Supplier conference

Passenger counting solutions

Oslo, 14th January 2016

Ruter#

Agenda

Time	Topic/activity	
11:30	Registration	
12:00	Welcome and introduction	Berit Hovland
	Information about Ruter, current setup and desired way forward	Endre Angelvik, CIO Ruter
	Passenger counting data – usage today and what we aspire	Gylve Aftret-Sandal, Head of Analysis
	Standardisation work in public transport across Europe	Pauline Bruge, UITP and ITxPT Project Manager
13:20	Supplier presentations 1. Dilax 2. Fara 3. Init 4. Accenture 5. FourC 6. Thoreb/Hella Aglaia 7. Ridango	All suppliers, maximum 6 minutes presentation each
14:15	Short break, refreshments available	
14:30	Supplier presentations continued 8. Pilotfish 9. Acorel 10. Affecto 11. Consat Telematics	
	Open dialogue including Q&A	
15:50	Summary and information regarding further process	Berit Hovland

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Ruter As

Supplier conference on passenger counting

Endre Angelvik, CIO Ruter As

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PT Authority for the Norwegian Capital Region

Norway
Population 5,2 mill
Gross domestic product
per capita EU 190 %
Unemployment rate 3,9 %
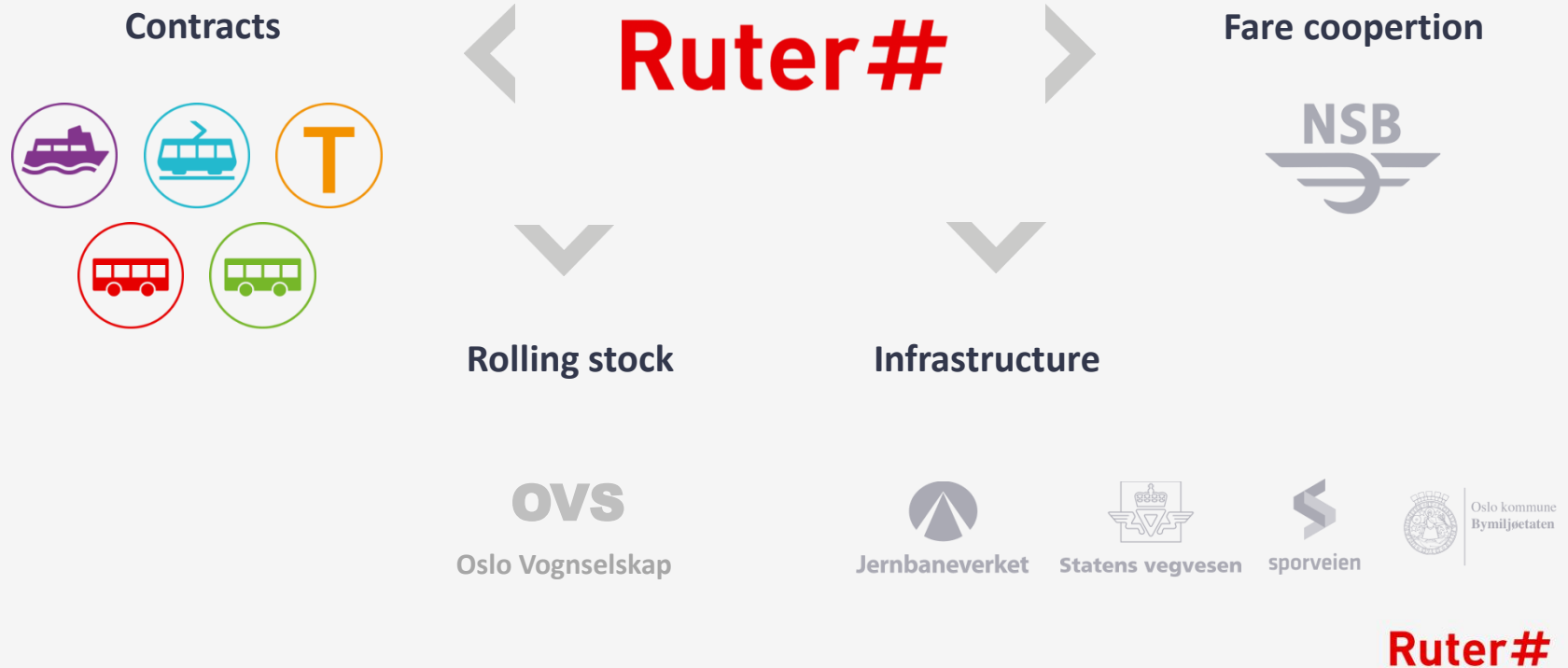
Oslo + Akershus
Population 1,24 mill
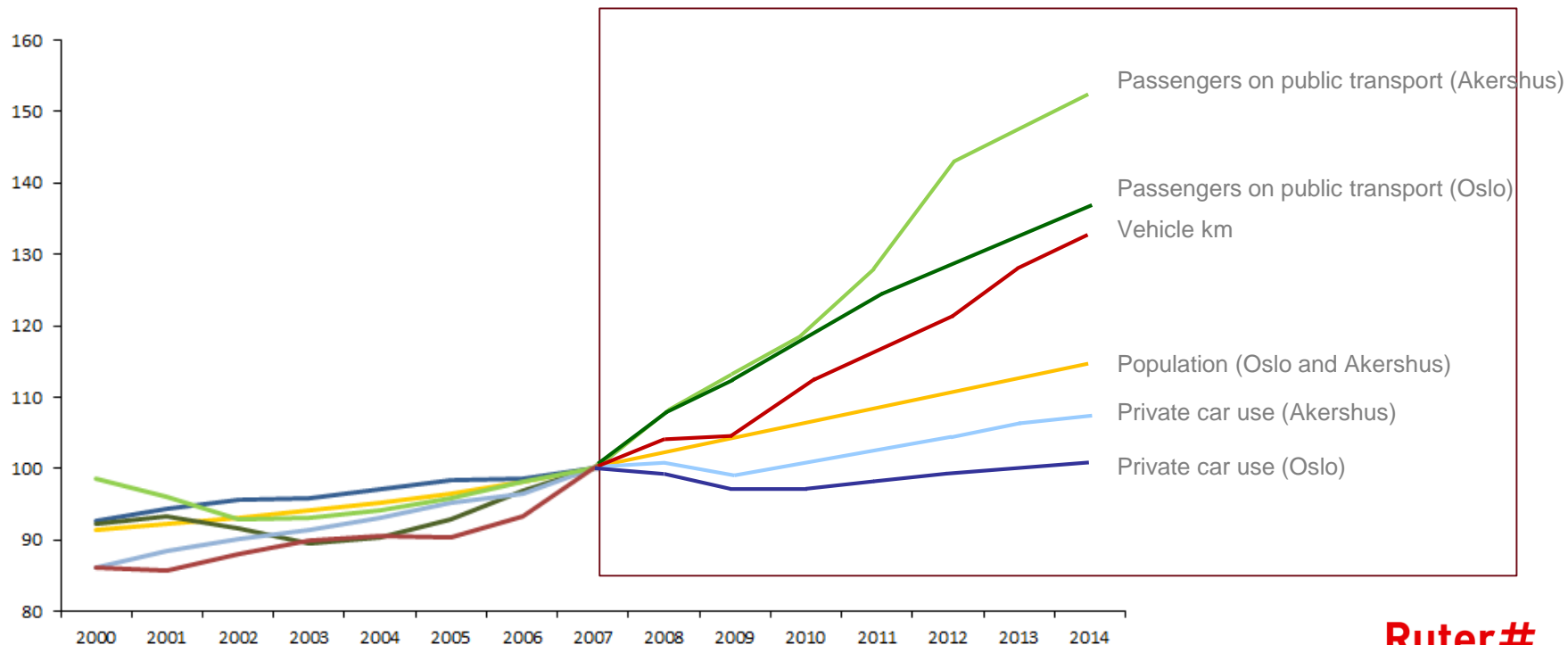2 counties
22 + 1 municipalities
100 km north to south

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Partners in PT Oslo and Akershus, the overall picture

Contracts

Fare coopertion

NSB

Rolling stock

Infrastructure

OVS
Oslo Vognselskap

Jernbaneverket

Statens vegvesen

sporveien

Oslo kommune
Bymiljøetaten

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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)

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3,4% growth in public transport during 2014

	Bus	Metro (T)	Tram	Boat	Train	Flytoget
Share	**43%**	**27%**	**16%**	**1%**	**11%**	**2%**
No. of journeys in 2014	140 mill.	88 mill.	51 mill.	4.2 mill.*	37 mill.	7 mill.
Changes 2013 to 2014	**+2.7%**	**+3.3%**	**+3.4%**	**+11%**	**+7.1%**	

Inclusive of the Airport Express Train (*Flytoget*), this amounted to a total of 326 million journeys made in the counties of Oslo and Akershus in 2014.

Ruter total	319 mill.	+ 3.4%
Oslo	239 mill.	+ 3.3%
Akershus	80 mill.	+ 3.5%

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Without new measures, we will have 240 million new car journeys in 2060

+500.000
New inhabitants in the region

X 3
Journeys per day

X 365
Days a year

≈ 600 mill.
New yearly person-jouneys

+170 mill.
Public transportation journeys (+ 53%)

+190 mill.
Journes with bicycle of by walking (+50%)

+240 mill.
new car journeys in 2060 (+38%)

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What does this mean for travellers?

- Tram capacity is almost at breaking point today

- Metro capacity will reach its limit around 2030

- There will be about 40% more car journeys in the region

- Rush hour is already so busy on the main access routes to Oslo that growth will be "only" 30%. But the typical time increase in the queue in the rush hour will be +90%
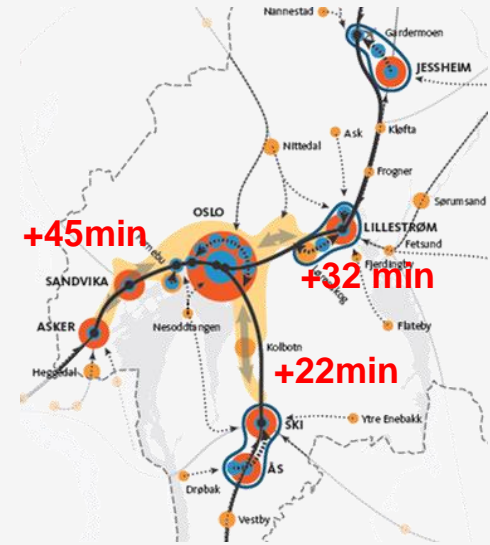
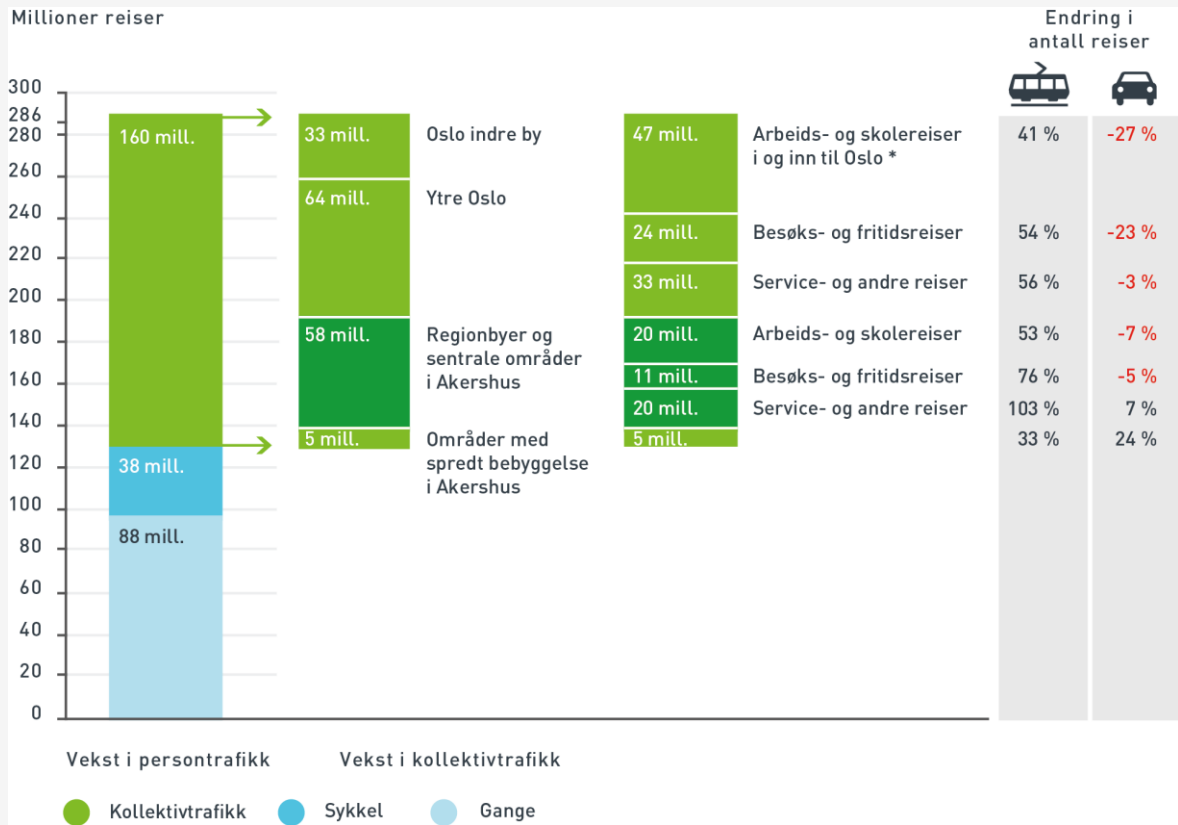**Ruter#**

In M2016, Ruter has answered:

What is needed for public transport, with cycling and walking, to absorb the growth in regional passenger traffic?

M2016

Fra dagens kollektivtrafikk til morgendagens mobilitetsløsninger

Ruter#

Ruter#

Goals for 2030

Millioner reiser

			Endring i antall reiser	
			🚋	🚗
160 mill.	33 mill.	Oslo indre by		
			47 mill. — Arbeids- og skolereiser i og inn til Oslo *	41 % / -27 %
	64 mill.	Ytre Oslo	24 mill. — Besøks- og fritidsreiser	54 % / -23 %
			33 mill. — Service- og andre reiser	56 % / -3 %
	58 mill.	Regionbyer og sentrale områder i Akershus	20 mill. — Arbeids- og skolereiser	53 % / -7 %
			11 mill. — Besøks- og fritidsreiser	76 % / -5 %
			20 mill. — Service- og andre reiser	103 % / 7 %
38 mill.	5 mill.	Områder med spredt bebyggelse i Akershus	5 mill.	33 % / 24 %
88 mill.				

Vekst i persontrafikk   Vekst i kollektivtrafikk

● Kollektivtrafikk   ● Sykkel   ● Gange

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In M2016, 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 |

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What is driving the mobility solutions of tomorrow?

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

Economic growth

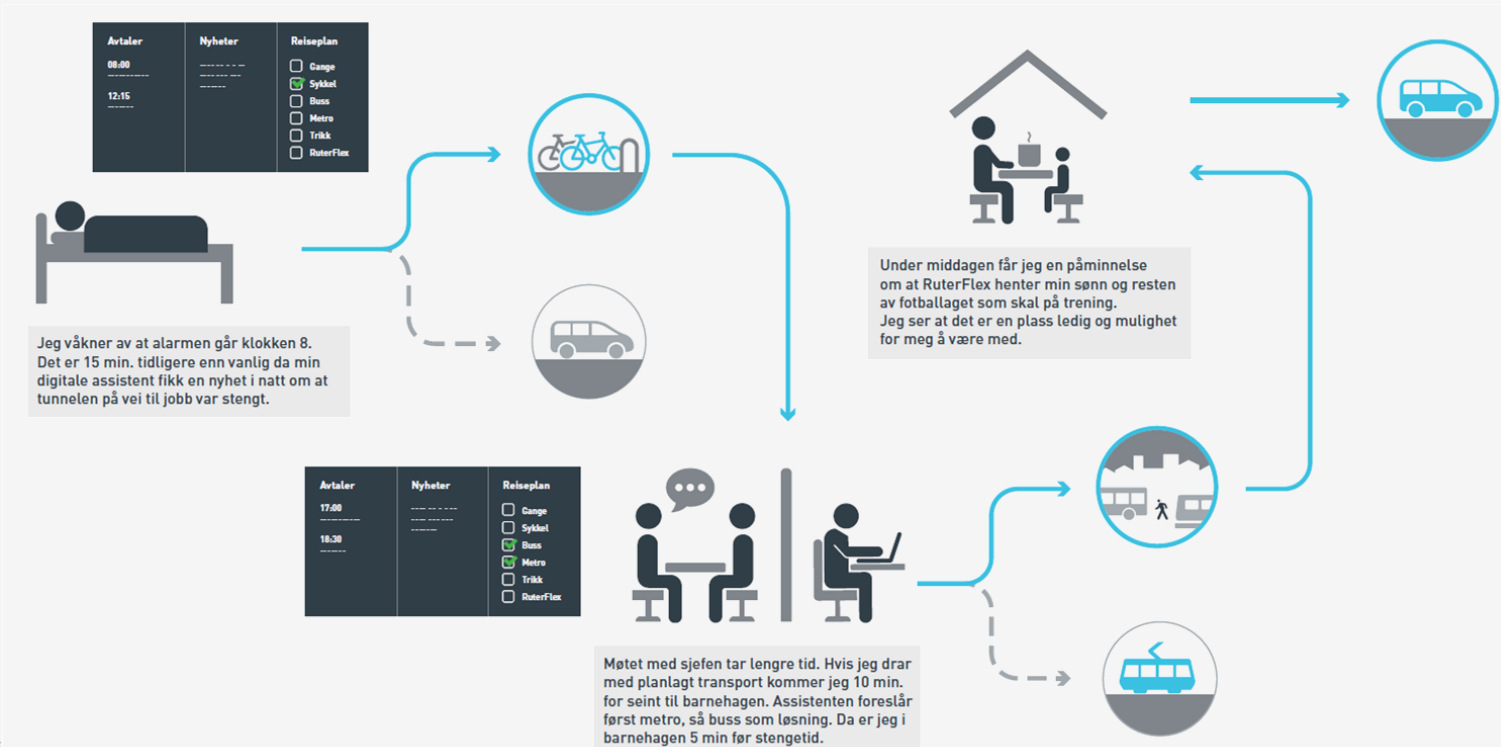Economic growth changes how we travel

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Public transport is not alone
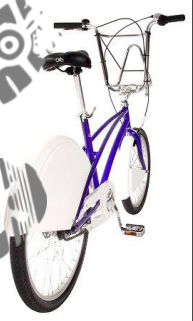
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What are the goals of our travelers?

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Information technology key to the future

Jeg våkner av at alarmen går klokken 8. Det er 15 min. tidligere enn vanlig da min digitale assistent fikk en nyhet i natt om at tunnelen på vei til jobb var stengt.

Under middagen får jeg en påminnelse om at RuterFlex henter min sønn og resten av fotballaget som skal på trening. Jeg ser at det er en plass ledig og mulighet for meg å være med.

Møtet med sjefen tar lengre tid. Hvis jeg drar med planlagt transport kommer jeg 10 min. for seint til barnehagen. Assistenten foreslår først metro, så buss som løsning. Da er jeg i barnehagen 5 min før stengetid.

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Easier travel for passengers

2008
- 77 travel zones and 77 different tickets
- 23 <u>billions</u> ticket combinations
- Regional variations in discount regulations

Today
- The *RuterBillett* app
- 8 travel zones
- Identical tickets and discount regulations throughout the counties of Oslo and Akershus

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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!*

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We need flexibility for the future

- We must be able to integrate other mobility services with our own
- We must enable others to integrate our services into theirs

- The timeline for integrations must be in weeks and months, not years and decades

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Automatic Passenger Counting (APC)

How it is used today and tomorrow

Gylve Aftret-Sandal, Head of Analysis

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Numbers

326 million passengers

Boardings on metro, bus, tram, train and ferries in 2014

APC increasingly important in achieving and documenting Ruter's goals

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Contracts

Revenue sharing

External funding and incentives

NSB

Jernbaneverket   Statens vegvesen   sporveien   Oslo kommune Bymiljøetaten

Internal use

- No check-in or check-out in public transport system
    - Hence statistics from travel cards inconclusive
- Statistics from passenger counting essential given need for documentation and input in other models
    - Revenue share model
    - Profit per line
    - Increasing operational efficiency
- Moving from gross cost to net contracts requires more data, including APC

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Increasing attention to accountability

- Political consensus that public transport is part of the solution needed to reduce traffic congestion.
    - Increase in public funding both from toll ring and stimulous packages
- Public funding and subsidies pending on (robust) documentation of effects – high ambitions not enough
    - Higher data quality and accountability.
- Statistics describing public transport in Norway uncovered several challenges, related to definitions, geographical levels, reporting and missing variables.
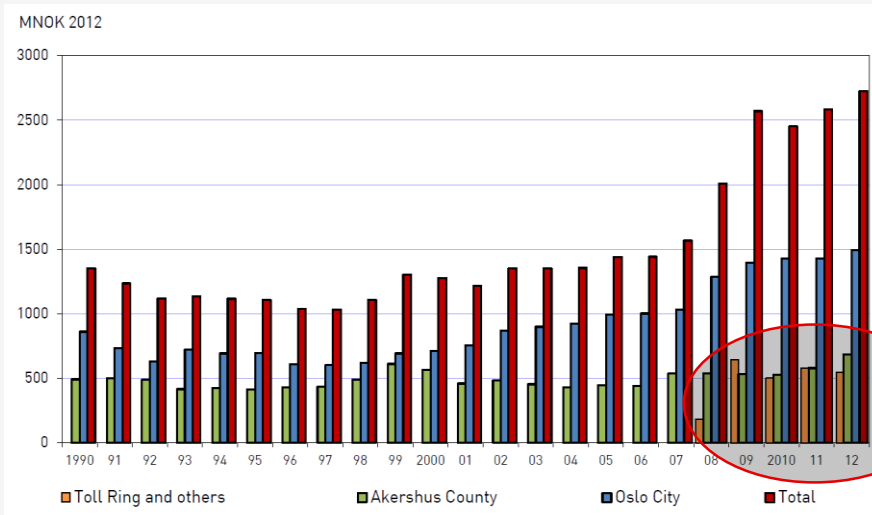
7 overarching principles ensuring higher data quality in APC

- Main principle: APC should have at least 95% accuracy, and Ruter's true and only source of ridership numbers in all contexts.

- Imputations should be based on a sound statistical basis, and given a safety margin on this basis

- Error's in APC equipment shall be detected within a reasonable time and have a clear reporting hierarchy

- APC data shall be reported in the data warehouse with a high level of granularity (pr. door, pr. stop, pr. trip, pr. Time…)

- The number of manual tasks associated with APC should be minimized and should have documented checklists and procedures

Complex data flow in reporting on number of boardings
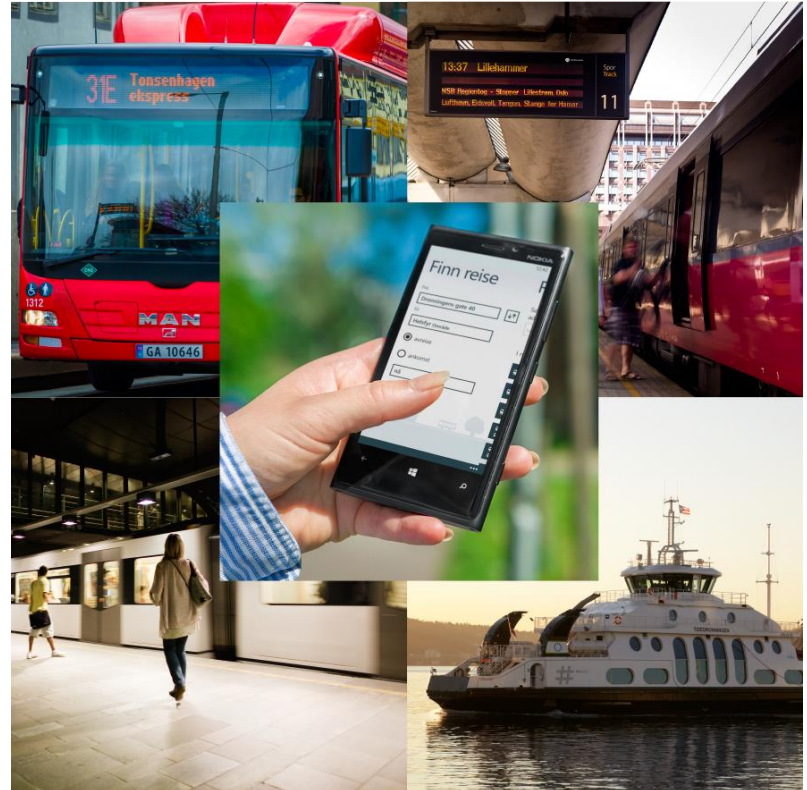
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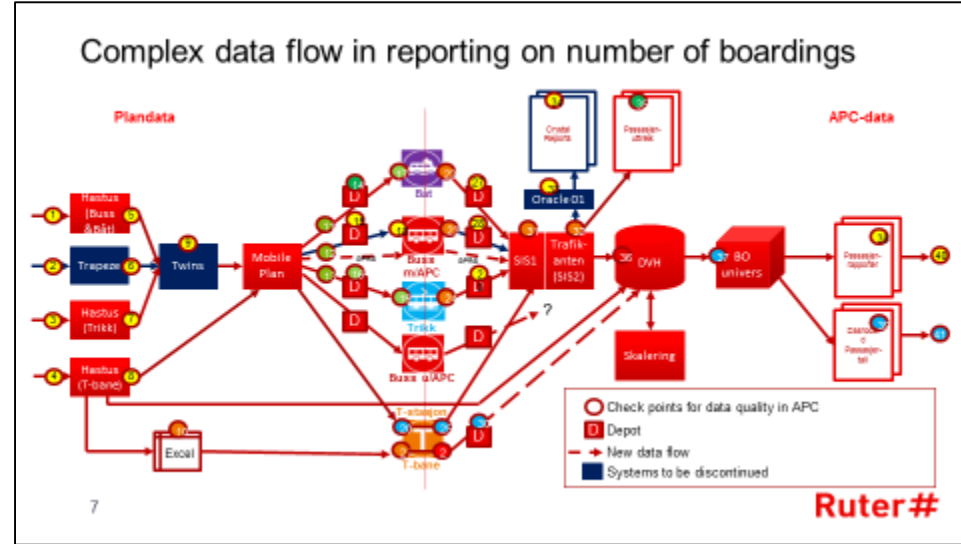
Using APC as a service

The customers expect a seamless travel experience

Seamless across;

- Customer needs – information, ticketing, service, available seating, delays, «next best offer»

- Transport modes – public transport, car, car sharing, bike, walking

- Geography – locally, nationally and internationally

- Organisational responsibility – different companies and authorities

How can we learn from you?

Thank you!

Standardisation work across Europe

Pauline Bruge, UITP and ITxPT Project Manager

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Break

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Supplier presentations

- Dilax
- Fara
- Init
- Accenture
- FourC
- Thoreb/Hella Aglaia
- Ridango

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Break

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Supplier presentations continued

- Pilotfish
- Acorel
- Affecto
- Consat Telematics

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Open dialogue including Q&A's

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Open dialogue

Questions

- How should Ruter move forward in order to achieve a future model where potential on board systems and equipment (passenger counting included) are based on an open, service oriented architecture, open interfaces and shared functionality, in accordance with common European standards?
  - What considerations are important to make regarding the acquisition of a future-oriented solution for passenger counting?
  - What different solutions and delivery models for passenger counting should be considered, and which are preferred?

- How can Ruter utilize counting data as a customer information element?

- What do you consider important that Ruter do, and how, in order to make it possible/interesting for you to participate in a tender?

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Summary and information regarding way forward

Berit Hovland

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Way forward

Process considerations

- Ruter will decide, within a few days, whether to publish additional questions to the suppliers participating the conference.

- A formal acquisition process is expected to be initiated sometime during the first half of 2016

Regarding choice of solution

- One of the main objectives of this conference was to gain insight on the maturity of different passenger counting solutions

- Ruter will utilize this insight to further evaluate possible technical solutions and delivery models for passenger counting.

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