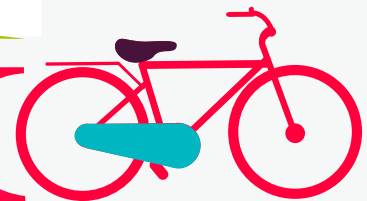


Sustainable mobility solutions are created locally



LOCAL EXPERIMENTATION CAN HELP IN DISCOVERING NOVEL SOLUTIONS



MOBILITY RELATED EMISSIONS MUST BE CURBED WITHOUT DELAY

A WELL-FUNCTIONING TRANSPORT SYSTEM INCREASE THE ATTRACTIVENESS OF CITIES



Recommendations for decision makers in growing regions

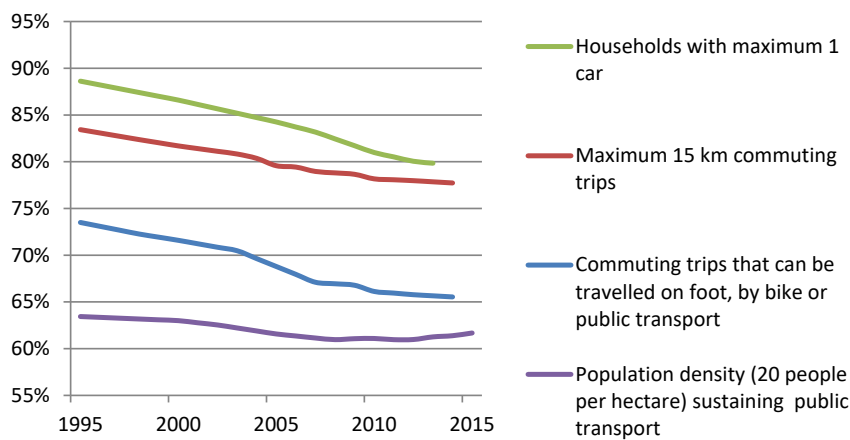
- Benefits from continuous urban fabric: a sufficiently dense structure enables a functioning public transport system and decreases the need for parking spaces
- Prioritise muscle-powered mobility: walkways, cycle lanes and car-free roads as enticers
- Enable alternatives to private car use: facilitate parking for car sharing
- Promote sustainable (energy) mobility: more infrastructure for electric vehicles, rail based mobility, shared vehicles and mobility as a service (MaaS)
- Take part in experiments, utilise experimentation platforms, learn from others

“THE AMBITION IS CLEAR: BY MIDCENTURY, GREENHOUSE GAS EMISSIONS FROM TRANSPORT WILL NEED TO BE AT LEAST 60 % LOWER THAN IN 1990 AND BE FIRMLY ON THE PATH TOWARDS ZERO.”

COMMUNICATION FROM THE EUROPEAN COMMISSION



Development of car ownership, commuting and population density in Finnish urban regions 1995-2015



Urban region encompasses urban and suburban localities and urban fringe settlement extending predominantly 5 km from an urban locality.

From one city to another

In the past, people migrated from rural areas to urban areas. Nowadays the movement is from a small city to a bigger one. Commuting patterns have

also changed: more and more people travel between cities for work. A private car is still a necessity for many, especially in the rural areas. However, urbanisation provides an opportunity to develop other forms of personal mobility.

Flexible public transport enables commuting in different directions thus promoting labour force mobility and job accessibility. Public transport in centres of regional growth, including cross-regional connections, can increase local attractiveness.

Municipalities experiment with flexible mobility solutions

Sustainable consumption and behaviour require enabling factors in both urban and rural setting. Walking, cycling and public transport are not attractive options in municipalities with fragmented (urban) fabric. By experimenting with mobility solutions, municipalities have already discovered innovative ways to promote sustainable choices.

Mobility is becoming multi-faceted. Objective experiments enable solutions tailored at local and regional level needs. These include mobility as a service (MaaS), on-demand public transport, shared rides and shared use vehicles, and the old-new innovations in the mobile service sector such as library buses and mobile shops. Many Finnish municipalities have started experimenting and found new and innovative ways to provide mobility solutions that suit the local needs.

Functioning solutions from local experimentation

By experimenting, complicated or even 'wicked' problems can be split into constituent parts. At best, experimenting encourages learning from each other's successes and failures, thus gathering practical knowledge of alternative solutions and their effects. Grass-root level experiments can be scaled up via for example digital experimentation platforms.

Experimentation platforms provide:

- challenges, ideas
- new solutions
- funding opportunities
- information sharing and follow-up
- testing and learning

Prime Minister's Office, Kokeilun paikka:
kokeilunpaikka.fi

Changing mobility patterns

The biggest challenges in Finland for mobility are long distances and scattered population. The energy consumption of road traffic today is 1.6 times that of 1980¹. The increase in kilometres driven has eroded the benefits from improved vehicle energy efficiency. In addition, the building and maintenance of existing road and transport infrastructure requires significant amounts energy and resources². Ageing population is also a challenge to which the transport infrastructure must respond. Being mobile must be safe and doable for persons of any age.

Sprawled living on the one hand and population growth on the other creates a challenge for flexible mobility. However, all regions are equally faced with the need to change mobility behaviour to involve more sustainable practices.

Built environment expands and communities sprawl

Population growth is modest in many Finnish urban regions. Still, urban built up area has increased in the 2000s, mostly into forested land surrounding

cities. In 2000–2012 only nine per cent of the new housing, industrial and service areas were located in earlier built environments. Especially the housing construction in mid-sized and small urban areas has been located outside of the existing urban form. The evolving urban form in Finland is thus sprawl, although inner urban areas have already started to densify.

Densification brings advantages

Urban sprawl increases car dependency. Long-term urban planning and innovative infill enable construction more dense cities in which walking, cycling and public transport exist as solutions³.

Thanks to this:

- Local liveability increases as services support one another
- Dwindling centres can be revived
- Decreased air pollution and muscle powered mobility increase health benefits.

Mobility related experiments are taking place all over Finland:

- On-demand public transport: [Vippari in Pietarsaari](#)
- Mobility as a Service: [Kätevä 'Practical' Seinäjoki](#)
- Shared vehicle service: [Shareit Blox Car and RIDeNRENT](#)
- Shared rides via app: [Vedia taxi](#)
- PayIQ mobile ticketing: [Jyväskylä](#)
- Shared vehicles in public sector organisations: [municipality of li](#)
- Perille.fi long-haul ticket price comparison site [Perille.fi](#)
- Climate streets in: [Helsinki ja Vantaa](#)

"GREAT THAT YOU'VE SET UP THIS SERVICE. OWNING AND DEPOSITING CARS IN PARKING LOTS IS PLAIN MADNESS."

(Car sharing customer, Tampere)

1 VTT: LIISA calculation system for traffic exhaust emissions and energy use <http://lipasto.vtt.fi/liisa/energia.htm>

2 Seppälä, J., Mäenpää, I., Koskela, S., Mattila, T., Nissinen, A., Katajajuuri, J.-M., Härmä, T., Korhonen, M.-R., Saarinen, M., & Virtanen, Y. 2011. An assessment of greenhouse gas emission and material flows caused by the Finnish economy using the ENVIMAT model. Journal of Cleaner Production, Vol. 19, 16: 1833-1841.

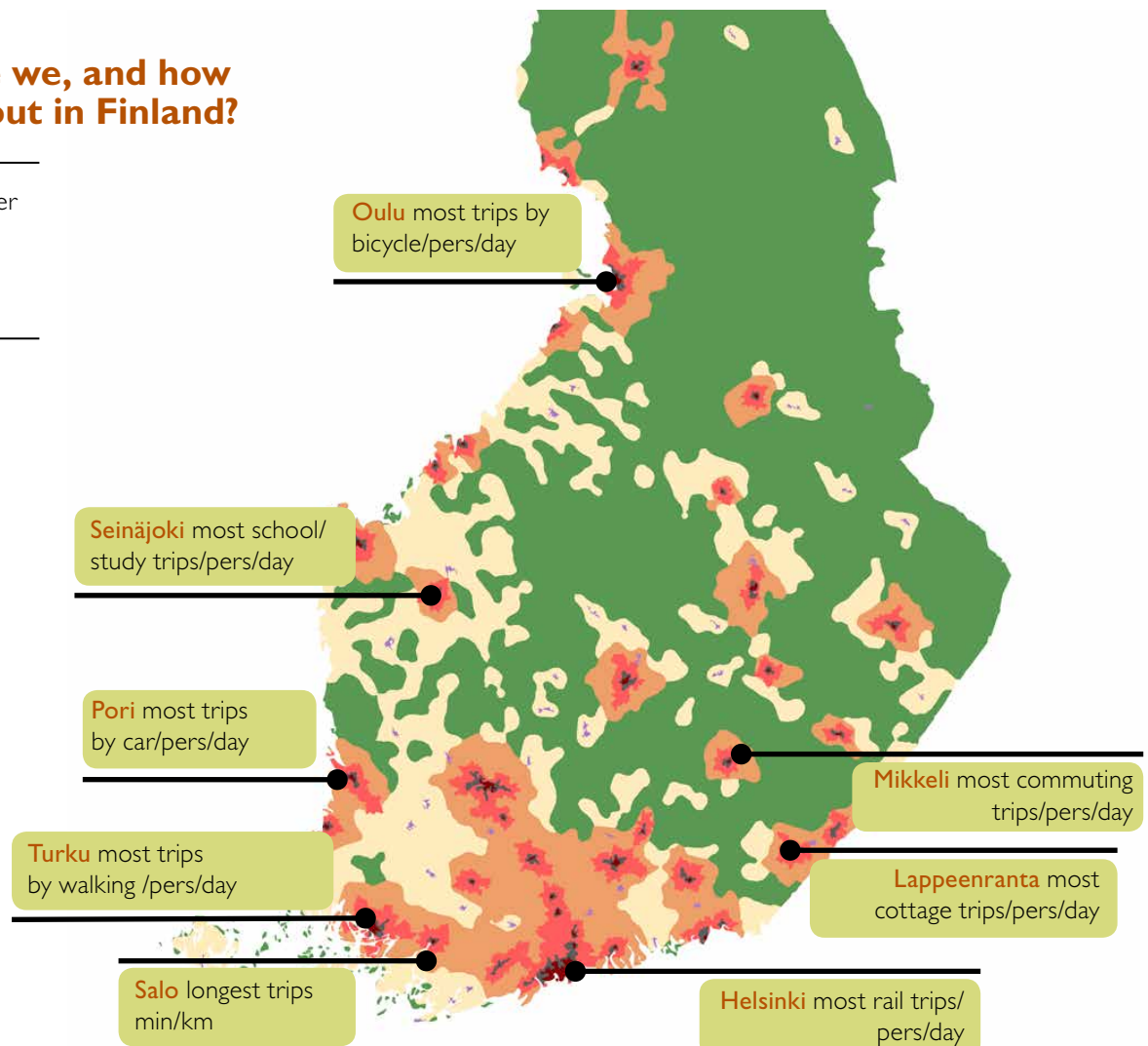
3 Ristimäki ym. 2017. Yhdyskuntarakenteen tulevaisuus kaupunkiseuduilla – Kaupunkikudokset ja vyöhykkeet. Suomen ympäristökeskuksen raportteja 4/2017 [available only in Finnish]. <http://hdl.handle.net/10138/176782>

How mobile are we, and how do we move about in Finland?

Mobility options are broader in dense urban areas - elsewhere car dependency is still common.

- Inner urban area
- Outer urban area
- Peri-urban area
- Local centre in a rural area
- Rural area close to urban area
- Rural heartland area
- Sparsely populated rural area

© SYKE



National decision making

National energy and climate strategies have long recognised the challenges that transport and mobility pose on climate goals: 60 % (4,1 Mt) of personal mobility emissions are accounted for by day to day commutes and trips within local regions. 89 % of those emissions arise from the use of private cars. Local mobility therefore holds great potential for lowering emissions.

Ministry of Economic Affairs and Employment. Finland's New Energy and Climate Strategy: <http://tem.fi/en/energy-and-climate-strategy-2016>

60 % Personal mobility emissions are accounted for by day to day commutes.

89 % Emissions arise from the use of private vehicles.

More information:

- ymparisto.fi/ykr
- Elinympäristön tietopalvelu Liiteri [only in Finnish]: liiteri.ymparisto.fi/
- Liimatainen H et al. (2015) Tarve, tottumukset, tekniikka ja talous – Ilmastomuutoksen hillinnän toimenpiteet liikenteessä. Ilmastopaneeli 2/2015.
- National travel survey (2010-2011), The Finnish Transport Agency