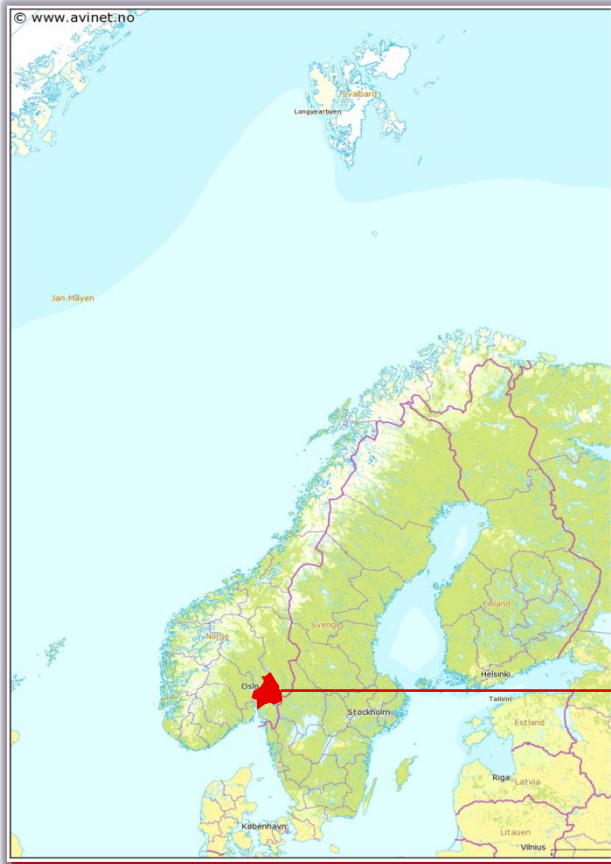# Ruter As

Supplier conference on ticket vending machines

Endre Angelvik, CIO Ruter As

Ruter#

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
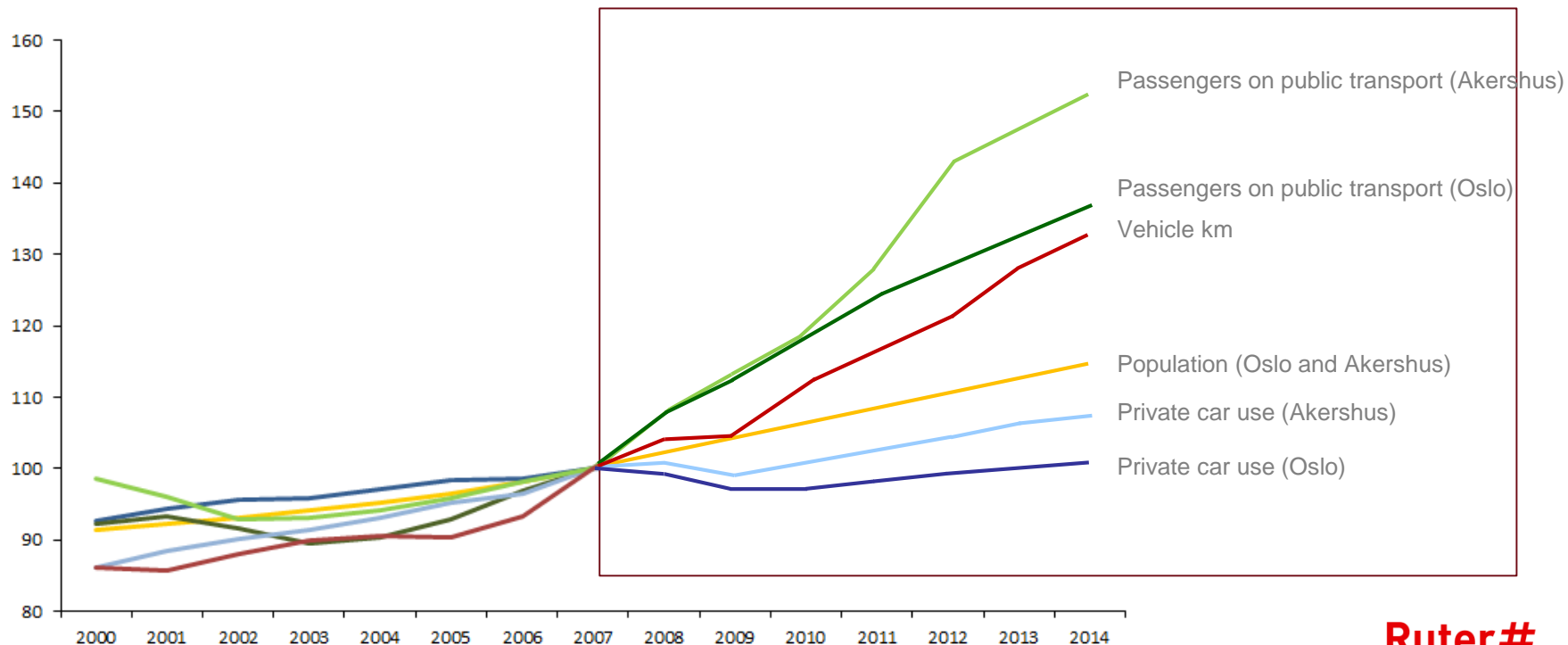Population 1,24 mill
2 counties
22 + 1 municipalities
100 km north to south

Ruter#

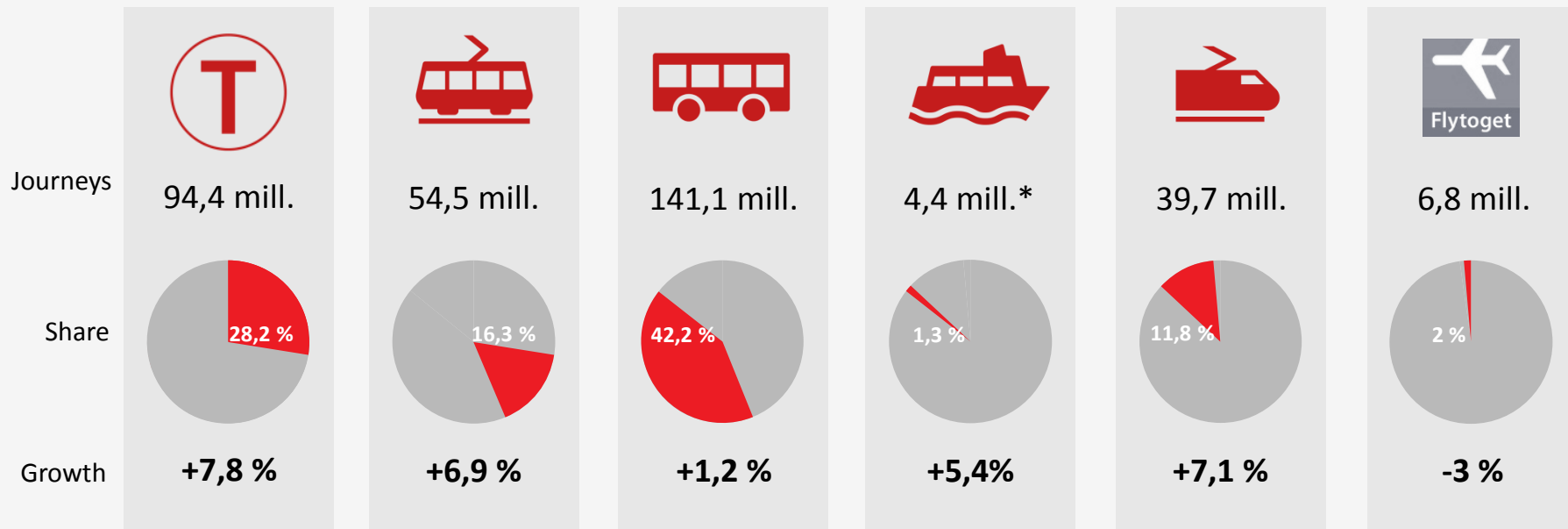# Public transport has increased its market share of motorised journeys compared to private car use

Index development – Oslo and Akershus. Year 2007=100

Passengers on public transport (Akershus)

Passengers on public transport (Oslo)

Vehicle km

Population (Oslo and Akershus)

Private car use (Akershus)

Private car use (Oslo)

Ruter#

4,7 % growth in public transport during 2015

	T	Tram	Bus	Boat	Train	Flytoget
Journeys	94,4 mill.	54,5 mill.	141,1 mill.	4,4 mill.*	39,7 mill.	6,8 mill.
Share	28,2 %	16,3 %	42,2 %	1,3 %	11,8 %	2 %
Growth	+7,8 %	+6,9 %	+1,2 %	+5,4%	+7,1 %	-3 %

Ruter#

15 million new boardings in 2015 amounts to

41 thousand new journeys every day

Ruter#

Our daily battle

Ruter competes for new travellers every day

Ruter#

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

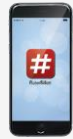| Market analysis | Transport plan | Projects and land use commitment | Financing and organising | Market success |

Ruter#

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

Ruter#

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!*

Ruter#

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

Ruter#

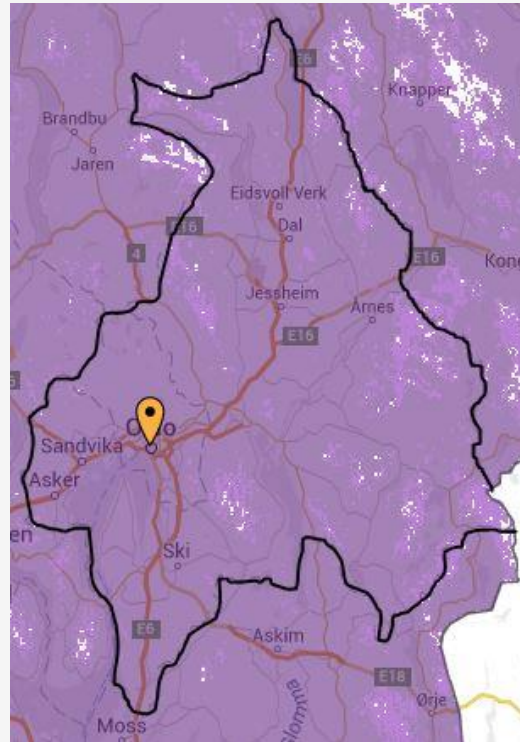# Our current reality

Two key properties of our region and our travelers today

Ruter#

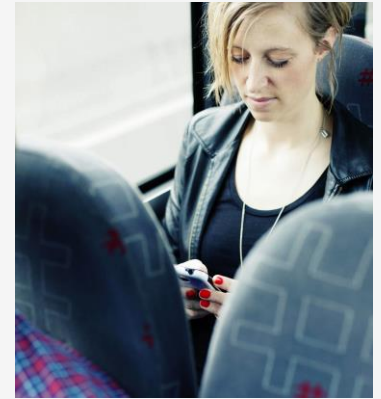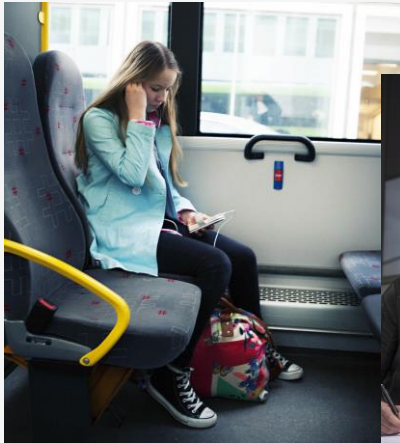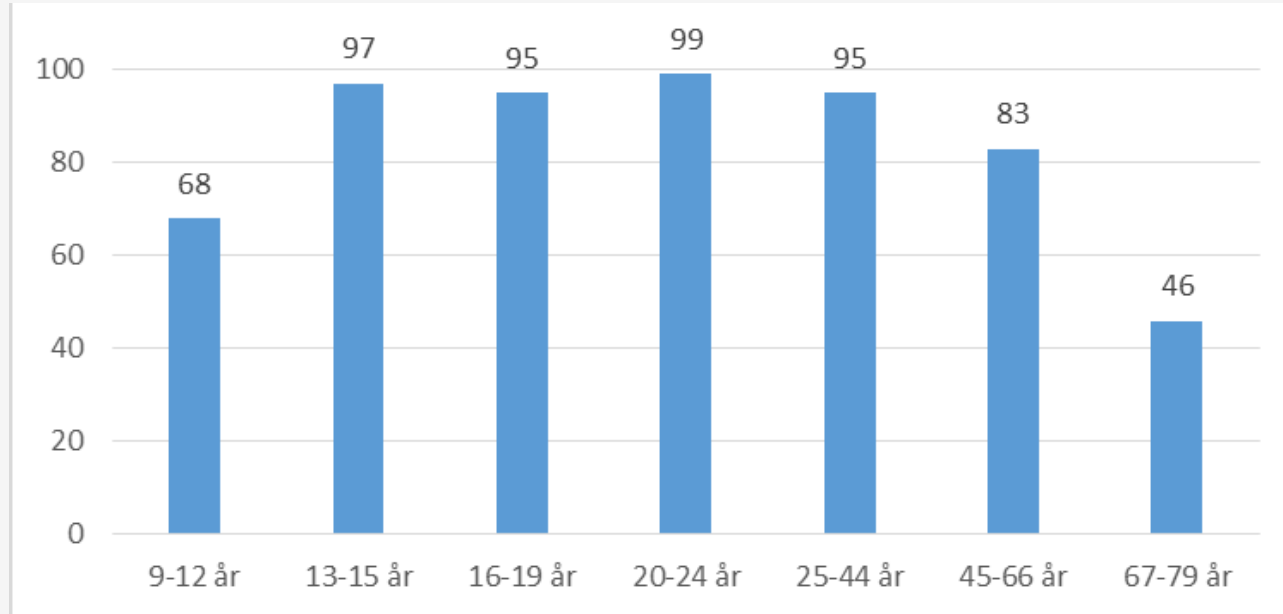# We have the mobile coverage!

4G
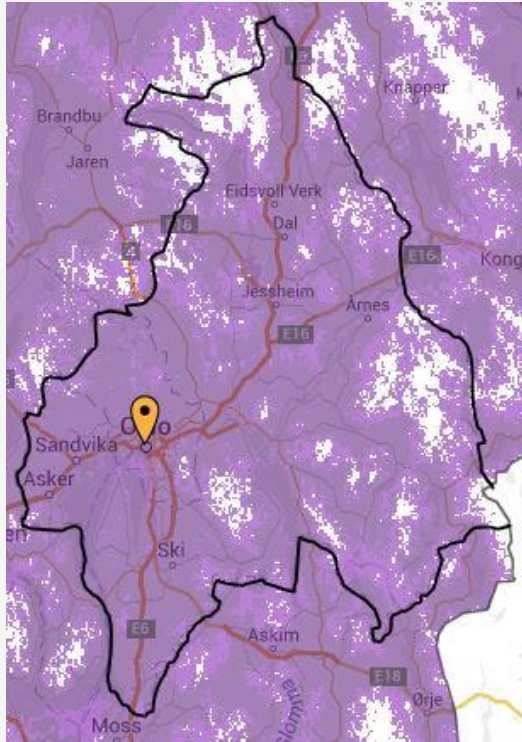
EDGE (2G)

Ruter#

Our travelers have the technology

- 87% of the population have a smartphone

Ruter#

Smartphone penetration in different age groups

Numbers from http://www.medienorge.uib.no/statistikk/medium/ikt/388

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.

Ruter#

Our way forwards

Key principles for our technology solutions going forwards

Ruter#

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

Ruter#

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

Ruter#