

Supplier Conference

New technology platforms for fare collection, payment and other on board customer experiences

September 12th 2016

Ruter #

Observers

- Brakar (PTA of Buskerud county)
- Kolombus (PTA of Rogaland county)
- Østfold Kollektivtrafikk (PTA of Østfold county)
- Skånetrafikken (PTA of Skåne, Sweden)
- NSB (National Railway Company)
- Statens Vegvesen (The public roads administration)
- Sporveien (Metro and Tram operator)
- Bymiljøetaten Oslo (The Urban Environment Agency of Oslo)
- Flytoget (Airport Express operator)
- Kollektivtrafikkforeningen (The Public transport association)

Agenda

Time	Topic
1030	<i>Registration</i>
1100	Welcome and introduction Information about Ruter and future ambitions
1145	Supplier presentations 1-6
1240	<i>Break, food/refreshments are served</i>
1310	Supplier presentations 7-13
1415	<i>Short break</i>
1430	Supplier presentations 14-19
1525	<i>Short break</i>
1535	Open dialogue including Q&A Summary and wrap up

Agenda

Time	Topic
1030	<i>Registration</i>
1100	Welcome and introduction
	Information about Ruter and future ambitions
1145	Supplier presentations 1-6
1240	<i>Break, food/refreshments are served</i>
1310	Supplier presentations 7-12
1405	<i>Short break</i>
1420	Supplier presentations 13-18
1515	<i>Short break</i>
1530	Open dialogue including Q&A
	Summary and wrap up

#	Timing	Supplier
1	1145	FourC
2	+7	Init
3	+7	GoAppified & Netclearance
4	+7	Scheidt-Bachmann
5	+7	Microsoft
6	+7	Tickey
7	1310	Jiffi
8	+7	Blueaccess
9	+7	Unacast
10	+7	Xerox
11	+7	Estimote
12	+7	Next Signal AS
13	1420	Kapsch
14	+7	Affecto
15	+7	FluxLoop
16	+7	Payex
17	+7	Fara
18	+7	Cubic

Ruter – today, and future ambitions

PT Authority for the Norwegian Capital Region



Norway

Population 5,2 mill

Gross domestic product
per capita EU 190 %

Unemployment rate 3,9 %

Oslo + Akershus

Population 1,24 mill

2 counties

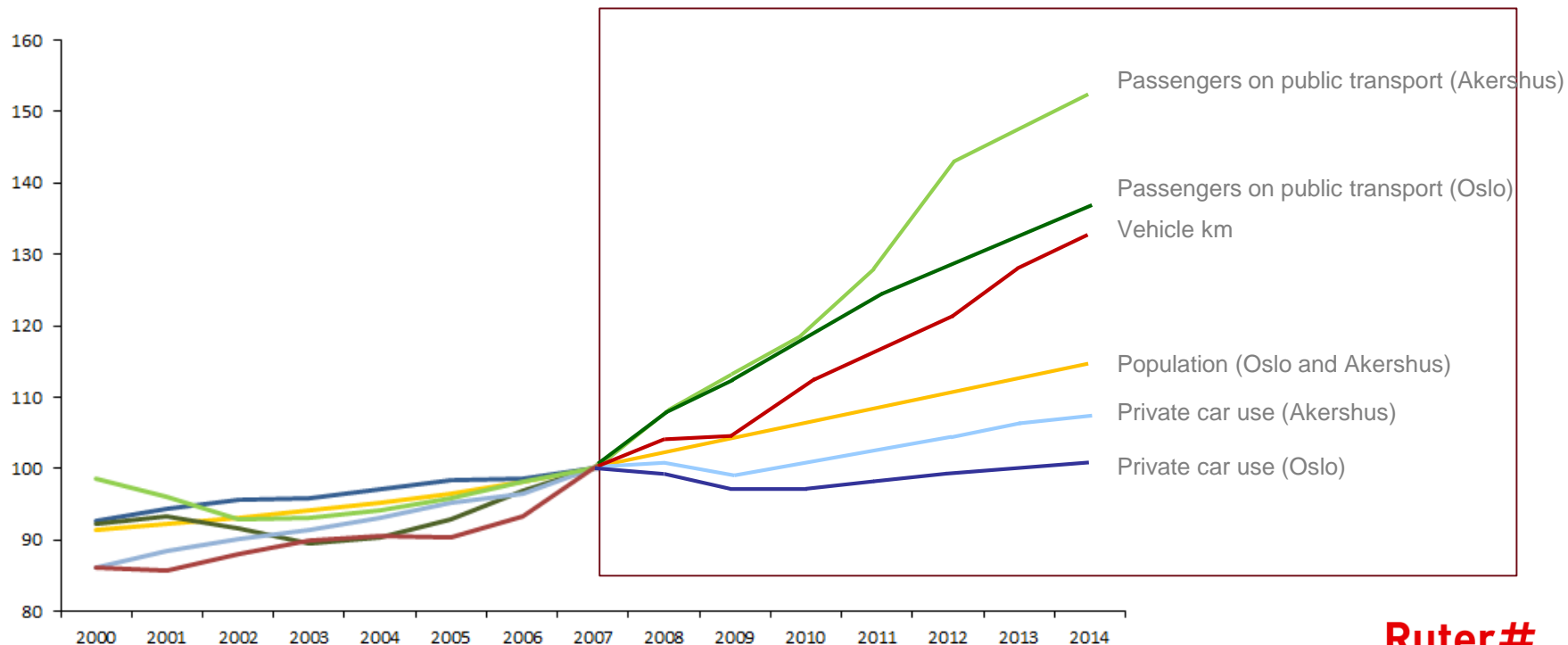
22 + 1 municipalities

100 km north to south

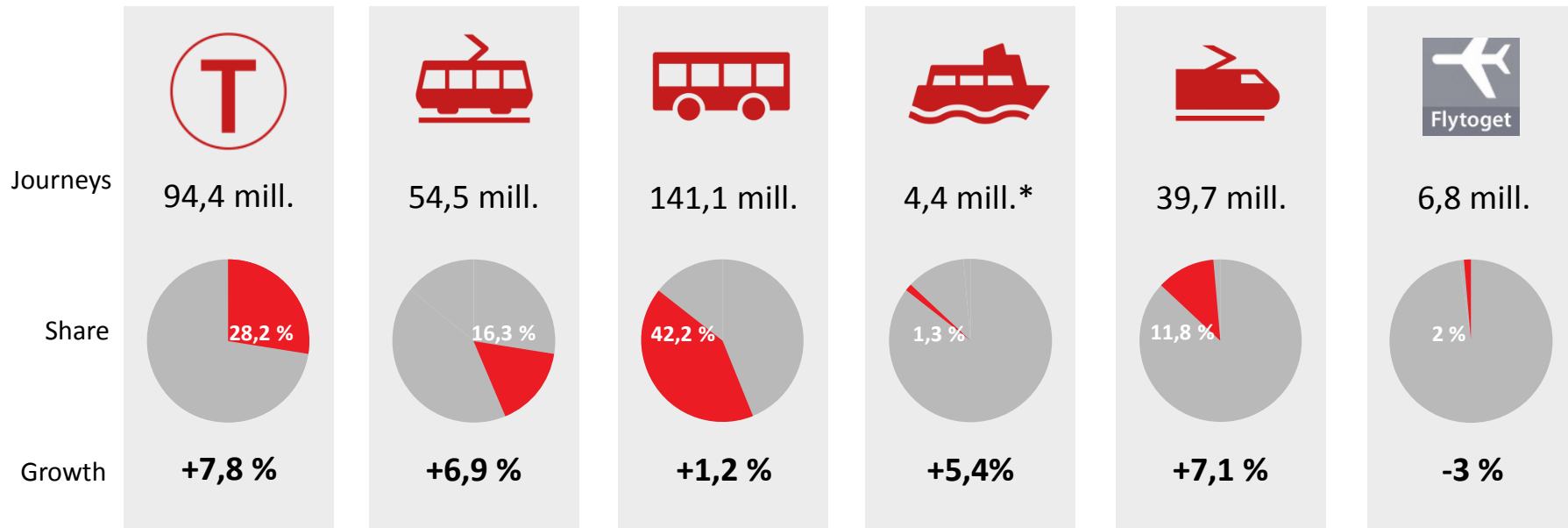
Ruter#

Public transport has increased its market share of motorised journeys compared to private car use

Index development – Oslo and Akershus. Year 2007=100



4,7 % growth in public transport during 2015



15 million new boardings in 2015 amounts to

41 thousand new journeys every day

Our daily battle

Ruter competes for new travellers every day

We let customer needs determine developments in public transport, not the other way around!



Key drivers for mobility solutions



Urbanisation

People move to cities and live urban lives



Digitalisation

New digital technology strongly influence all aspects of operation, development and use of mobility services



Individualisation

People focus on them selves and take responsibility for their own lives



Sustainability

The regional attractiveness focusing on environment and sustainability

Pace of change in the consumer area is high

- Mobility products and services
 - More than 300 bikes listed on Electric Bike Review
 - Solowheel, Airwheel, Segway, Firewheel, etc
 - Uber, Zipcar, Car2Go, Hertz Carpool and more
- Digital arenas for work and social life
 - More than 30.000 new apps in appstore each month in 2015
 - Snapchat launched september 2011, now 100 million daily users
 - Instagram launched october 2010, now 75 million daily users

→ *We need to keep up with our customers!*

We need flexibility for the future

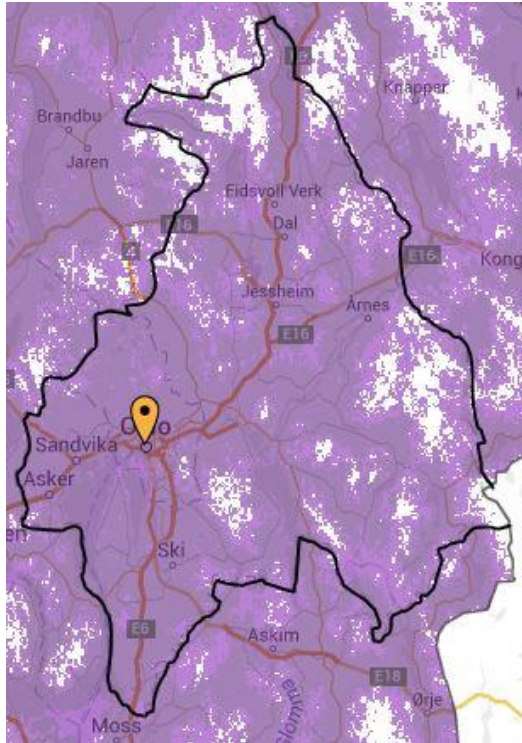
- We must continuously adapt to changing customer needs and preferences to stay relevant
- We must continue to develop mobility services that helps us win our daily battles
- We must be able to integrate other mobility services with our own, and we must enable others to integrate our services into theirs
- The timeline for changes must be in weeks and months, not years and decades

Our current reality

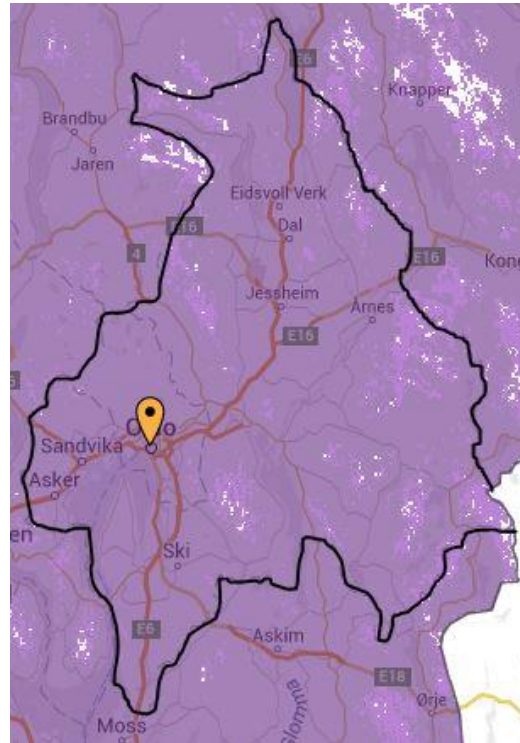
Two key properties of our region and our travelers today

We have the mobile coverage!

4G



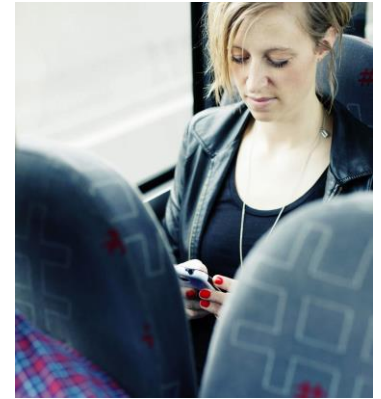
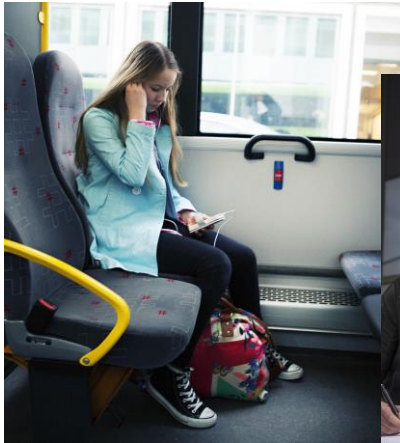
EDGE (2G)



Ruter#

Our travelers have the technology

- 87% of the population have a smartphone



Ruter#

And they are buying more technology ...

- 10% already has wearables of different kinds
- 8% has smartwatch, (4% Apple watch)



Source. TNS Gallup Interbuss. Numbers for Apple watch is Q4 2015.

Our way forwards

Key principles for our technology solutions going forwards

We are always online

- All our solutions and all our equipment is always online
- Our solutions are designed and operated as realtime, online solutions
- Some implications:
 - No more compensating for possible loss of connection, we trust the mobile networks
 - If we get a network failure, our systems don't work
 - No more «docking» or batch transfers

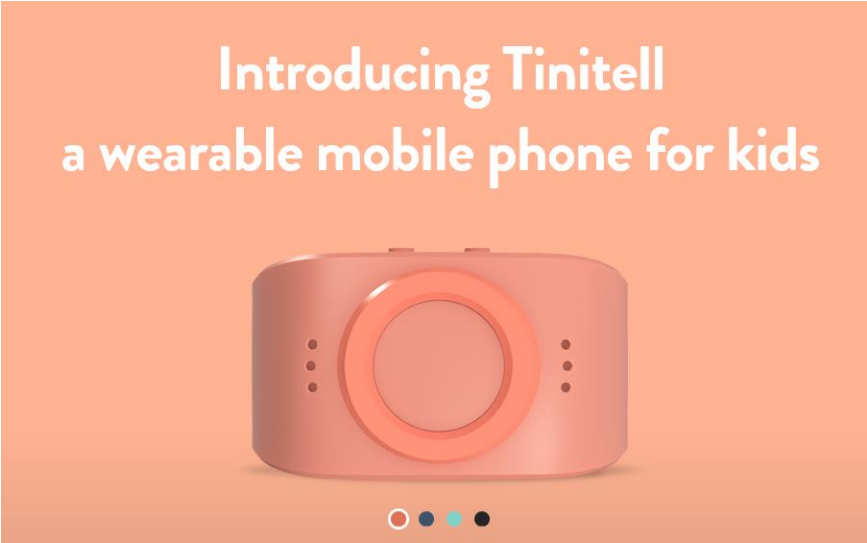
As centralized as possible

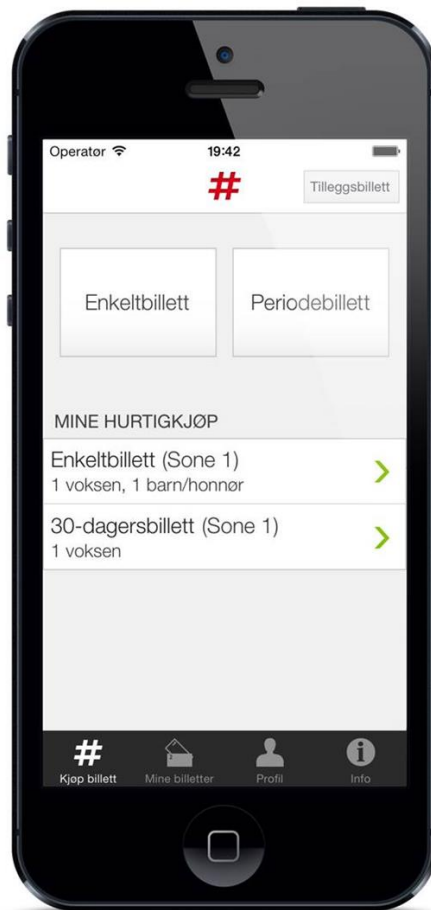
- All logic and business rules are implemented in a centralized back-end
- Even user interfaces are implemented in a centralized back-end as far as possible
- Some implications:
 - Distributed devices are no longer «stand-alone»
 - All transactions are real-time and online with a back-end
 - As little and as simple as possible software is distributed to physical devices

Piloting the future

New technology platforms for fare collection, payment and other on board customer experience

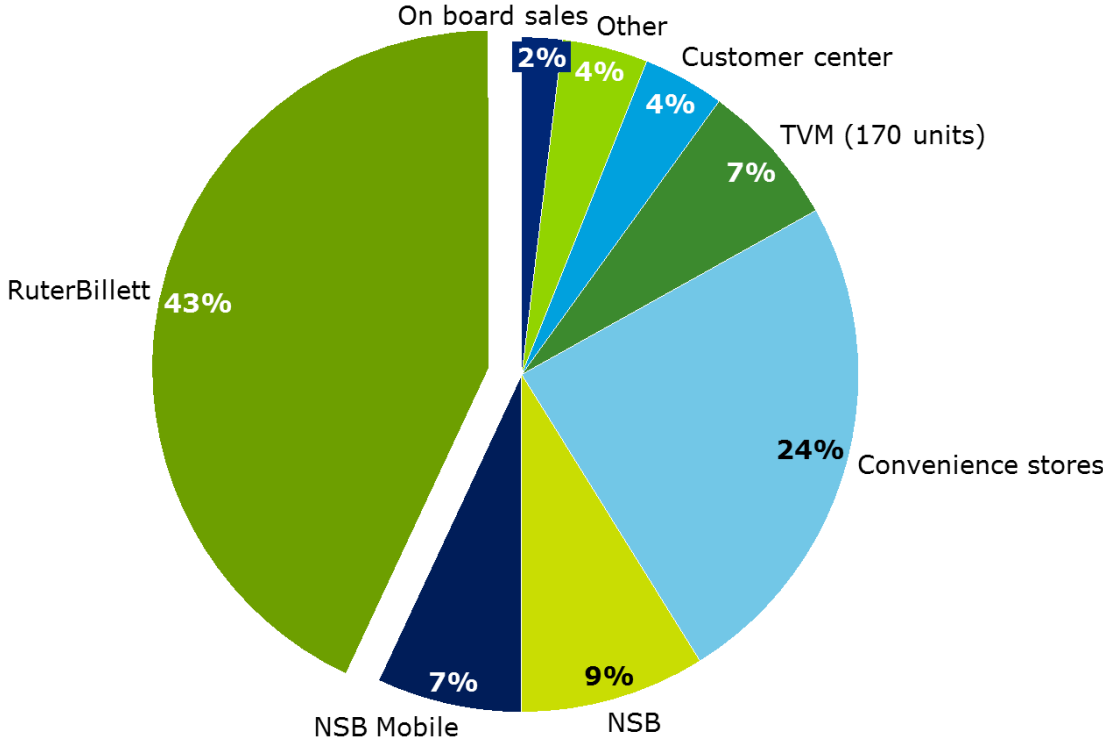
New tech





Ruter#

Distribution by sales channels



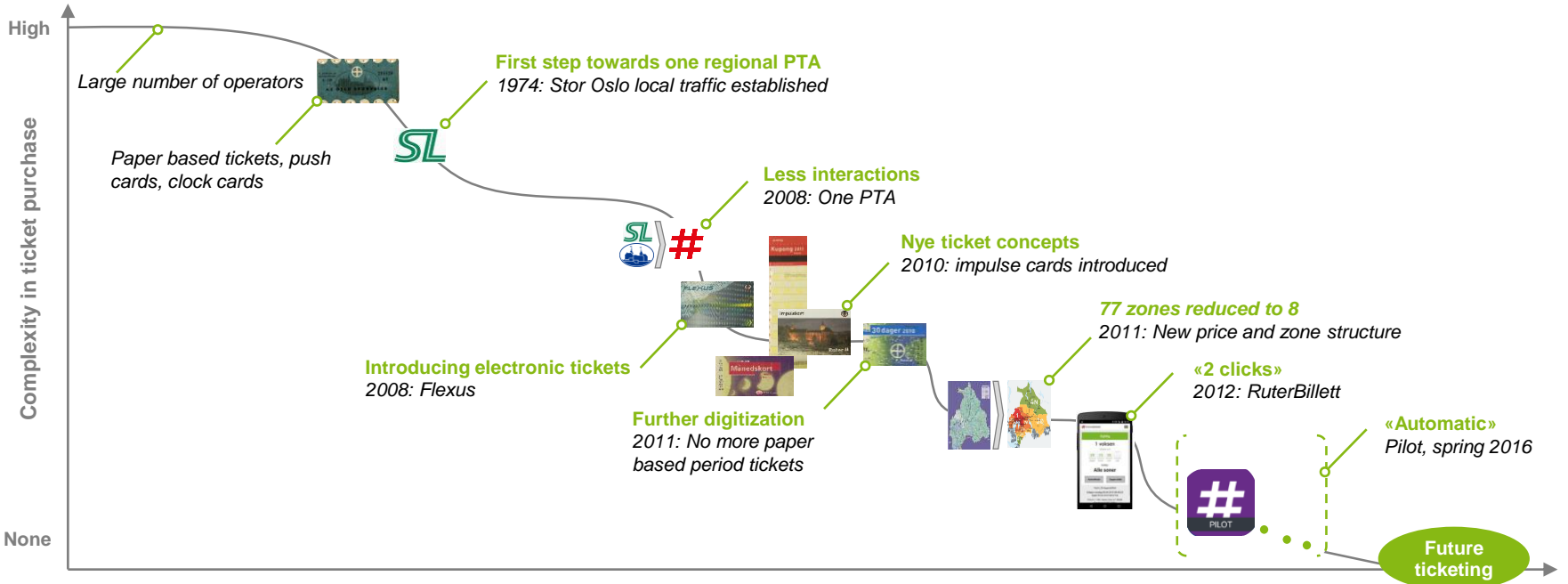
Why not mobile?

- Do not own a smartphone
- Fear of empty battery
- Product sharing
- Happy with travel card



Foto: Rolf Ohman

Continous simplification as an important tool for market growth and innovation



Ruter#

Next gen ticketing shall be based on the following



Customers

«To be where the customers are»



Technology

«Mobile and new technology have replaced the need for traditional travel card infrastructure»



Economy

«Cost efficient and flexible infrastructure taking care of revenue assurance»

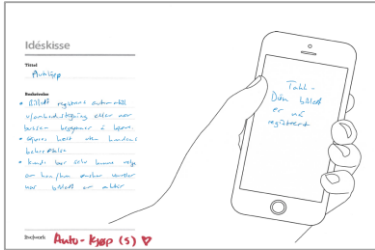


Transition

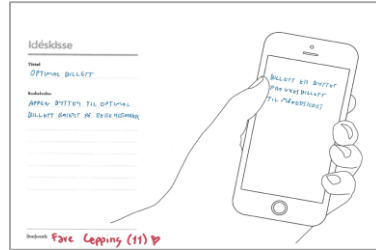
«New ticketing solutions in parallel with the reality of today»

Customer needs and requirements

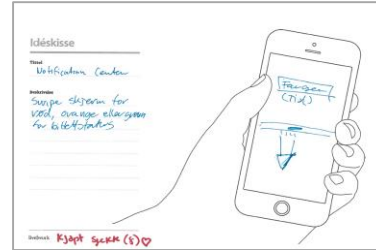
Never forget



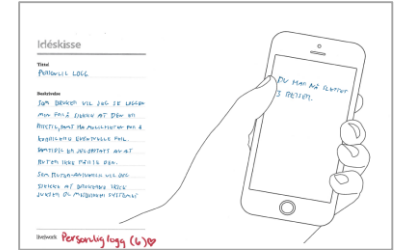
Right fare



Confidence and visibility



Data security



A pilot project was undertaken in order to understand opportunities for fare collection powered by new technology



Bus line number 60 (Passing through the city centre)



Applying beacons and a dedicated app



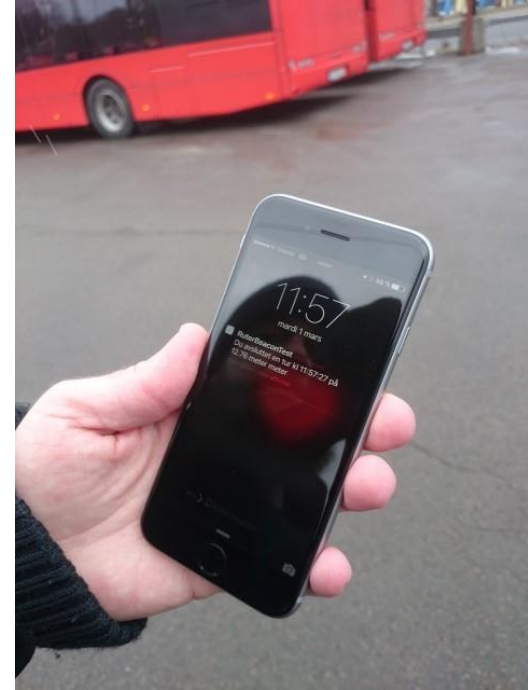
~20 external + > 80 internal testers



Ongoing in test operation since April

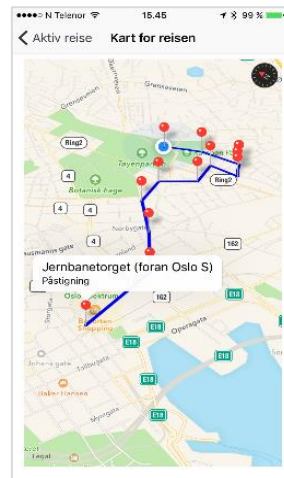
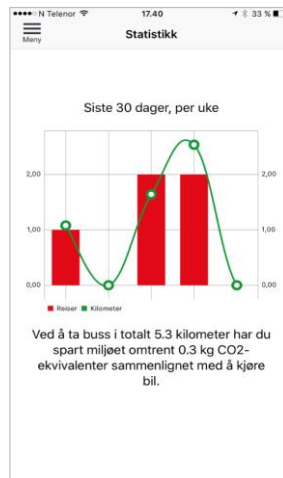
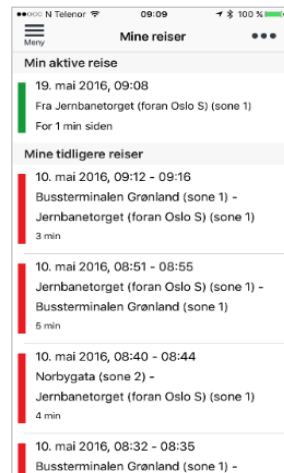
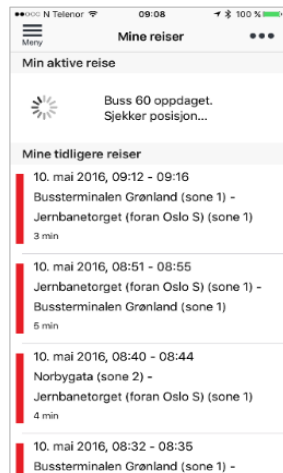
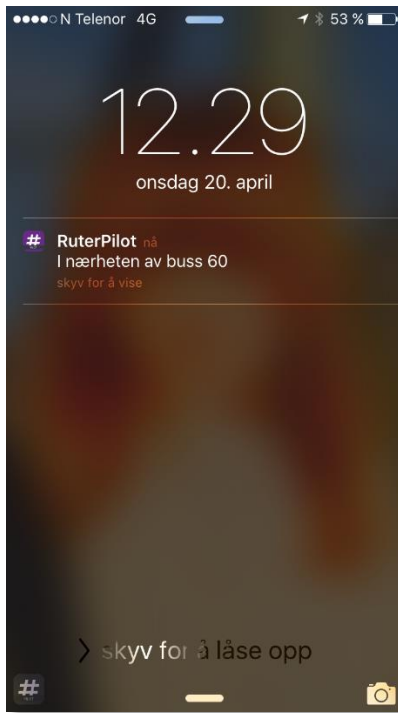


Ruter#



Ruter#

Pilot project applying beacons



Ruter#

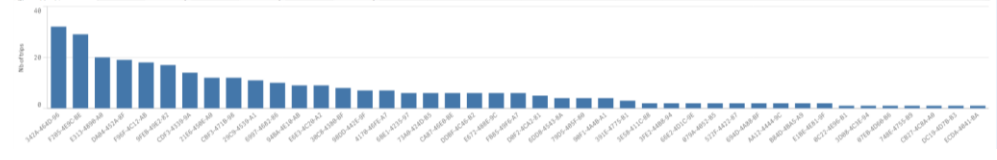
Now what?

Short term: further piloting and learning (today!)

Mid to long term:

- Customized travel information
- Personalized deviation messages
- Account based travel
- New fare concepts
- Smarter route planning

Start	Brisan	Jernbane	Engelien	Halle (Østervest)	Halle kirke	Jernbanetorget (Øst)	Kampen	Kampen kirke	Kampens park	Koskoben	Linderud senter (Øst)	Linderud T. (Øst)	Linderud	Nortygata	Rådhusen	Sjunde gate	Tonsenhagen	Tøyen stasjon	Tøyen stasjon (Øst)
Brisan	1	4																	
Buakemmen Grend	2	2																	
Engelien	1	2																	
Halle (Østervest)																			
Halle kirke																			
Jernbanetorget (Øst)	5	9	1	3	8	5	1	17	2					16	2	4		11	5
Kampen																			
Kampen kirke																			
Kampens park																			
Koskoben																			
Linderud senter (Øst)																			
Linderud T. (Øst)																			
Linderud																			
Nortygata	6	1																	
Sjunde gate	1																		
Tonsenhagen																			
Tøyen stasjon	2		2																
Tøyen stasjon (Øst)																			
Tøyenkirken																			
Vippetangen (Øst)																			
Fakseveien																			



Ruter#

Neste tur vil koste:

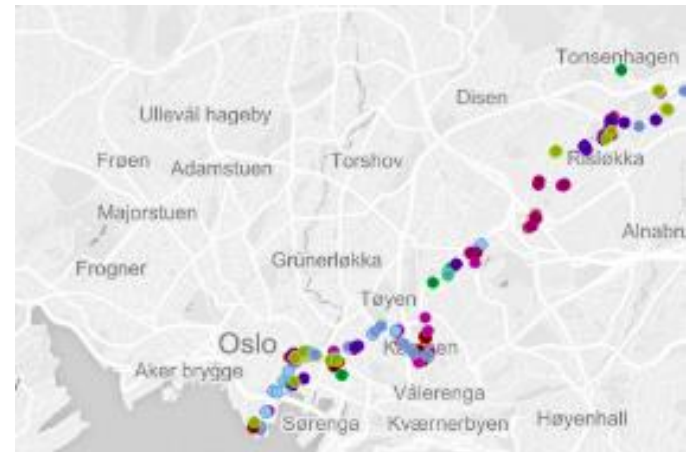
10 kr

Siste 24 timer - makspris 70,-

Brukt: 60,- Gjenstår: 10,-

Siste 7 døgn - makspris 200,-

Brukt: 190,- Gjenstår: 10,-



Ruter#

We are eager to learn and get
further input on the way forward

...over to you

Supplier presentations

Ruter #

Open dialogue – Q&A

Ruter#

Wrap up

Ruter #