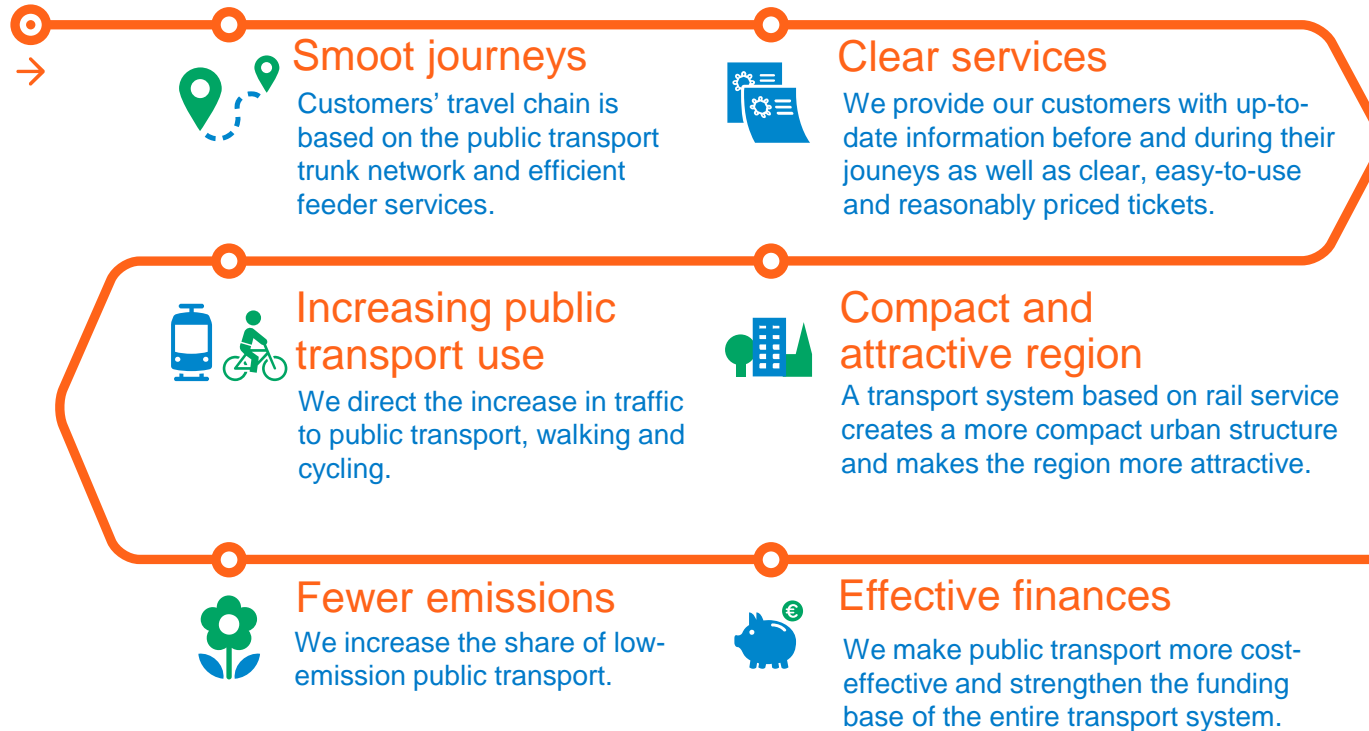


# Smart, subservient low-carbon public transport

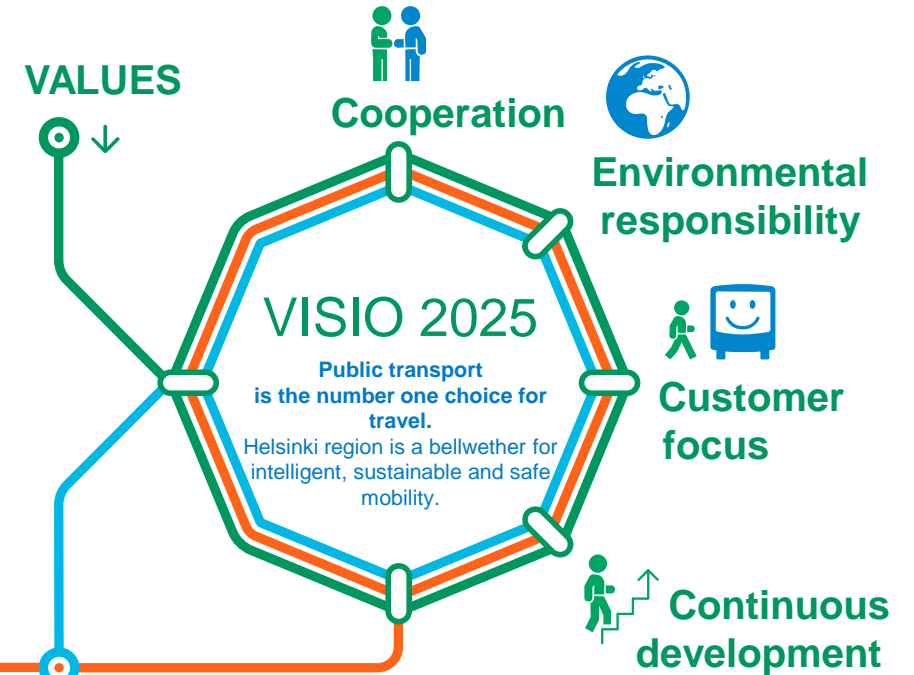
Suvi Rihtniemi 16.2.2017

# Strategy info action

## GOALS



## VALUES



## MISSION

Helsinki Region Transport develops and provides smooth, reliable transport solutions to customers' needs.

# Helsinki is part of the Bloomberg Aspen initiative

- Wide-ranging approach to tackle transport related challenges and to help cities overcome societal problems
- Helps municipalities to advance intelligent transport systems and implement new transport solutions
- Accelerates intelligent transport system initiatives through the involvement of experts and making use of big data
- Creates recommendations and tools to boost implementation of intelligent transport systems also in other cities

# Participation of Helsinki region municipalities in the Smart & Clean Foundation

**Aiming at the most attractive emission-free mobility system in the world!**



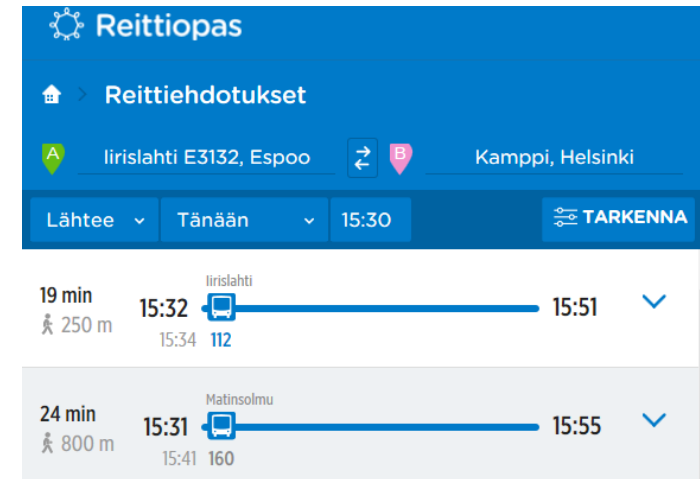
- The transport system in metropolitan Helsinki is intelligent, attractive, flexible and efficient
- Public transport is more appealing than using private cars
- Finnish companies are forerunners in offering attractive mobility services

# Examples of projects



→ HSL's own projects, e.g.:

- Kutsuplus "on demand" pilot 2013-2015
- Providing access to the data of the Route Planner (open interface and source code)
- The pre-commercial ePELI e-bus piloting
- The BioSata (BioOneHundred) biofuels project as a part of the Smart & Clean Foundation
- Principles for cooperation in linking travelling (trip chains)
- Several activities linked to the 2019 Helsinki Region Transport System Plan (HLJ 2019)
  - E.g., ways to reach climate targets, potentials of new mobility concepts, OECD shared mobility simulation modelling



# Examples of projects



- Projects with HSL participation, e.g.:
  - City bikes
  - Contract based cooperation for trip chains: Whim, discussions with other actors
  - Vantaa Aviapolis area: Rout Planner cooperation with Vedia Taxi and GoNow
  - Nordic cooperation of public transport authorities
  - Living Lab Bus for new passenger services and smooth trip chains

- Project calls with HSL participation:
  - Sohjoa Baltic (Robot bus testing)
  - RoDiMaas



- Plus numerous other activities asking for HSL cooperation

# Cooperation between HSL and VTT



- HSL and VTT has cooperated some 15 years in research on vehicle performance and alternative fuels
- Over the years, VTT has created a solid data base on bus performance
- HSL uses the information in the data base for its tendering process
- The basic tendering system encompasses true performance for local emissions (NO<sub>x</sub>, PM)
- Operators can get a bonus, e.g., for using a biofuel; biogas, biodiesel or bioethanol
  - bonus is paid only for biofuels derived from waste and residues
- Operators can get bonus also for reducing fuel consumption and for enhanced exhaust gas purification
- Calculation of bonus according to Directive 2009/33/EC



# Evaluating new technology



Biogas



The Helsinki experience of advanced renewable diesel fuel OPTIBIO



BIOSIRE II international Workshop, Zagreb, 17-18.2.2010  
Nils-Olof Nylund  
VTT Technical Research Centre of Finland

Paraffinic renewable diesel



Hybrid technology

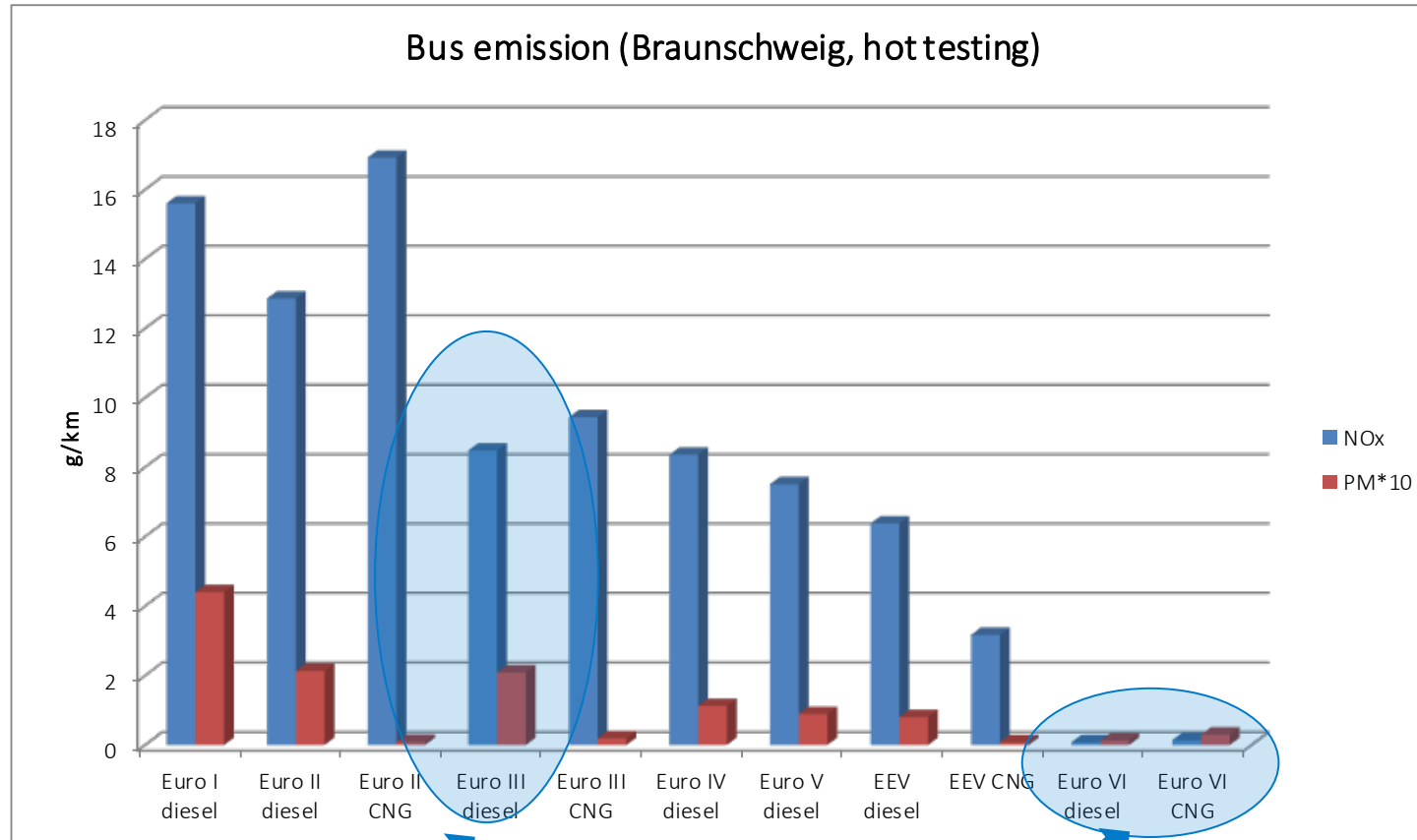
Electric buses



Ethanol



# Development in regulated emissions (NO<sub>x</sub>, PM)



- Already some 40 % of services run with Euro VI buses
- Share of biofuels is constantly increasing

At the Euro III level fuel still has significant impacts on regulated emissions.

Euro VI vehicles are extremely clean as advanced exhaust after-treatment bring down emissions close to zero. High fuel quality fuels needed to maintain low emissions.

# Co-creation is the way forward



- Several major projects have been created in close co-operation with VTT, e.g.:
  - Tendering system taking into account environmental performance
  - eBus, eBusSystem and ePELI in the field of electric buses
  - OPTIBIO and BioSata in the field of biofuels
  - Living Lab Bus in the field of new passenger services
- In 2013, HSL signed a 4-year framework agreement with VTT and TransSmart
- In the fall of 2016, HSL and VTT signed a new framework agreement:
  - 3 years (2017 – 2019)
  - Total volume 3 M€

# Vision 2025



## Number one choice **1**

An increasing number of people use public transport for commuting and leisure journeys.

## Bellwether

Helsinki region's urban structure and transport system are top in Europe.



## Intelligent

We provide our customers with services that enhance the travel experience and are based on intelligent technology.

## Safe and sustainable

The transport system is based on sustainable sources of energy and low-emission vehicles. Passengers considers public transport safe.

- Regulated (NO<sub>x</sub>, PM) as well as CO<sub>2</sub> emissions from the bus fleet have been brought down by more than 90 % compared to the year 2010
- By working together we can reach these goals!



**HSL**  
**HRT**

**Moves us all**

**Helsinki Regional Transport**