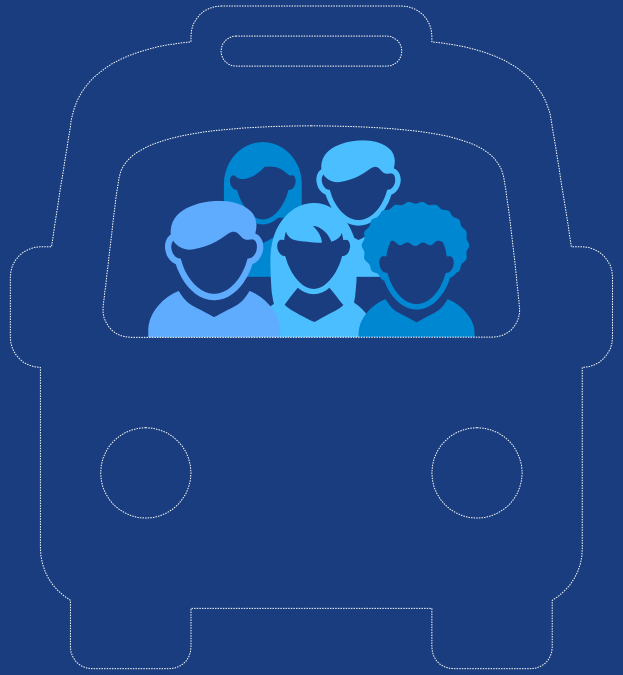

TaxiBus

optimised on-demand bus

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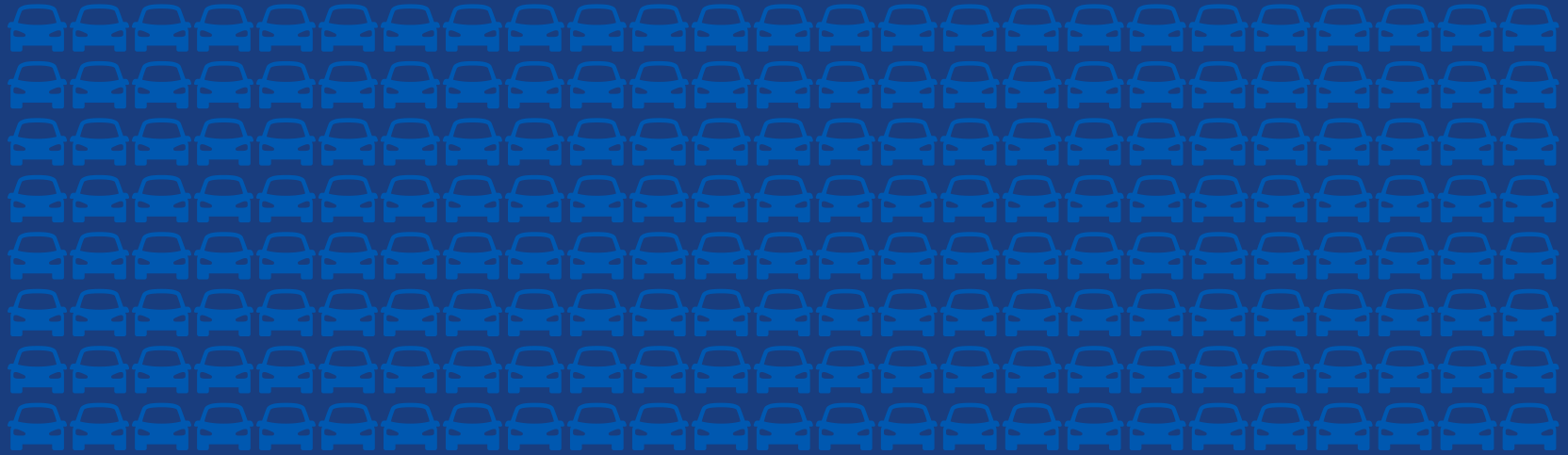
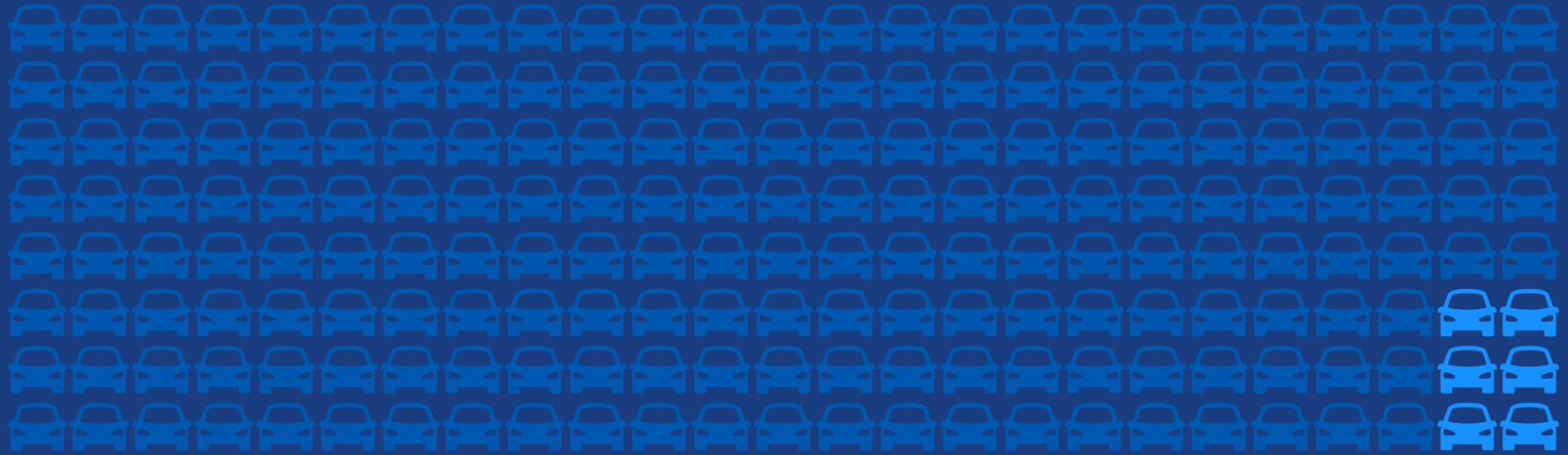
Lisbon



Scenario: 24 hours

number of cars
required to provide the
same trips as before:

Lisbon

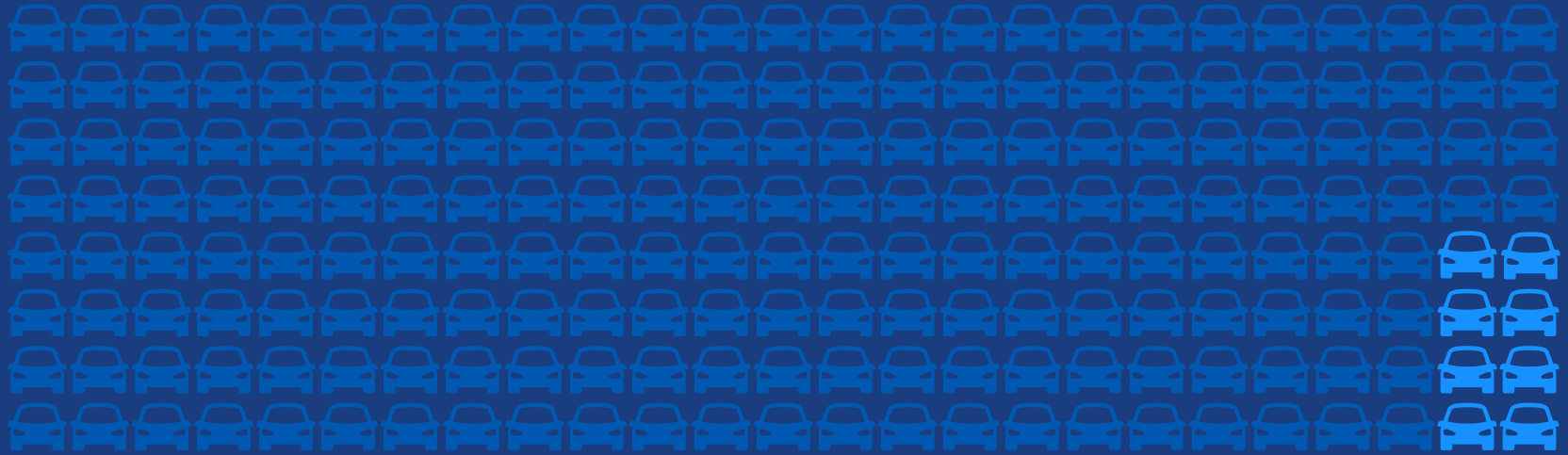


Scenario: 24 hours

number of cars required to provide the same trips as before:

3%

Helsinki



Scenario: 24 hours

number of cars
required to provide the
same trips as before:

4%

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Impacts (best scenario)

-62% (Lisbon)

-34% (Helsinki)

CO_2 emissions

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CO_2 /inhabitant (base year)

3.5

(Lisbon)

2.5

(Helsinki)

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CO_2 /inhabitant (best scenario)

1.6

(Lisbon)

1.8

(Helsinki)

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Factors affecting outcome

Current modal share

Public transport quality

Density of the area

Trip patterns

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eliminate
all street parking

PARKING

PARKING

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Understanding user preferences

Focus group for each city

Stated preference survey

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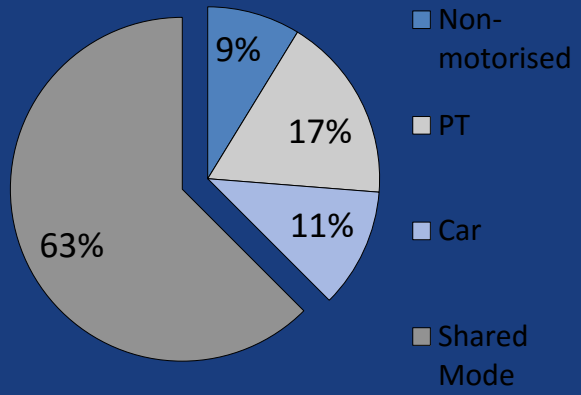
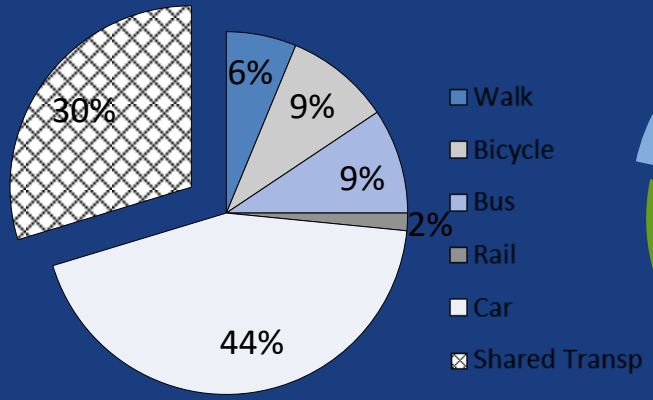
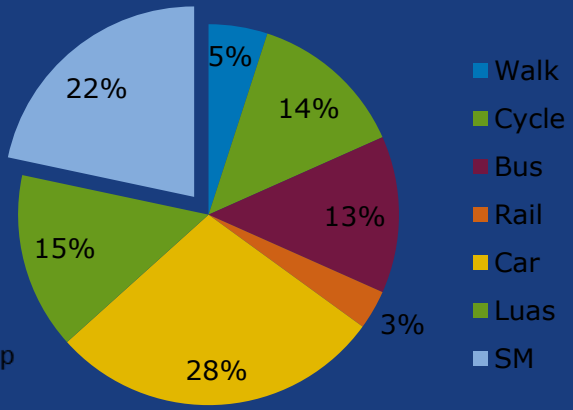
Shared mode in stated preference survey



Helsinki

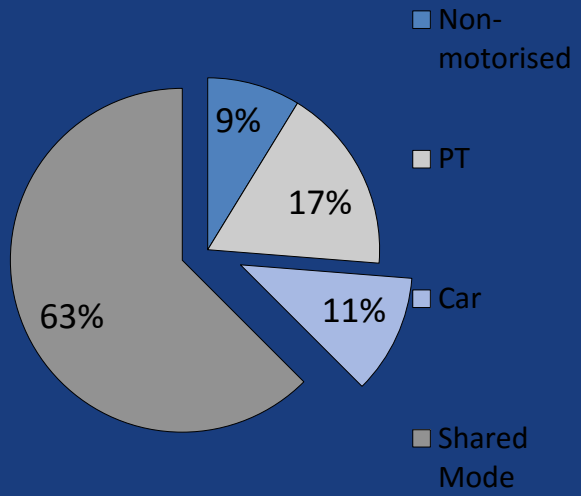


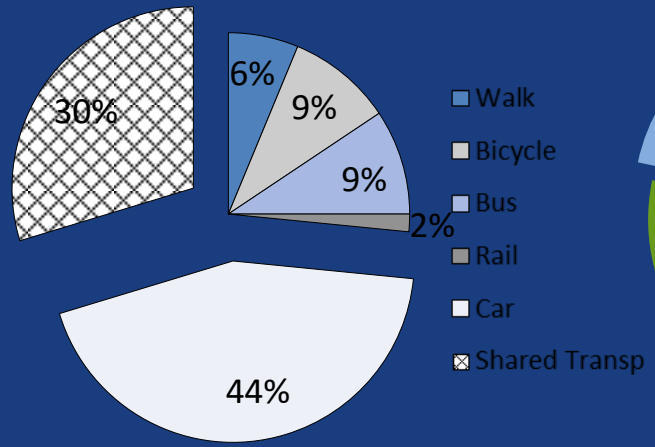
Auckland

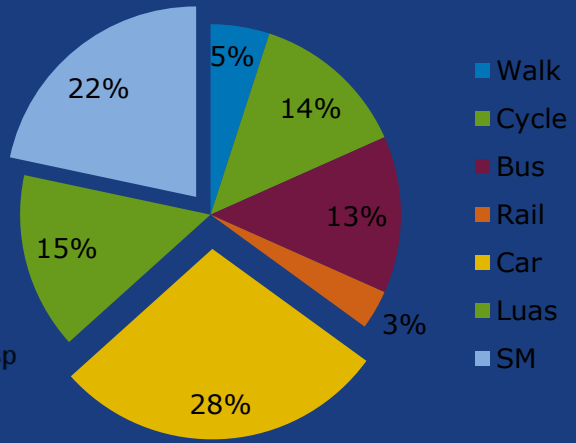


Dublin

Car mode in stated preference survey







Helsinki (41%)

Auckland (87%)

Dublin (65%)

Other observations

- Importance of having services across the entire area – and feeder service to mass transit
- Willing to share vehicles rather with more than fewer travellers
- Early adopters: residents living far from the city centre, regular PT users young and people above 55 years
- Price important factor for all respondents
  - Waiting, access and travel time, number of transfers and comfort
- One third of respondents that own a car stated they would sell one of more cars if shared mobility services were available

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CO2 emissions (20% cars replaced)

-19%* (Lisbon)

-4% (Helsinki)

* Estimation

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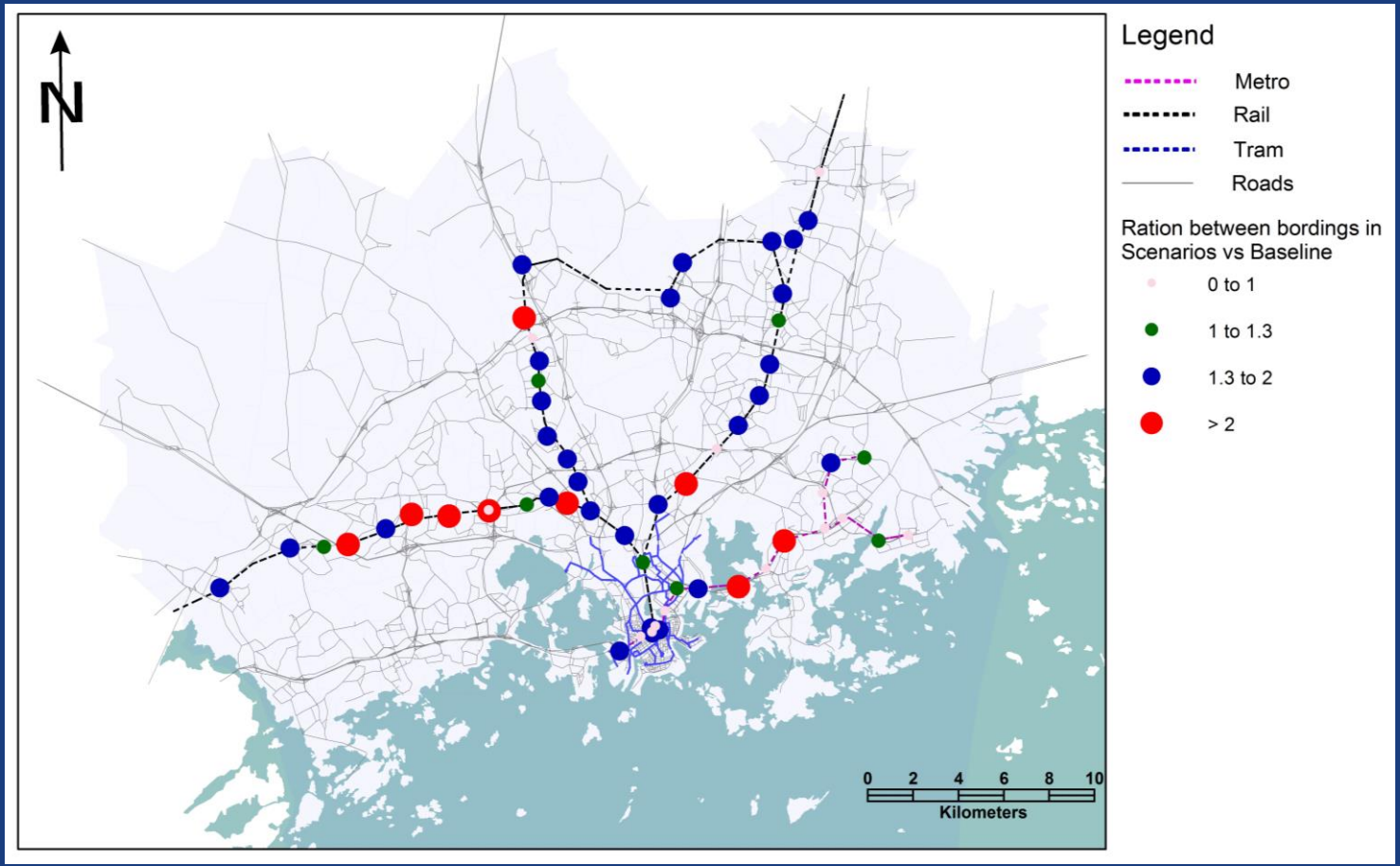
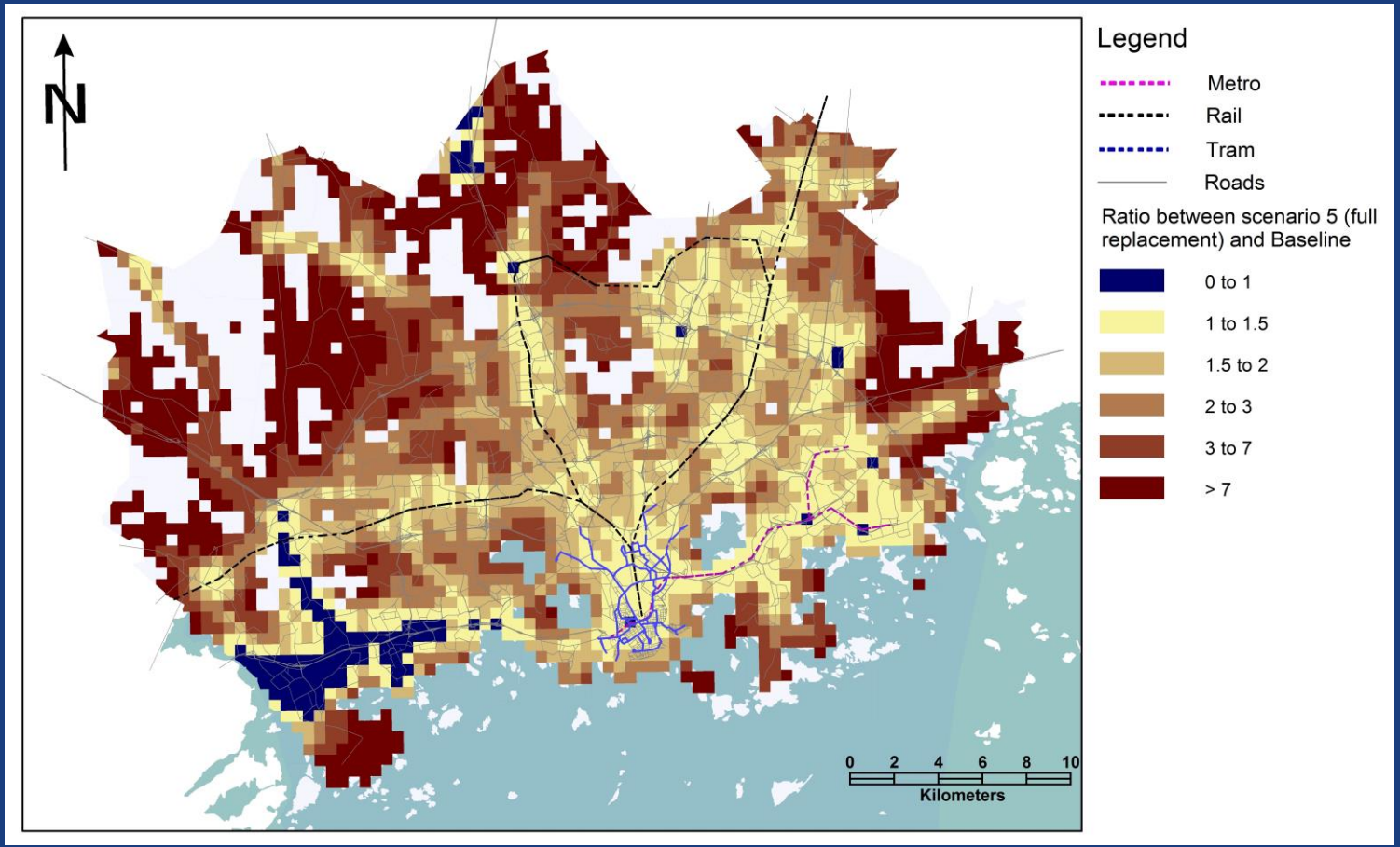
Increase in metro and rail ridership (Helsinki)



Increased access (Helsinki)

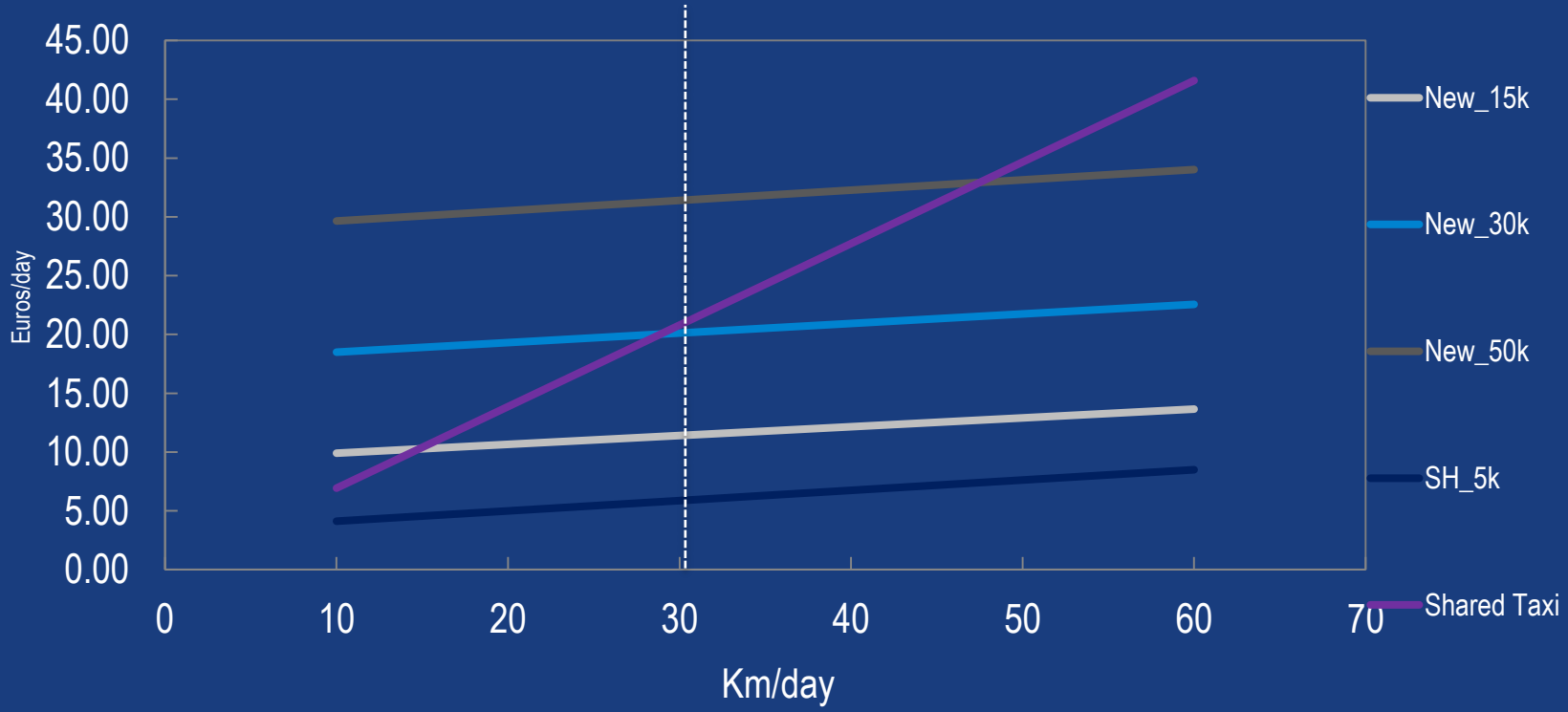


Costs/price – Helsinki Metropolitan Area

Scenarios	Price per km (EUR/km) for end users				
	Shared Taxi	Taxi bus	Average Taxi trip	Average PT user	PT operator without Subsidy
Inside ring road I	0.69	0.20	2.37	0.21	0.35
All cars and buses	0.65	0.19			
20% car trips + bus feeder	0.79	0.20			

Price/Cost in Helsinki Metropolitan Area

Total commuting cost per day and km of car ownership vs Shared Taxi



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Recommendations

Enable shared mobility as part of policy package

Introduce at a sufficient scale

Feed to mass transit

Target potential early adopters (car users)

Ensure line and station capacity

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Transition

Land use policies

Economic instruments

Infrastructure/service measures

Regulatory policies

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Thank you!

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