

Y E N E S I S

Youth Employment Network for
Energy Sustainability in Islands

Sustainable Mobility

Developed by: Regional Agency for Energy and Environment
of the Autonomous Region of Madeira (AREAM)



YENESIS benefits from a € 2.3 M grant from Iceland, Liechtenstein and Norway through the EEA and Norway Grants Fund for Youth Employment.
The project aims at creating employment opportunities for NEETs in islands

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Halvad uudised

- Kütusehinnad kasvavad
- Teed lagunevad
- Ootamatud talved ja tulvad
- EL toetused lõppevad
- Uutest automaksudest ei ole pääsu?!



Kas see on lõpp? EML

Väljaanne : november (nr 11)

Eelmise kuu MaksuMaksja kaaneteema oli lühike kui paljuütlev märksõna „auto“.

Iceland
Liechtenstein
Norway grants

Norway grants



<ul style="list-style-type: none"> •10 ha maad kaob uue infrastr. alla iga päev •tarbib muid taastumatuid loodusvarasid 	<ul style="list-style-type: none"> •Avallikkus eelistab ühistranspordi- ja kergliikluse arendamist •Kohalike rahulolematus 	<ul style="list-style-type: none"> •20% eurooplastest elavad liikluse tõttu müranormi piiridest väljas •infra tihti barjäär teistele liiklejatele 	<ul style="list-style-type: none"> •50% maailma naftast kulub transportis •Transport tarbib 35% koguenergiast
<ul style="list-style-type: none"> •Ummikukulud on Euroopas ca 65 miljardit EUR aastas 	<ul style="list-style-type: none"> •Uue infrastruktuuri ehitus on väga kallis •Infra hoolduse käigus sool, taimetõrjekemikaalid 	<ul style="list-style-type: none"> •20-70 000 tonni naftat lekib igal aastal Läänemerele 	<ul style="list-style-type: none"> •Naftamaardlad hävitavad tuhandete m² ulatuses looduslikke ja kultuurmaastikke
<ul style="list-style-type: none"> •Ajasäästu liikluses ei ole – päevane ajakulu konstantne 	<ul style="list-style-type: none"> •40 000 hukkunut aastas •Ca 100 000 lisaks tervisemõjude tõttu •Istuv eluviis 	<ul style="list-style-type: none"> •400 miljonit tonni maailmamerele 	<ul style="list-style-type: none"> •Prestige'1 tankeriõnnetus tappis 300 000 merelindu
<p>Jäätmed Euroopas, aastas:</p> <ul style="list-style-type: none"> •2 miljonit t ohtlike jäätmeid aastas (10% kogu ohtlike jäätmete mahust) •Ca 200 miljonit kasutatud autorehvi 		<ul style="list-style-type: none"> •õhu kvaliteet • autokasutaja saab 30% rohkem saastet kui teised liiklejad 	<ul style="list-style-type: none"> •Poliitilised pinged ja ebastabiilsus, •Kohalike rahulolematus •Inimõigused

Autostumise sotsiaalsed mõjud

- Õhusaaste
- Müra
- Istuv eluviis
- Autota leibkondade liikuvuse ja juurdepääsu halvenemine
- Autokeskne transpordisüsteem piirab koolilaste iseseisvat liikumisvabadust
- Avaliku ruumi kadumine liikluse ja parklate alla – vähem spontaanset läbikäimist
- Laste kodulähedase mänguruumi kadumine - vähem loomulikku ja iseseisvat liikumist.



I. Transport of goods and people



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Miks on liikuvuse arendamine oluliseks muutunud?

- **Transpordivaldkonna välised trendid**
 - ❖ Globaalsed keskkonnaprobleemid
 - ❖ Piiratud rahalised, loodus- jm ressursid
 - ❖ Linnastumine – kahanevad maapiirkonnad
 - ❖ Rohkem eakaid, kes harjunud liikuva eluviisiga
 - ❖ Y-põlvkonna uued tarbimisharjumused ja liikumisviiside eelistused
 - ❖ Uued tehnoloogilised lahendused ja teenused, digitaliseerimine, automatiseerimine

Transpordivaldkonna-sisesed probleemsed trendid

- ❖ **Negatiivsete keskkonna- ja tervisemõjude suurenemine**
 - ❖ Praeguste trendidega 2030. Eesti transpordi kliimaaeesmärke ei täida
- ❖ **Isiklikust autost sõltuvuse kasv.** Koolilaste ja eakate iseseisva liikumisvõimaluse vähenemine.
- ❖ Ühiskonna kogukulud liikuvusele kasvavad kiiresti autostumise tõttu. **Nn liikuvusvaesuse kasv**
- ❖ Erinevad avaliku sektori poolt rahastatud taristu ja transporditeenuste osad sünergia asemel pandud omavahel konkureerima (raudtee-maantee, rong-buss)
- ❖ Transpordisüsteemi planeerimine on killustunud erinevate ametite ja haldustasandite vahel
- ❖ **Transpordipoliitika on liikluse ja taristu ehitamise keskne.** Uued taristuobjektid kui barjäär ja lisanduv ajakulu kohalikule liikuvusele, ühistranspordile

Liikuvuse mõiste, säästva liikuvuse eesmärk

- **Liiklus** – on taristu lõigul liikuvate transpordisüsteemi kasutajate hulk
- **Liikuvus** tähendab inimeste ja kaupade võimet liikuda vajalikesse sihtkohtadesse, kasutades ühte või mitut transpordiliiki või teenuseid.
- **Säästev liikuvus** lähtub taristu ning liikuvus- jm teenuste toimivusest tervikuna, arvestades liikuvuse korraldamist majanduslikult, sotsiaalselt ning keskkondlikult jätkusuutlikul moel.



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Transpordikorralduse paradigmuutus 1960-

Liiklus - *traffic*



Liikuvus - *mobility*



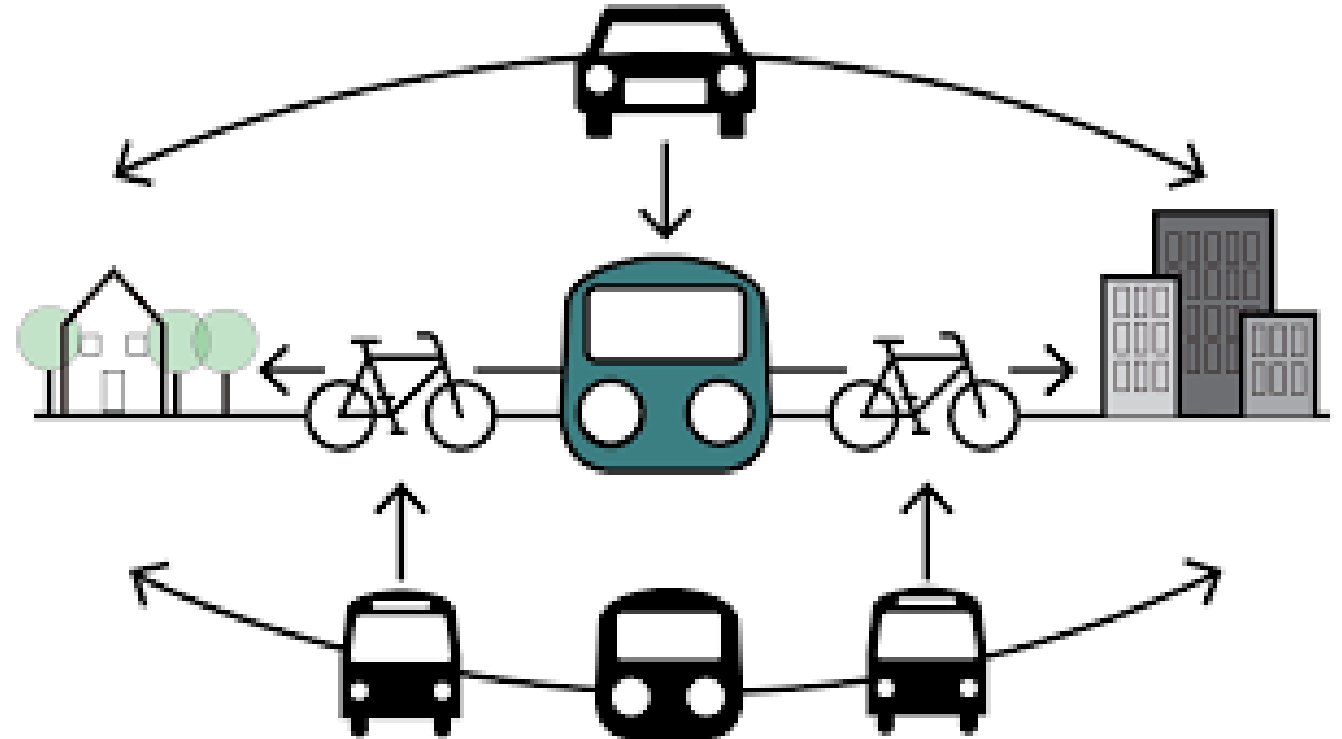
Juurdepääsetavus - *accessibility*



Iga liikumisviisi eeliste ja sünergia parem kasutamine

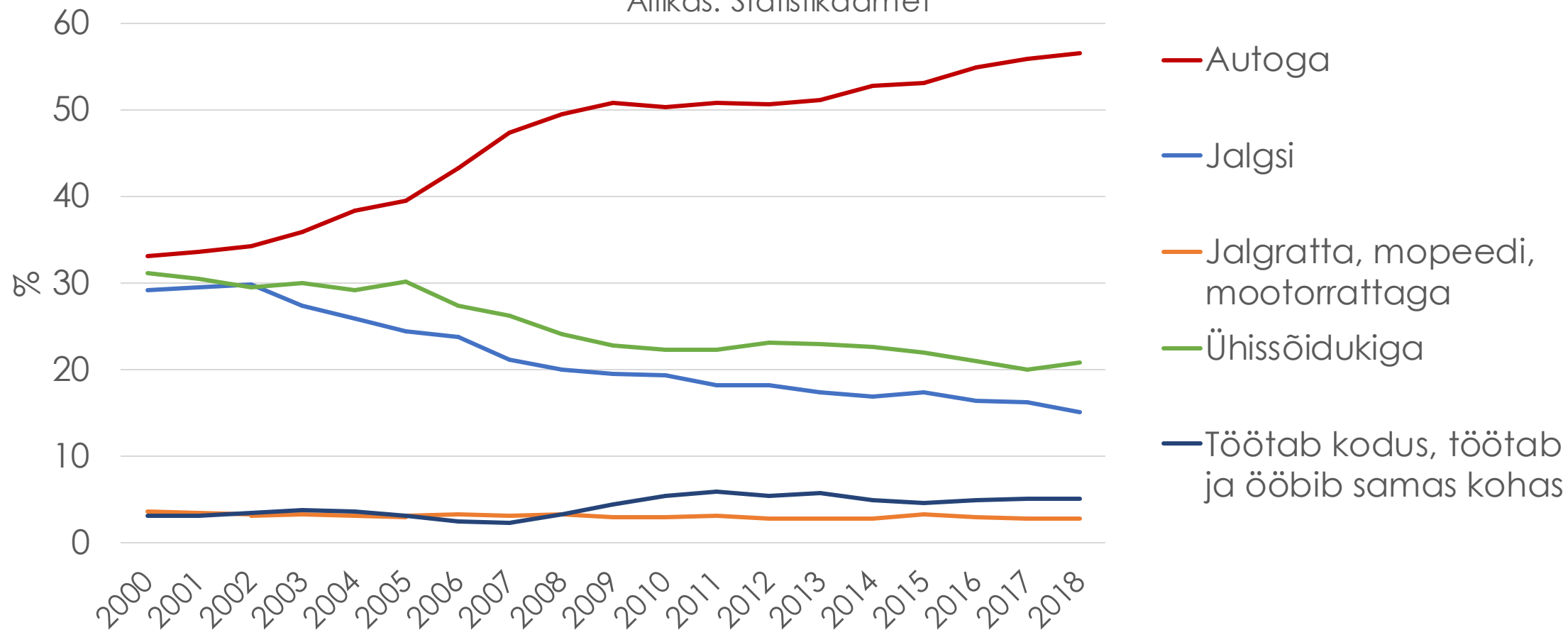


Catchment area around a station: around 25x higher (79 sq km instead of 3 sq km)



Eesti hõivatute peamine kodu-töö liikumisviis, %, 2000-2018

Allikas: Statistikaamet

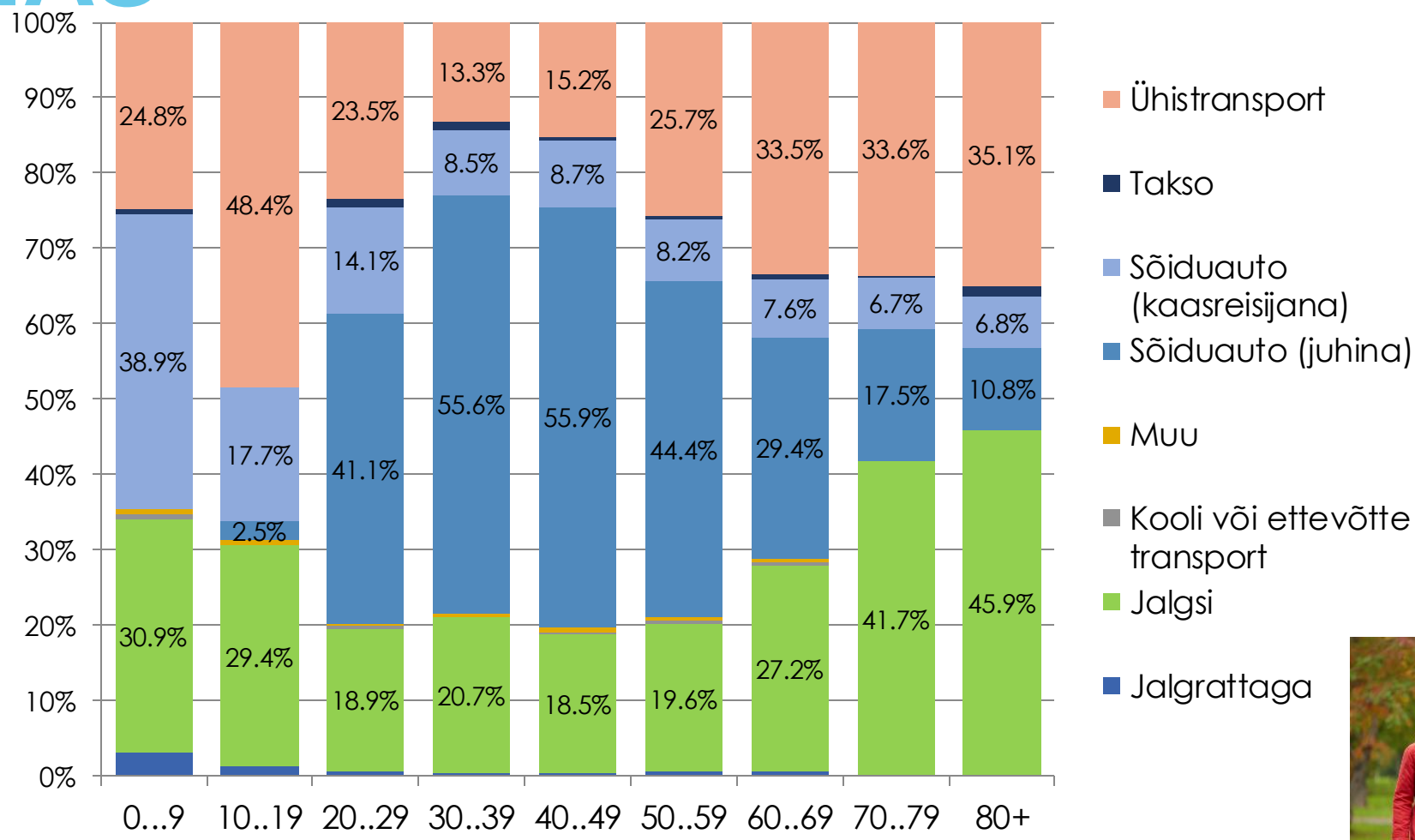


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LIIKUMISVIISIDE VANUSELINE JAOTUS TALLINAS

Iceland
Lichtenstein
Norway grants

Norway grants



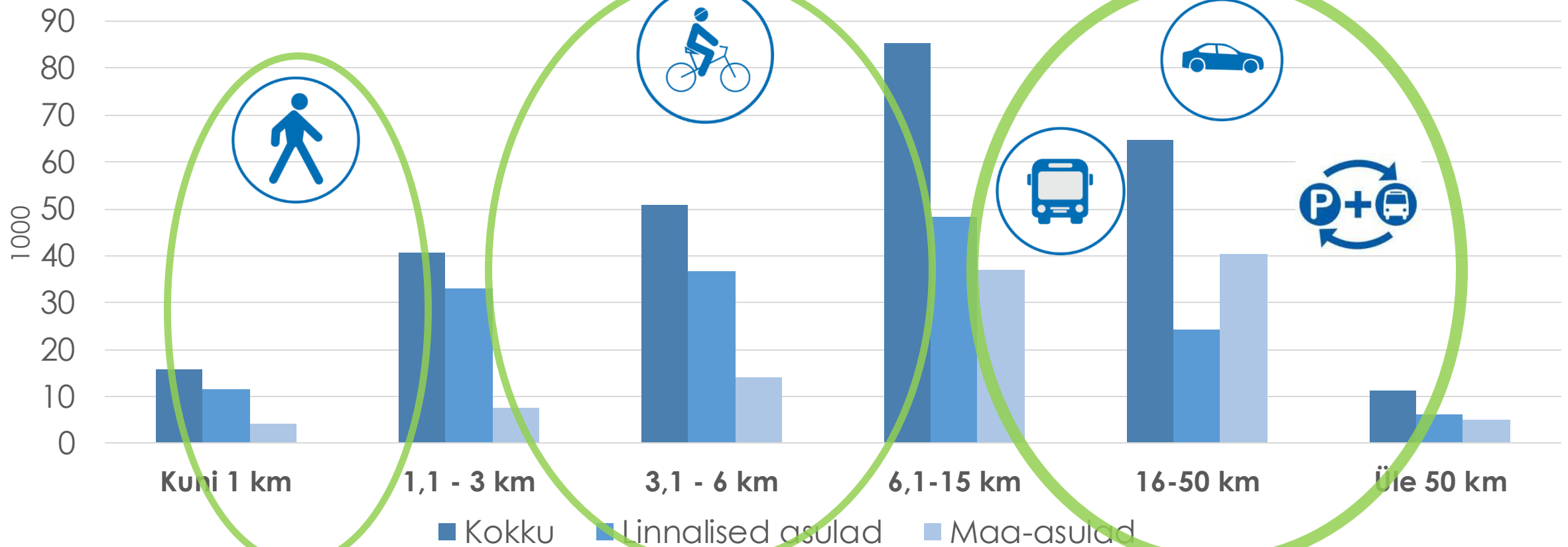
Allikas: Stratum, Emor 2015 andmetel

echtenstein and Norway through the EEA and Norway Grants Fund for Youth creating employment opportunities for NEETs in islands



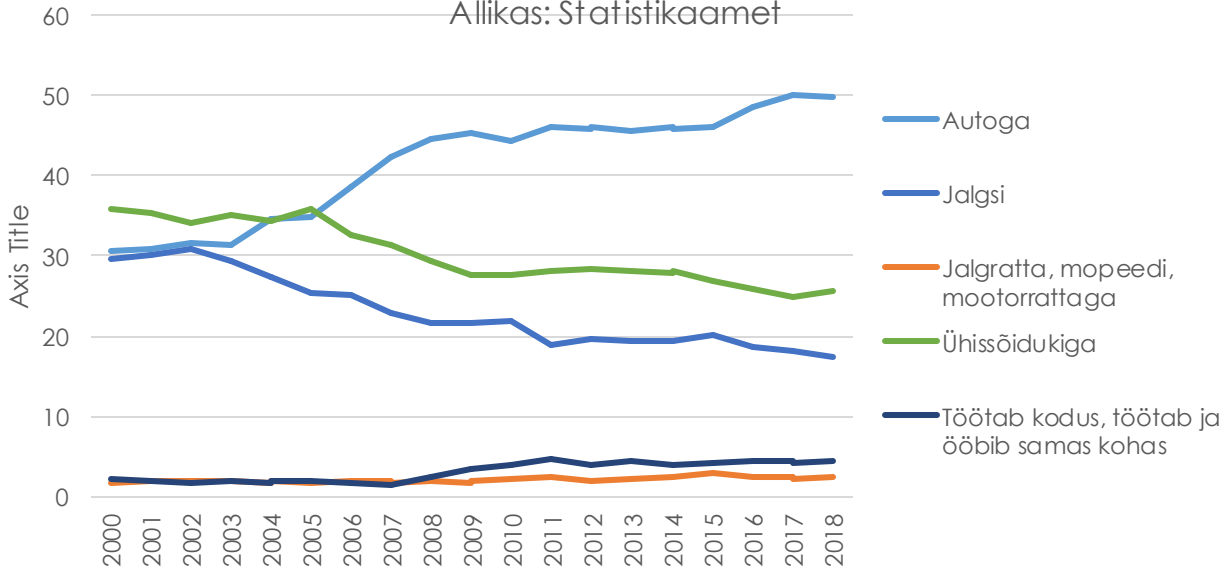
30% autoga tööle liikujatest elavad töökohast kuni 6km kaugusel

Autoga tööle sõitjate arv töökoha kauguse lõikes 2018, 1000 hõivatut



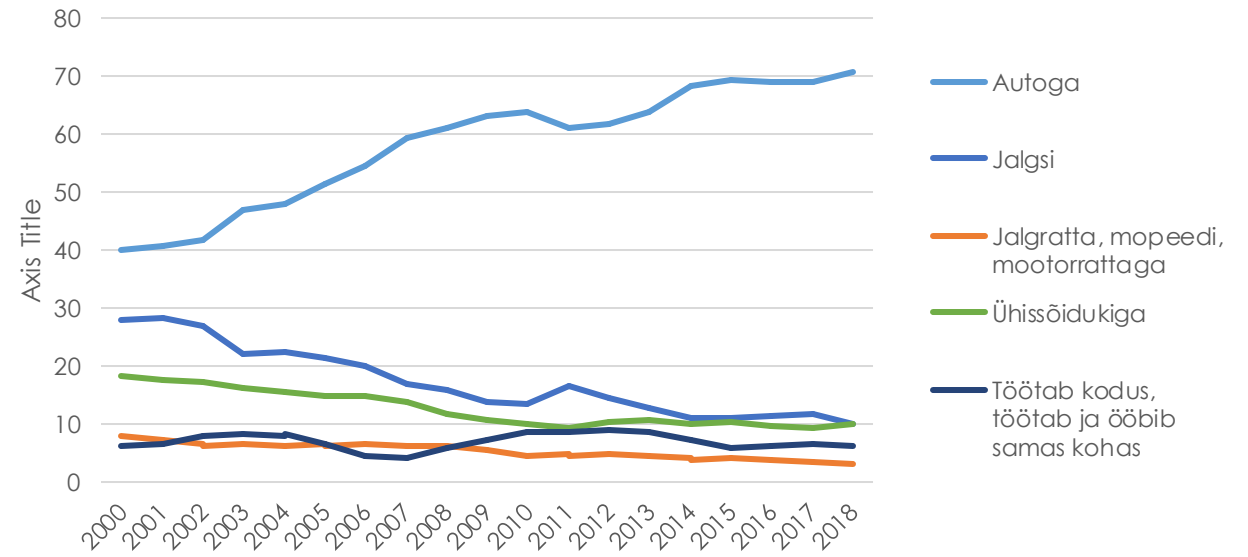
Eesti hõiv atute peamine tööle liikumise viis, %, linnaline asula

Allikas: Statistikaamet

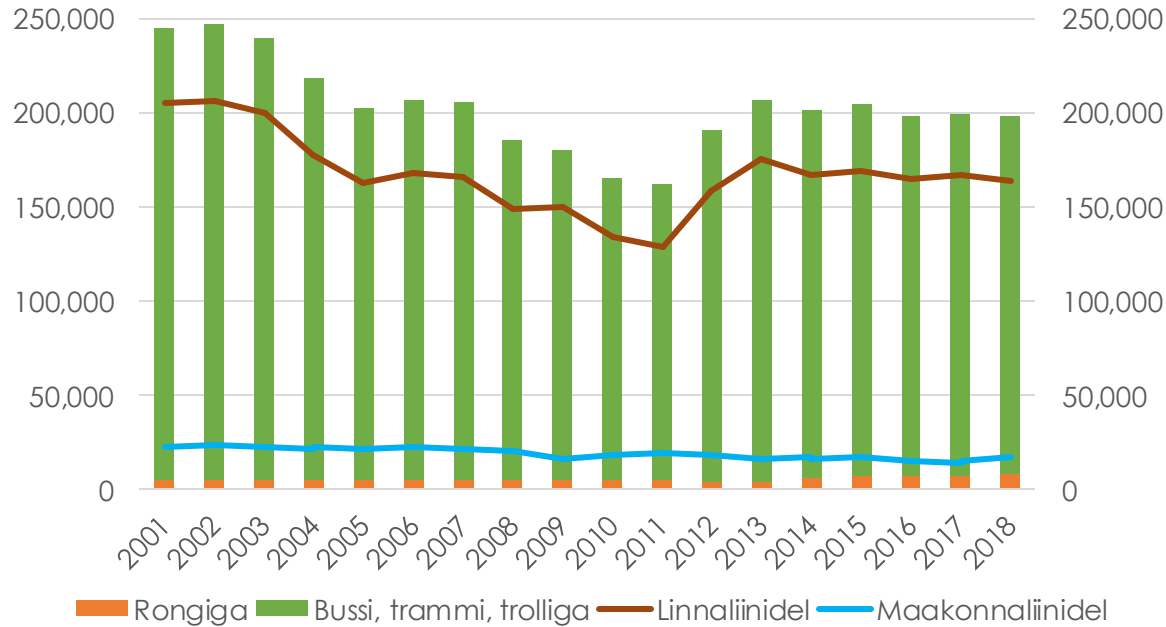


Eesti hõiv atute peamine tööle liikumise viis, %, maa-asula

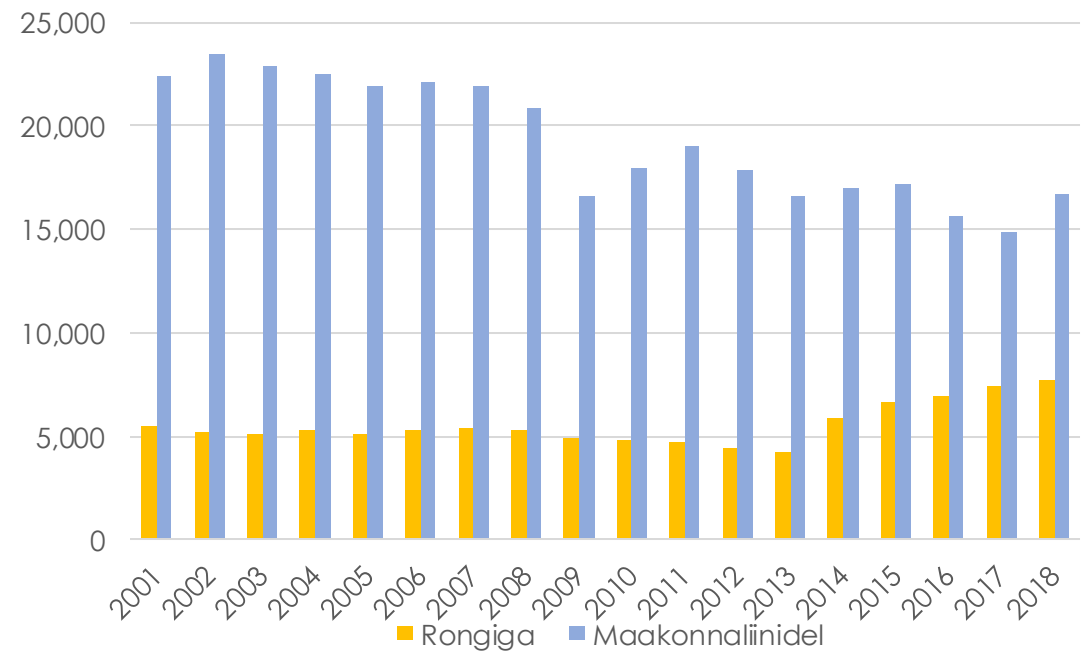
Allikas: Statistikaamet



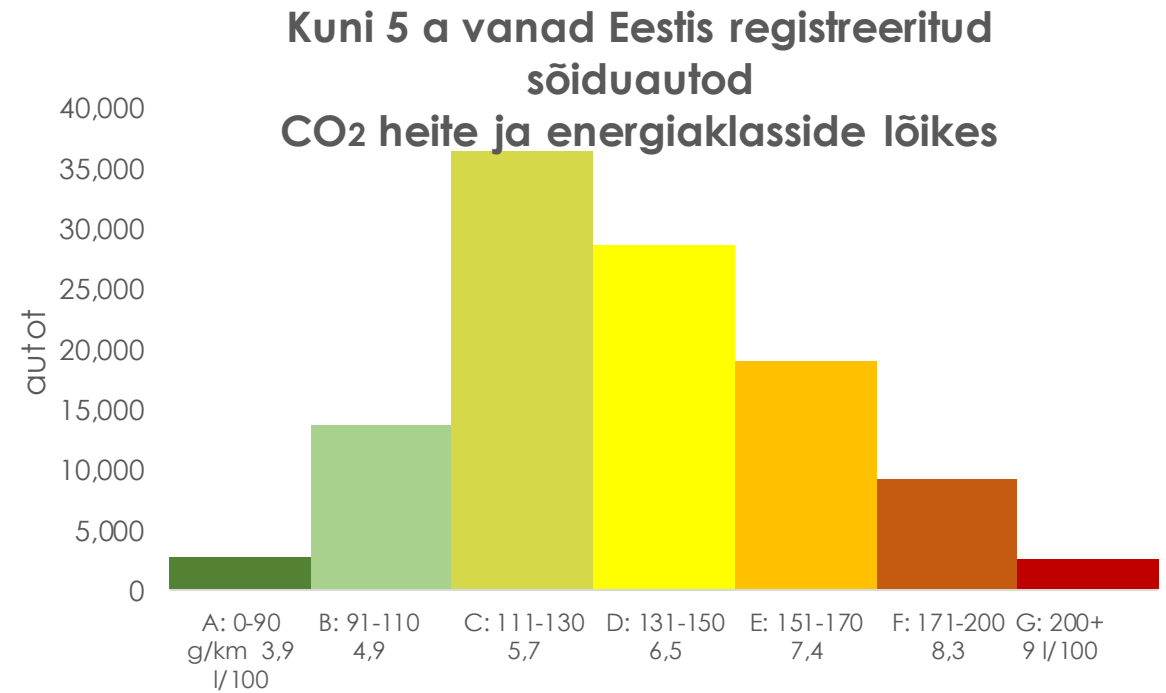
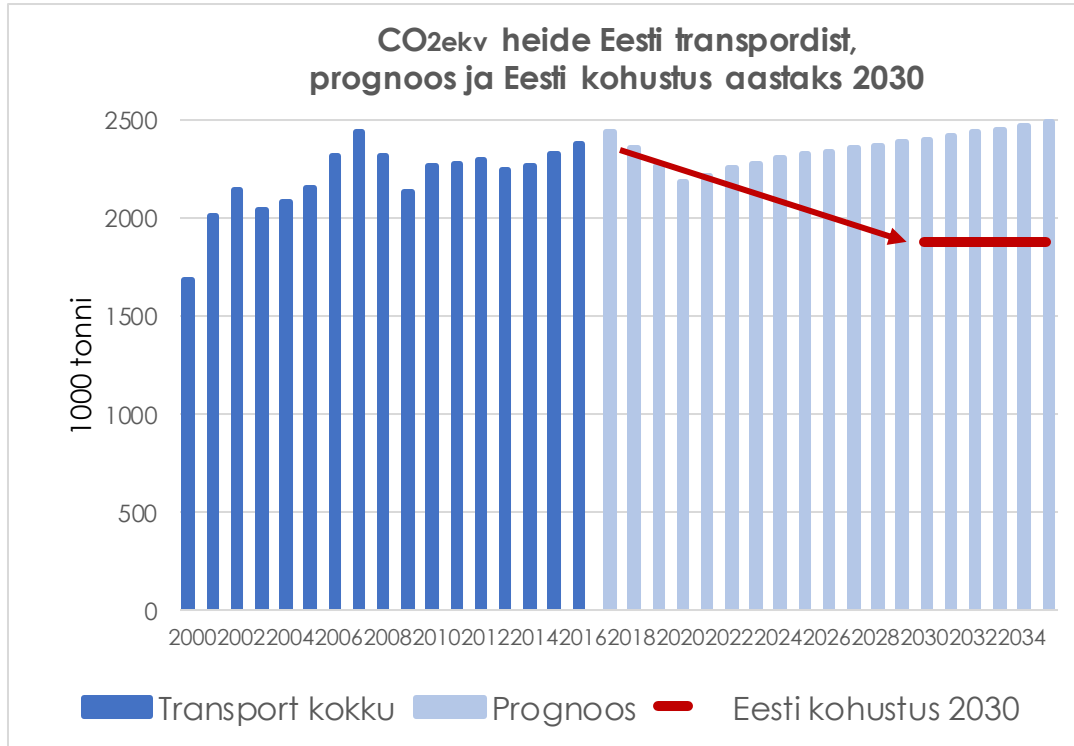
Sõitjate arv Eesti ühistranspordis
2001-2018, 1000 sõitjat



Sõitjate arv maakonna- ja rongiliinidel
2001-2018, 1000 sõitjat



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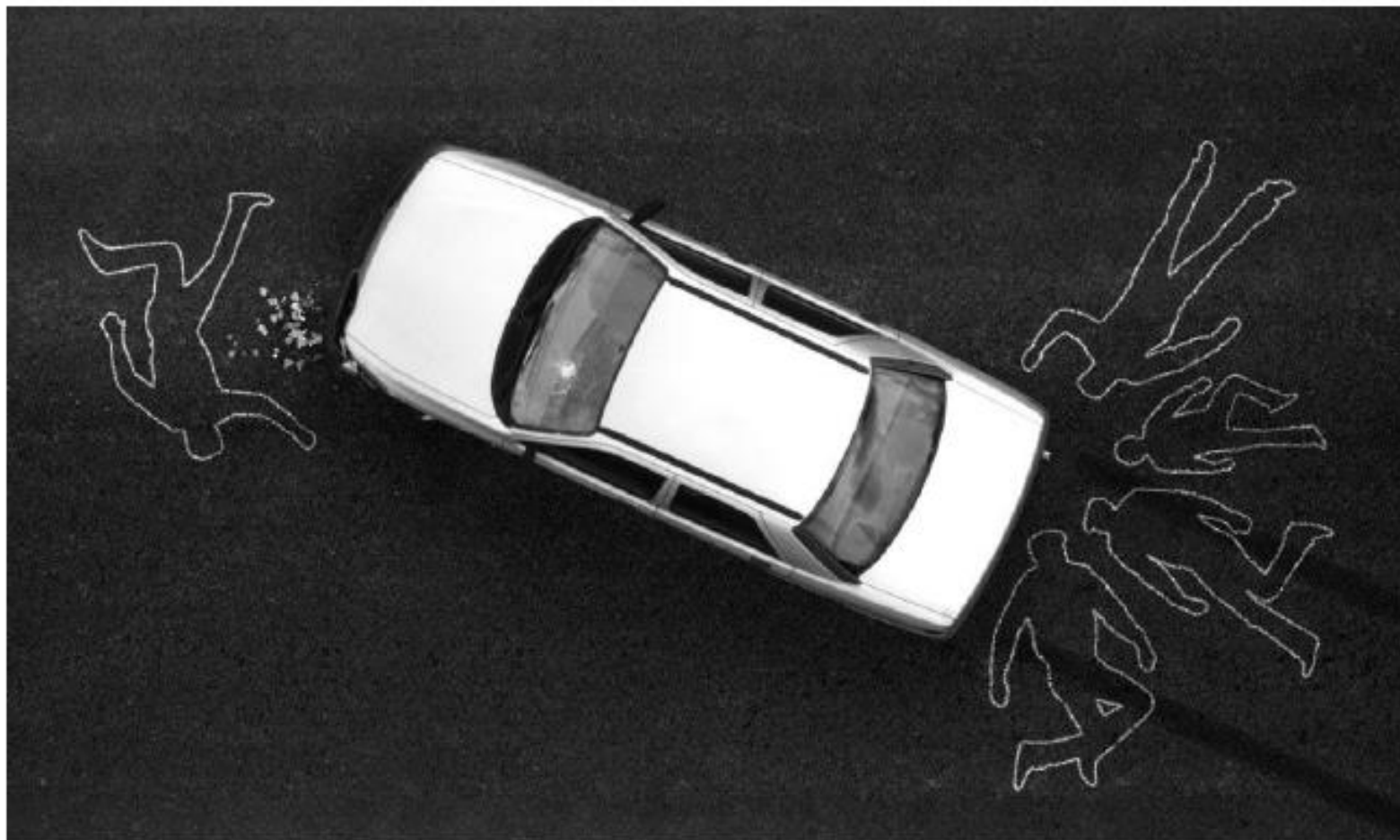


2030 eesmärkide mittetäitmisel võib Eestil tekkida kohustus aastast 2025 osta CO₂ kvooti 10-100 miljoni € eest aastas. [World Business Council for Sustainable Development](#) ja [OECD](#)

soovitavad CO₂ heidet maksustada 30-100 €/t

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Liiklusrisk + keskkonnamõjurisk + istuva eluviisi terviserisk



Iga liiklusohvri kohta sureb enneaegselt veel 3-4 inimest igal aastal transpordi keskkonnaja tervisemõjude tõttu. Autosõitjad ei ole õhusaaste eest rohkem kaitstud, vaid saavad reeglina 30% rohkem saastet kui jalakäijad või jalgratturid, pealegi on autoga kaasnev istuv eluviis peamisi ülekaalulisuse ning sellega seotud terviseprobleemide põhjustajaid.

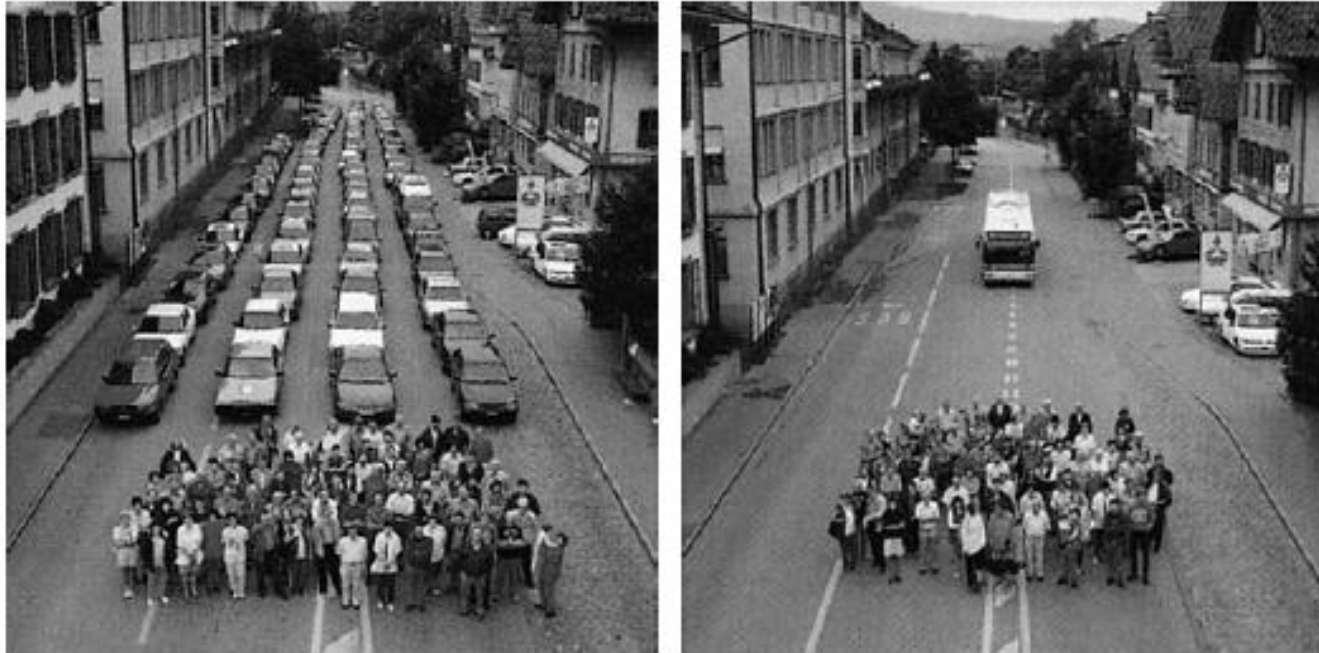
Allikas: WHO 2004

Pilt: SNF

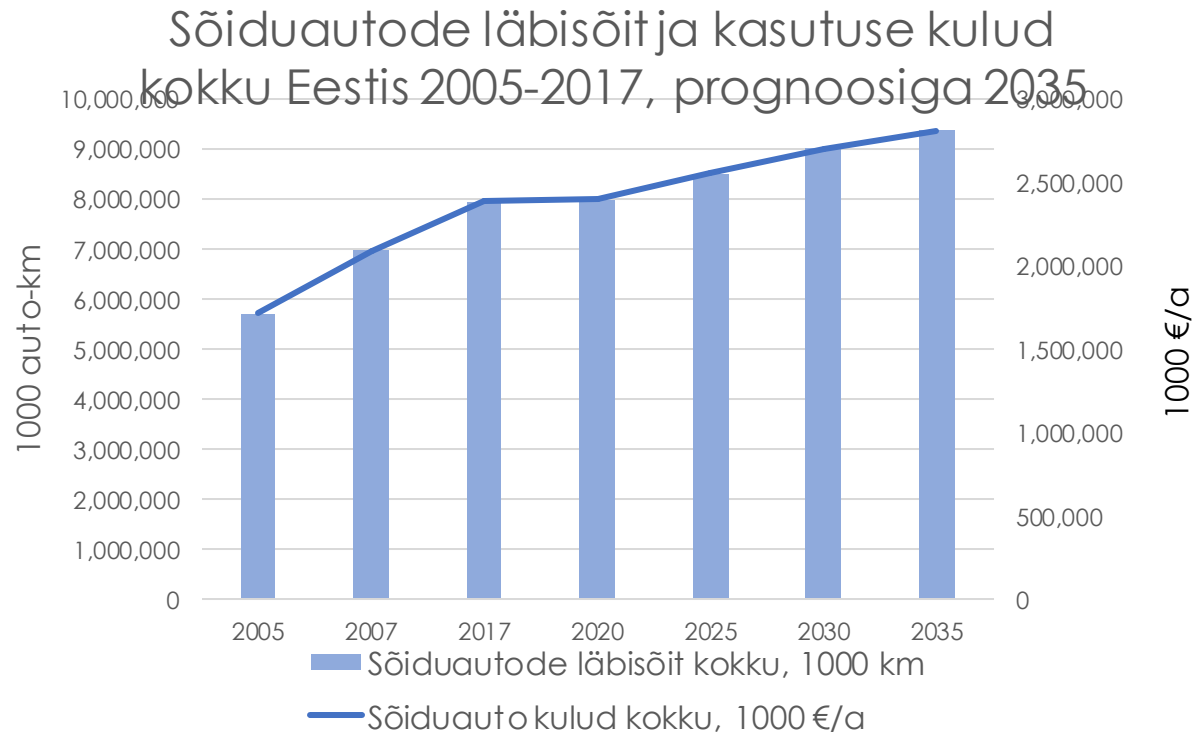
Jalgrattakasutuse kahekordistamine Saaremaal: ca 2000 uut regulaarset jalgrattaga liiklejat

- Rahaline sääst aastas tervishoiukuludelt:
2,5 miljonit €/a
- 10 enneaegset surma vähem aastas
regulaarsete ratturite hulgas





75 inimest 60 autoga või 75 inimest ühe bussiga.
Sõiduauto kasutab inimese kohta ca 6 korda rohkem tänavaruumi. Foto: STI



Perede ja ettevõtete autokasutuse kogukulud on ligi **2,4 miljardit** aastas.

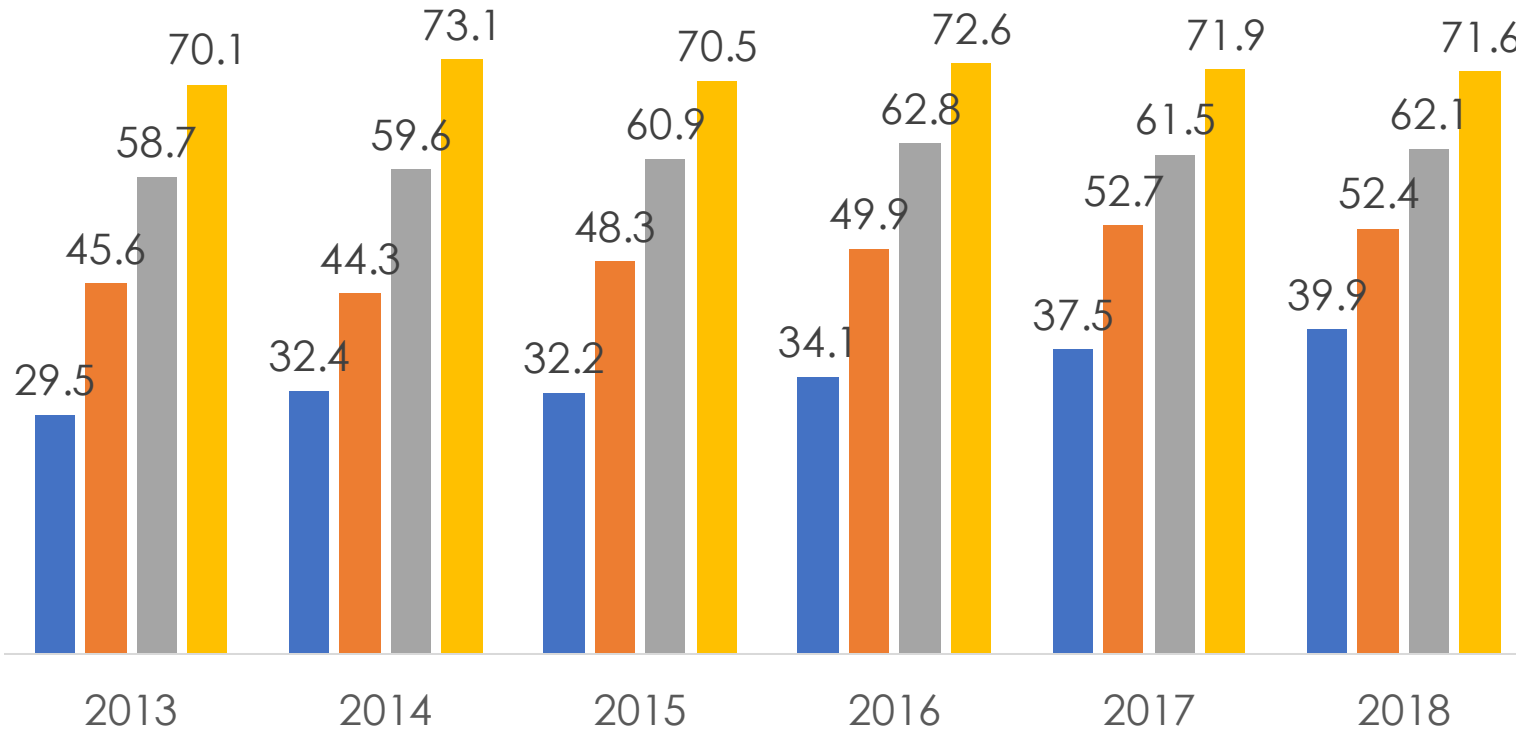
Kogukulud on kasvanud iga aastaga 40 miljoni võrra aastas ja praeguste trendide jätkudes on aastaks 2035 **2,8 miljardit** aastas

Keskmisest madalama sissetulekuga hõivatud (sinine ja oranzh tulp) on viimase 5 aastaga kiiresti autostunud.

Iceland
Liechtenstein
Norway grants

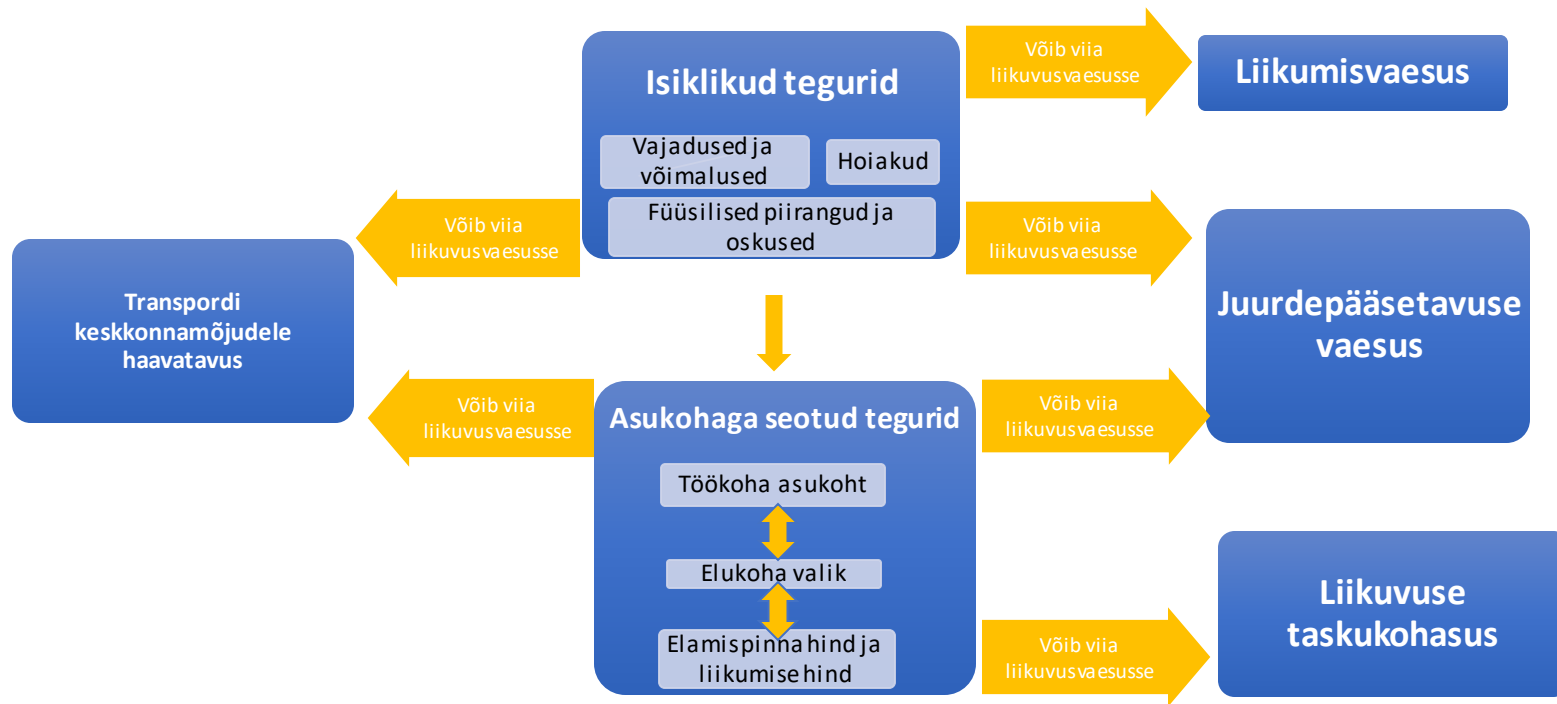
Norway grants

Autoga tööle liikuvate Eesti hõivatute osakaal
palgakvartilide lõikes 2013-2018



Isiklikust autost sõltuvus tööle saamisel tekitab liikuvusvaesusesse langemise riski.

■ 1. kvartil ■ 2. kvartil
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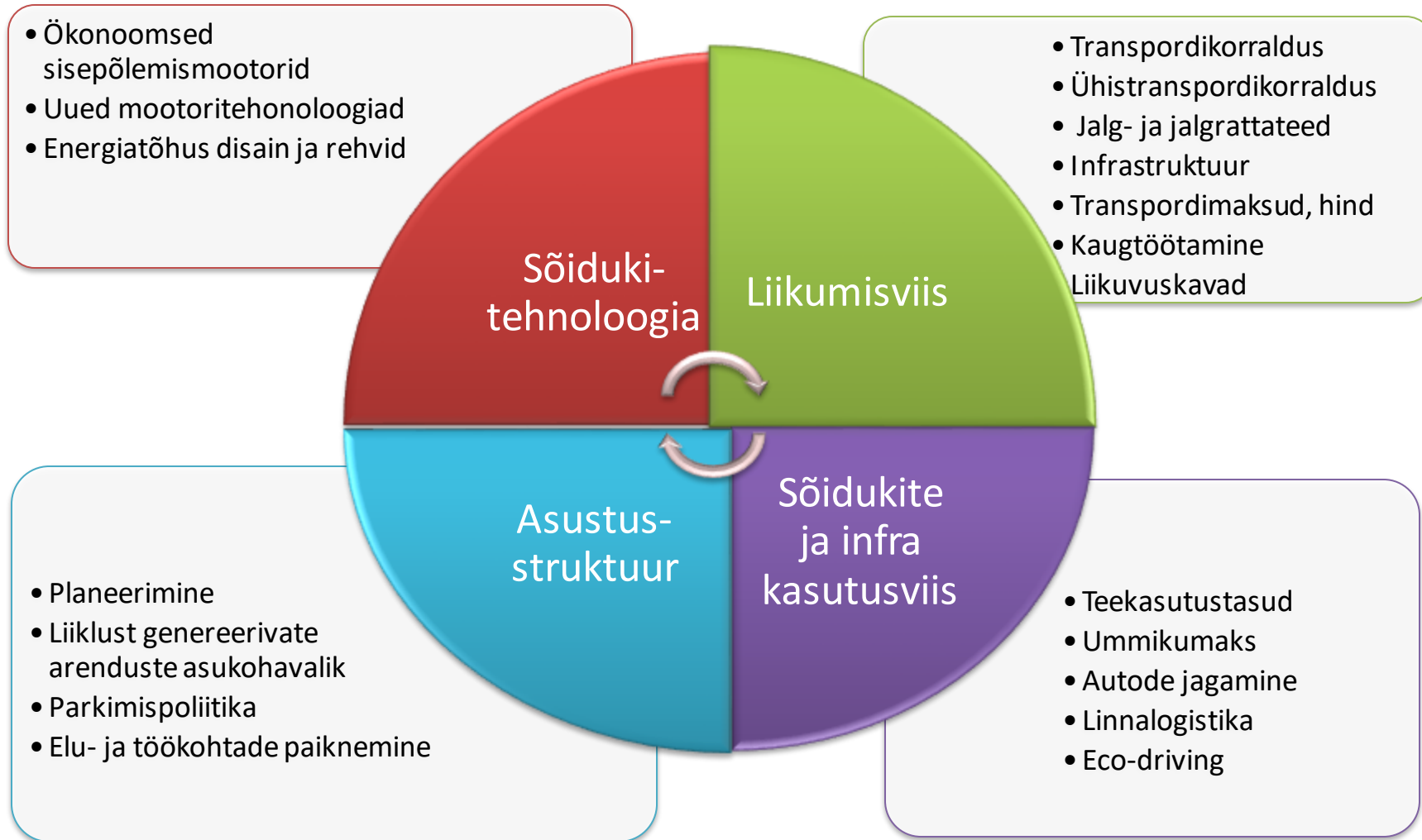


Liikuvusvaesus

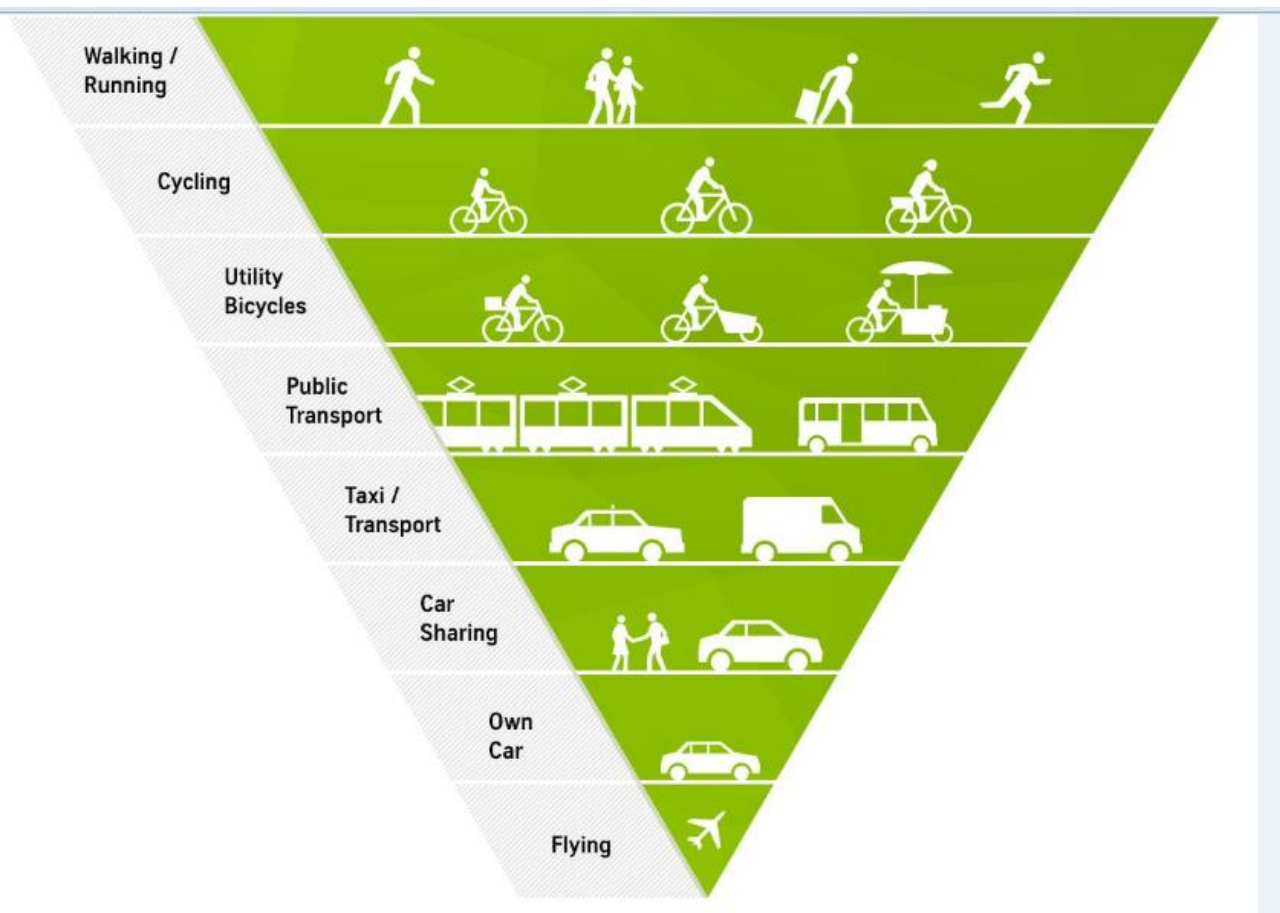
Autost sõltuvuse kasv, eriti „2-autot peres“ peremudeli toob kaasa liikuvusvaesusesse langemise riski

Autost sõltuv piirkond ei ole atraktiivne uutele põlvkondadele

Mis mõjutab liikuvust ja transpordi energiakasutust?



Säästva transpordi baasvajadused



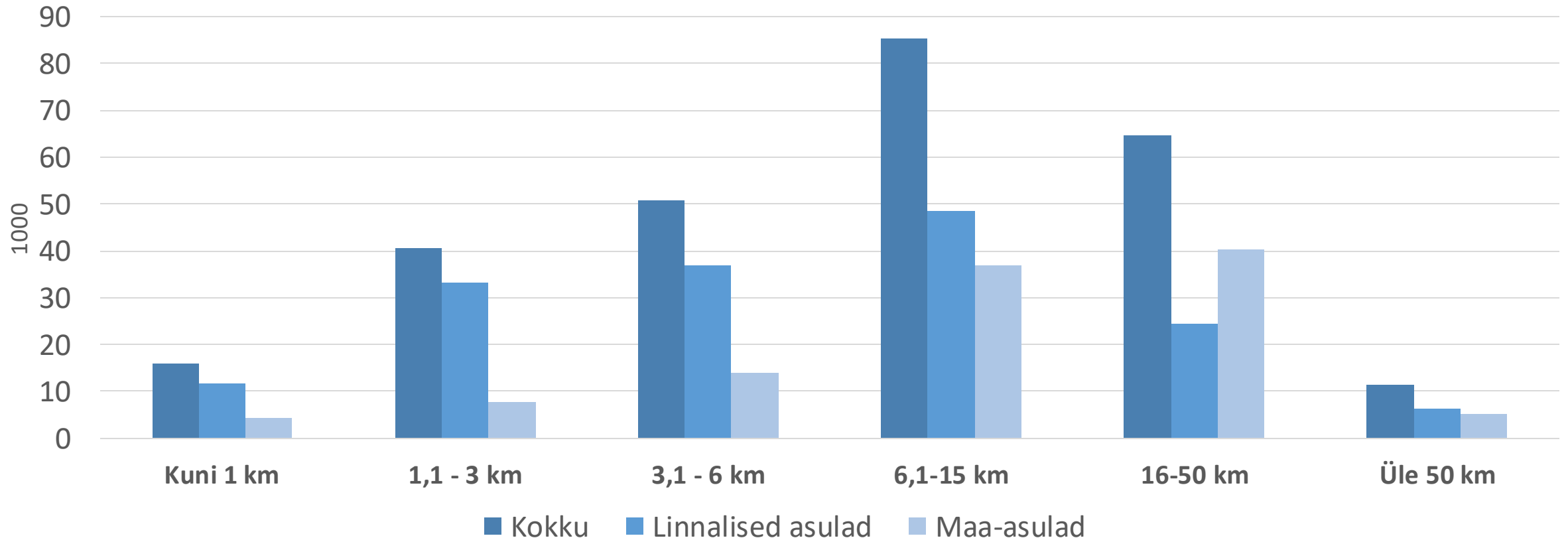
- Investeerida on vaja eelkõige jalgsi, jalgratta ning ühistransporti
- Uued teed ja ristmikud pole ei Tallinnas ega mujal linnades autokasutust vähendanud
- Sõidujagamise- jm innovatsioon transpordis on tugiteenused, mis toimivad hästi kui baasteenused on korras.

A developed country is not a place where the poor have cars. It's where the rich use public transportation.

„Arenenud riik pole see, kus on vaestel inimestel autod – vaid kus ka rikkad sõidavad ühistranspordiga“

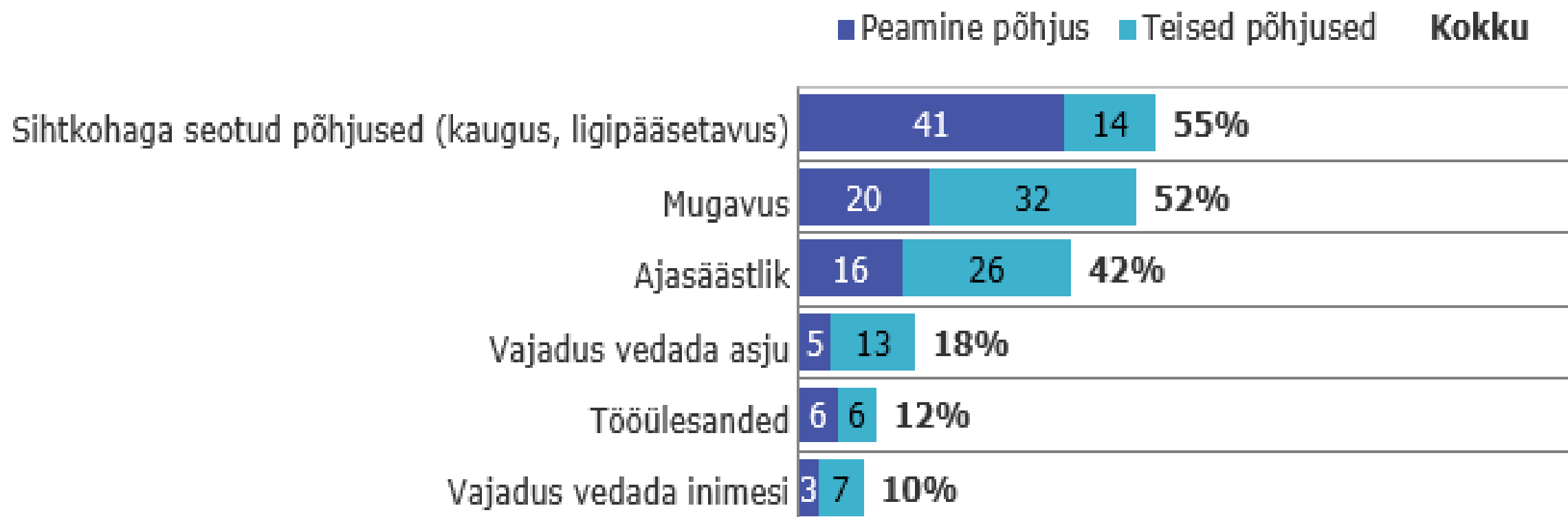
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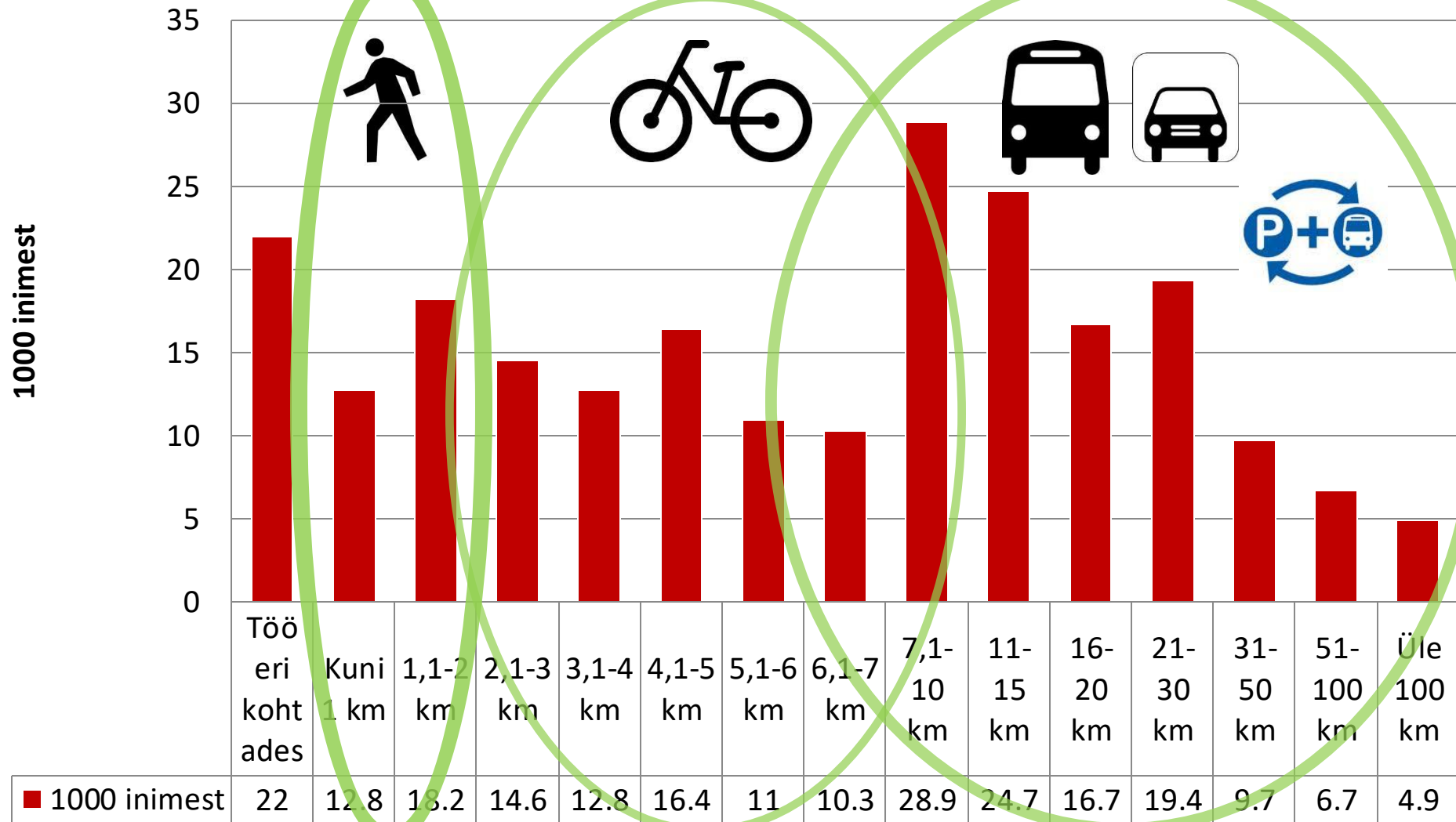


Autoga sõitmise põhjused

% nendest, kes sõidavad autoga, n=1722

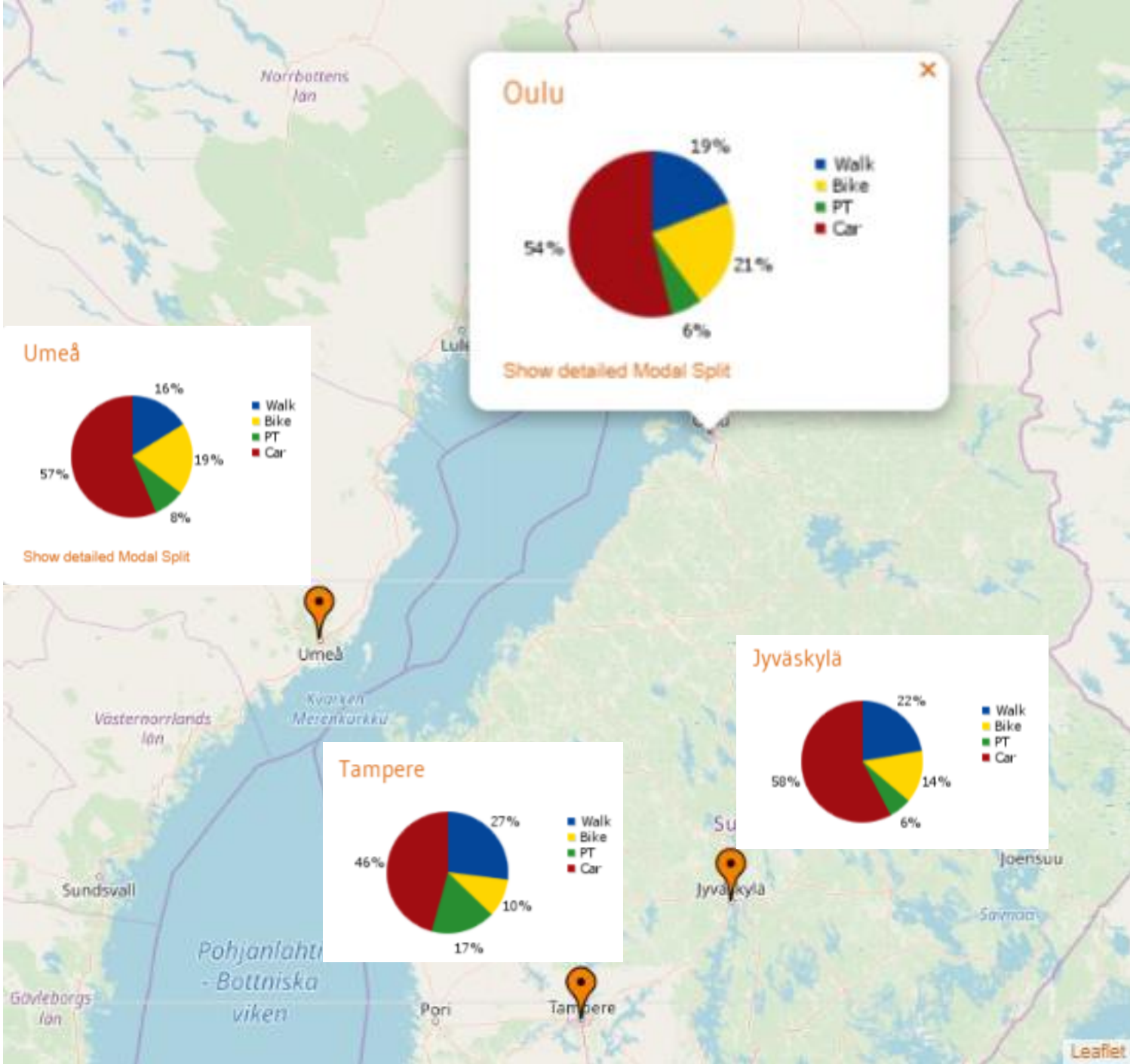


Autoga tööle liikujate vahemaade jagunemine, Eesti



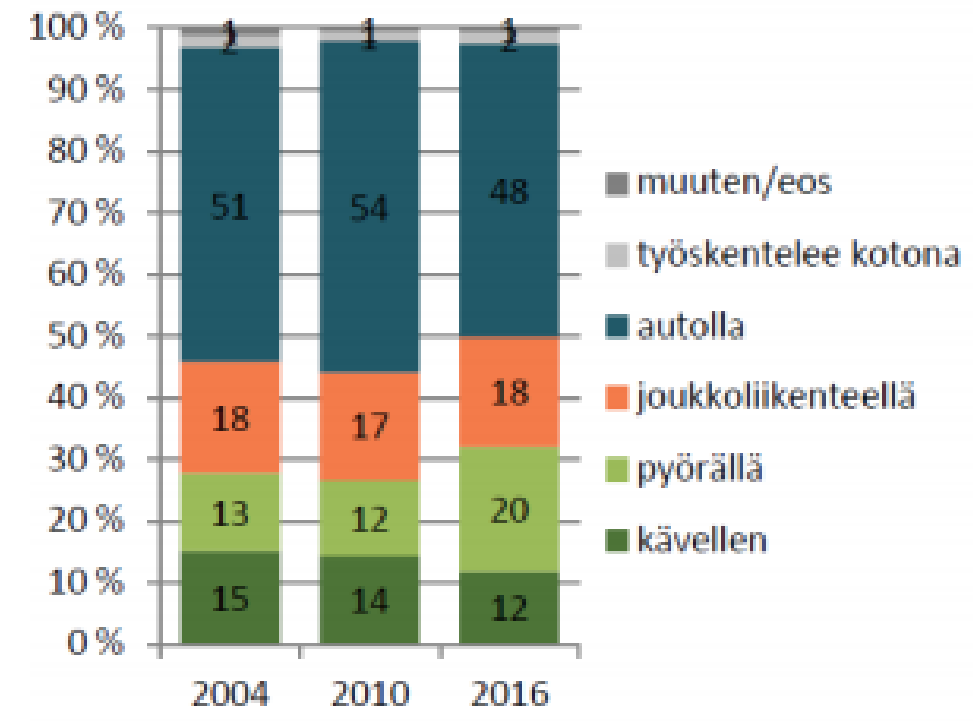
Allikas: Statistikaamet, Tööjõu-uuring 2013

- 20% liikumisharjumustest ja igapäevastest valikutest on võrdlemisi lihtsalt mõjutatavad ja kujundatavad?
- Kellele ja kus on vaja alternatiive arendada?

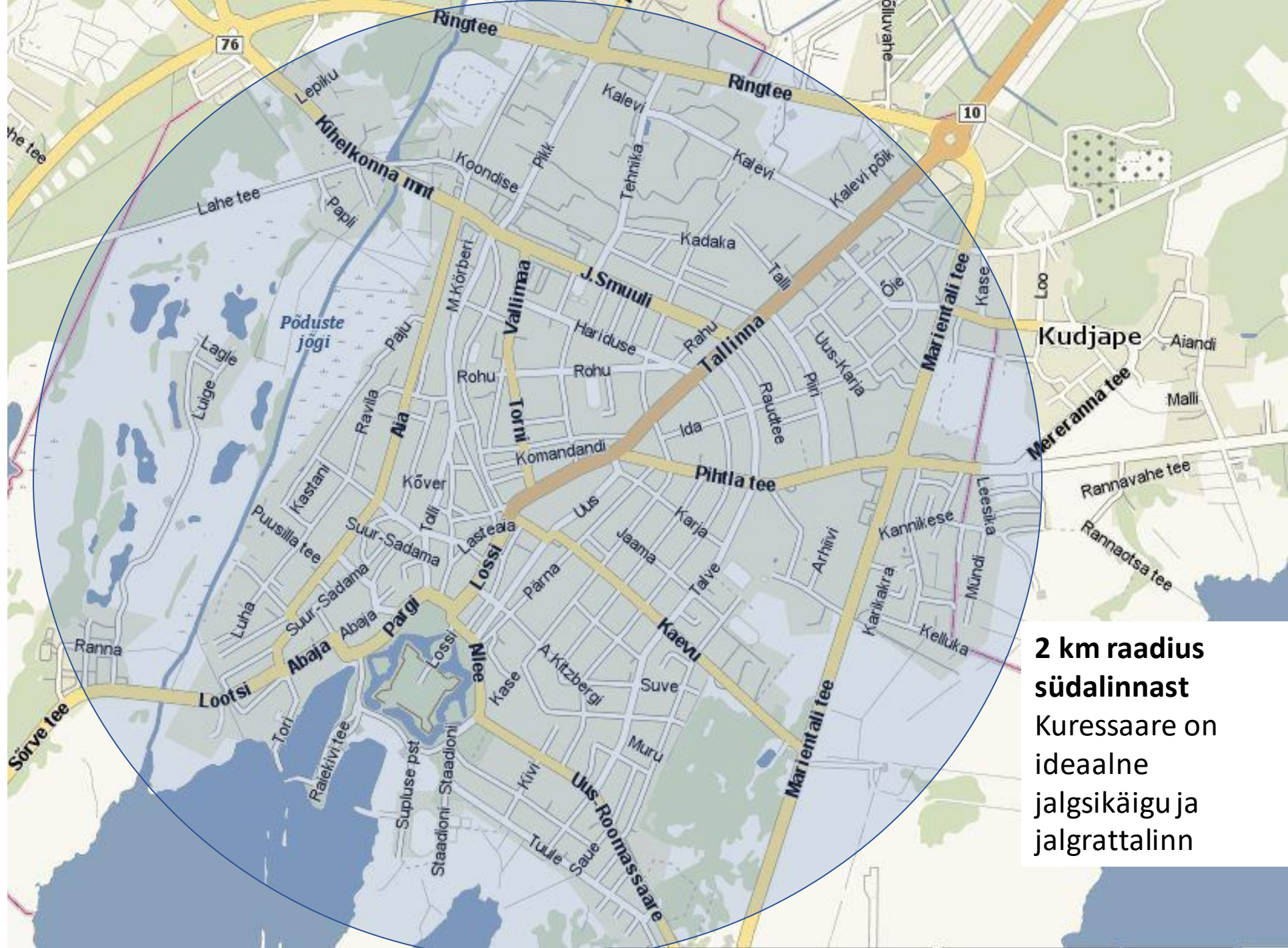


Paljudes Soome ja Rootsi linnades on jalgrattakasutuse osakaal 10-20%

Soome linnades on jalgrattaga tööle liikujate osakaal kasvanud 12%-20%le, 6 aasta jooksul.



Allikas: epomm.eu/tems, SYKE



**2 km raadius
südalinnast**
Kuressaare on
ideaalne
jalgsikäigu ja
jalgrattalinn

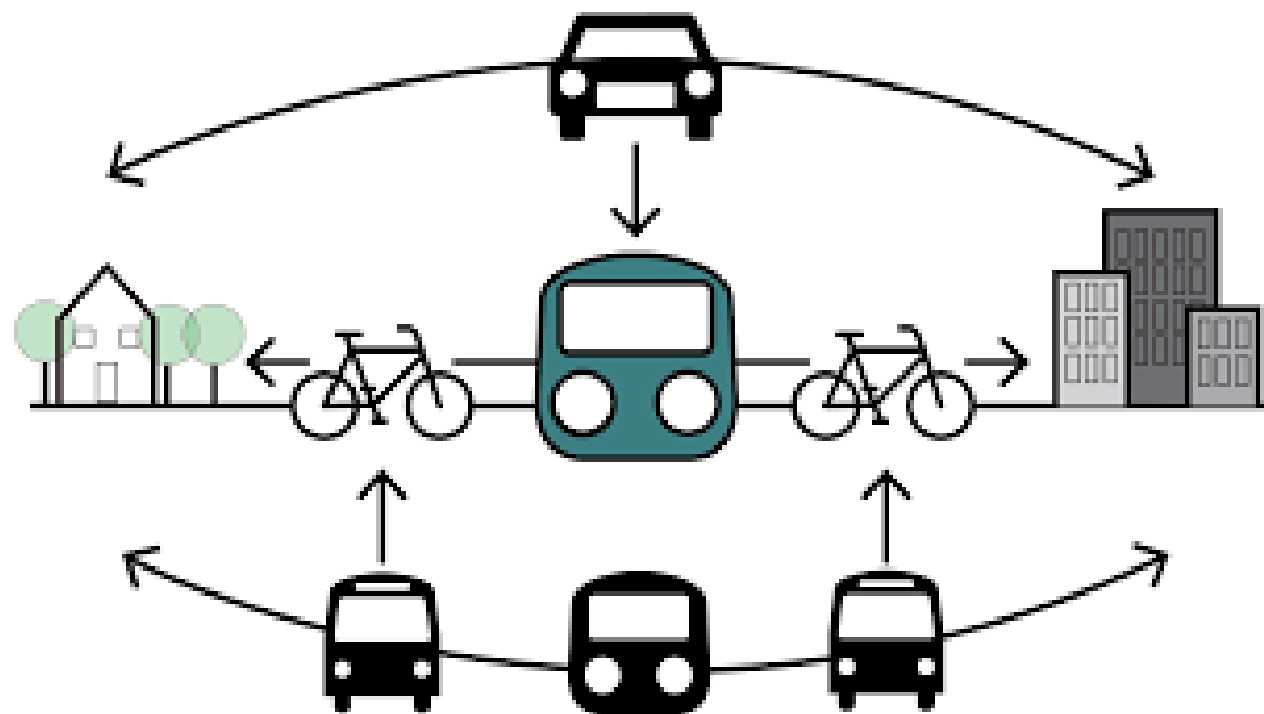
Linna TEEnav



Erinevate liikumisviiside sidumine

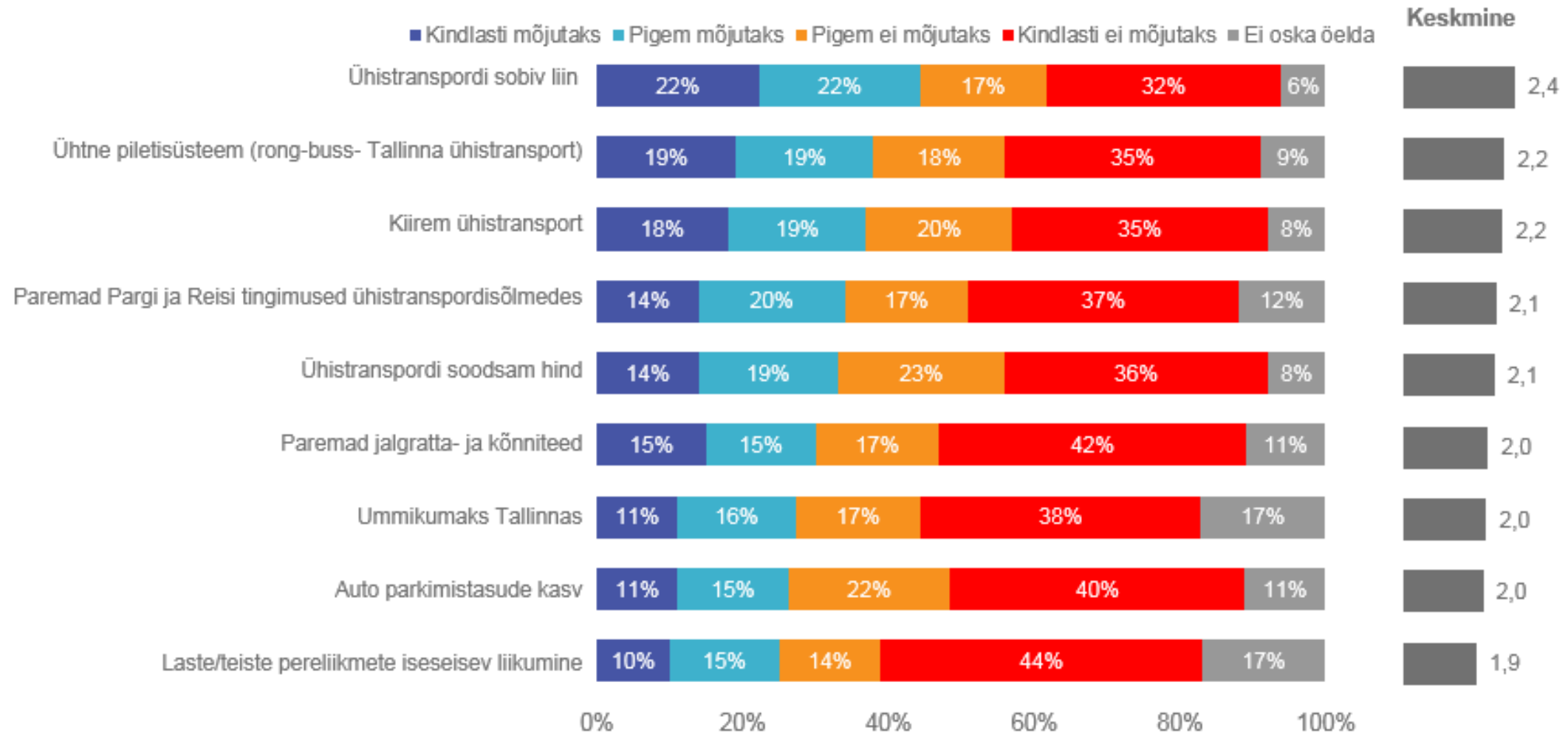


Catchment area around a station: around 25x higher (79 sq km instead of 3 sq km)



Autoga sõitjate valmisolek kasutada ühistransporti ja/või jalgratast

% põhiankeedile vastajatest, sõidavad autoga igapäevaselt või paar korda nädalas, n=1425, üldkogum 102500 15+ a isikut



Millised (valla) otsused mõjutavad inimeste liikumisi ja autost sõltuvust?

- Kuhu uut arendust planeerida/lubada?
 - Avalikud hooned ja sotsiaalne taristu
 - elamupiirkonnad
 - kaubandus, teenused
 - Töökohad, tööstuspark, teemapargid
- Mida teha sotsiaalse infrastruktuuriga?
 - Kas ja kus kohalikke teenuseid (koole) muuta või sulgeda?

Valla või linna tasandil liikuvuse arendamine

- Valla liikuvuskava ja liikumisviiside uuring
- Uue asustuse suunamine olemasoleva ühistranspordi ja sots-infra lähedusse
- Transpordinõudlust tekitavate objektide asukohavalik
- Funktsioonide kaardistus, tänavate funktsioonid
- Liikluse rahustamine: 30-alad, õuealad elamupiirkondades ja keskuses - nende võrgustik
- Ligipääsetavus olulistele ühistranspordisõlmedele – jalgrattateed, pargi ja reisi
- Koolide ja suuremate asutuste liikuvus, mis soodustab jalgsi ja rattaga liikumist
- Kooli, nõudetranspordi ja sotsiaaltranspordi vajadus
- Jalgrattateede võrgustik igapäevaseks liikluseks ja turismiks
- Parkimispoliitika – vähem autokohti, rohkem jalgrataste hoidjaid

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Kohalikud võimalused

- Kohaliku elukeskkonna ja kohaliku elaniku, säästva liikuvuse eelistamine - 30km, rahustatud liiklusega - ja õuealad
- Ühistranspordi- jt liikumisviiside kombineerimine regionaalseks ja pikema maa liikumisteks. Pargi+sõida
- Nõudepõhine sadama ja lennuväljaga, turismiatraktsioonidega ühendatud ühistransport
- Jalgrattarenessanss – oluline kohaliku liikuvuse arendamisel
 - tagab koolinoorte ja eakate iseseisva liikuvuse
 - toetab turismi edendamist
 - multimodaalne (erinevate liikumisvõimalustega) transpordisüsteem

Vahe-Kokkuvõtteks

- Pole olemas ühte üksikut lahendust säästva transpordi kujundamisel
- Parim alternatiivkütus on kokkuhoitud kütus.
- Säästev transpordisüsteem on majanduslikult kasulik
- Inimeste liikumisharjumusi on võimalik mõjutada igal tasandil – nutikatest automaksudest kuni autode kiirrenditeenusteni.
- Nutikas tähendab ka elukeskkonna paremat planeerimist, mis väldib autost jt kulukatest liikumisviisidest sõltumist.









8:80 linnaruum - fotojaht

- Erinevate liikujate vajadused
- Lapsest raugani
- Lapsevankrist, kolmerattalisest rolaatorini
- Erinevad vaimsed võimed
- Erinevad füüsilised võimed
- Ajutised ja püsivad erivajadused
- Füüsilised ja vaimsed erivajadused

Kui palju Eesti transpordisüsteemi ülalpidamine tegelikult maksab?

Jürgen Ligi: auto omamine ei tohi olla lõputult soodus (145)

22. oktoober 2013 14:45



Riina Kallas
ärileht.ee

Rahandusministeerium soovib autode soetamiselt mahaarvatava käibemaksu piiramist, mis on põhjendanud ettevõtjate pahameele. Rahandusminister Jürgen Ligi leidis, et käibemaksu mahaarvamisega on mindud üle piiri.

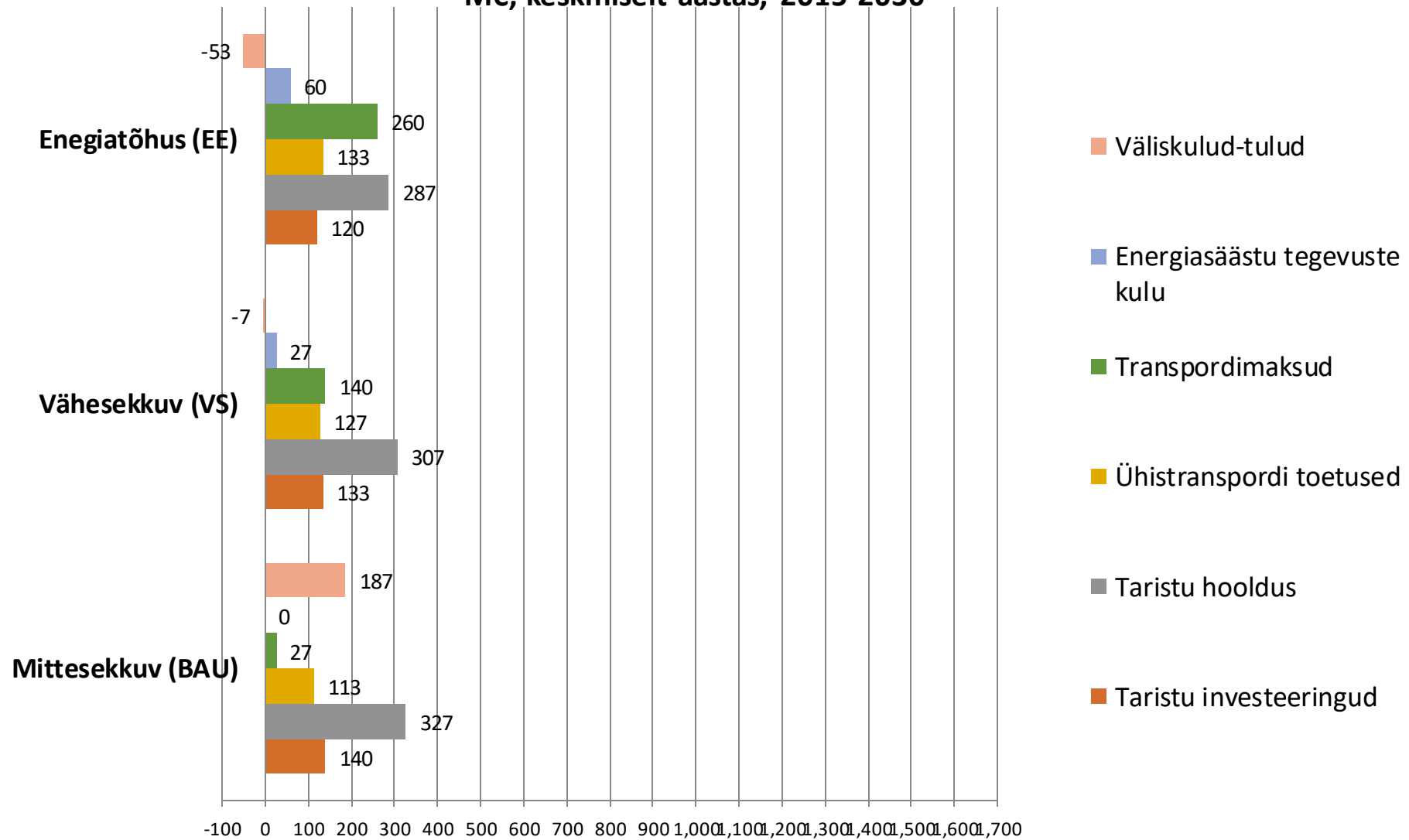
Rahandusminister Jürgen Ligi sõnul



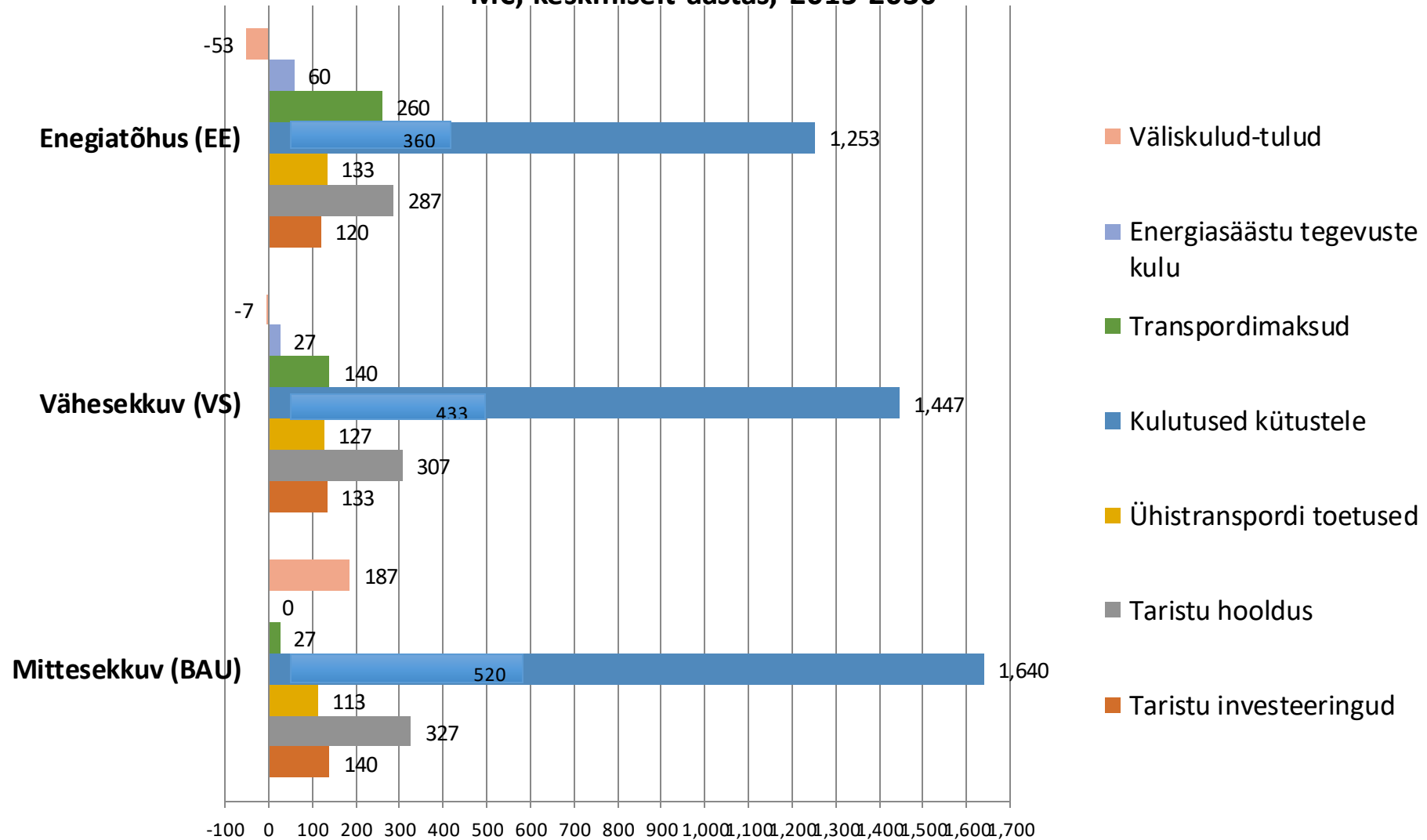
Rahandusminister Jürgen Ligi

Foto: Ahto Sooaru

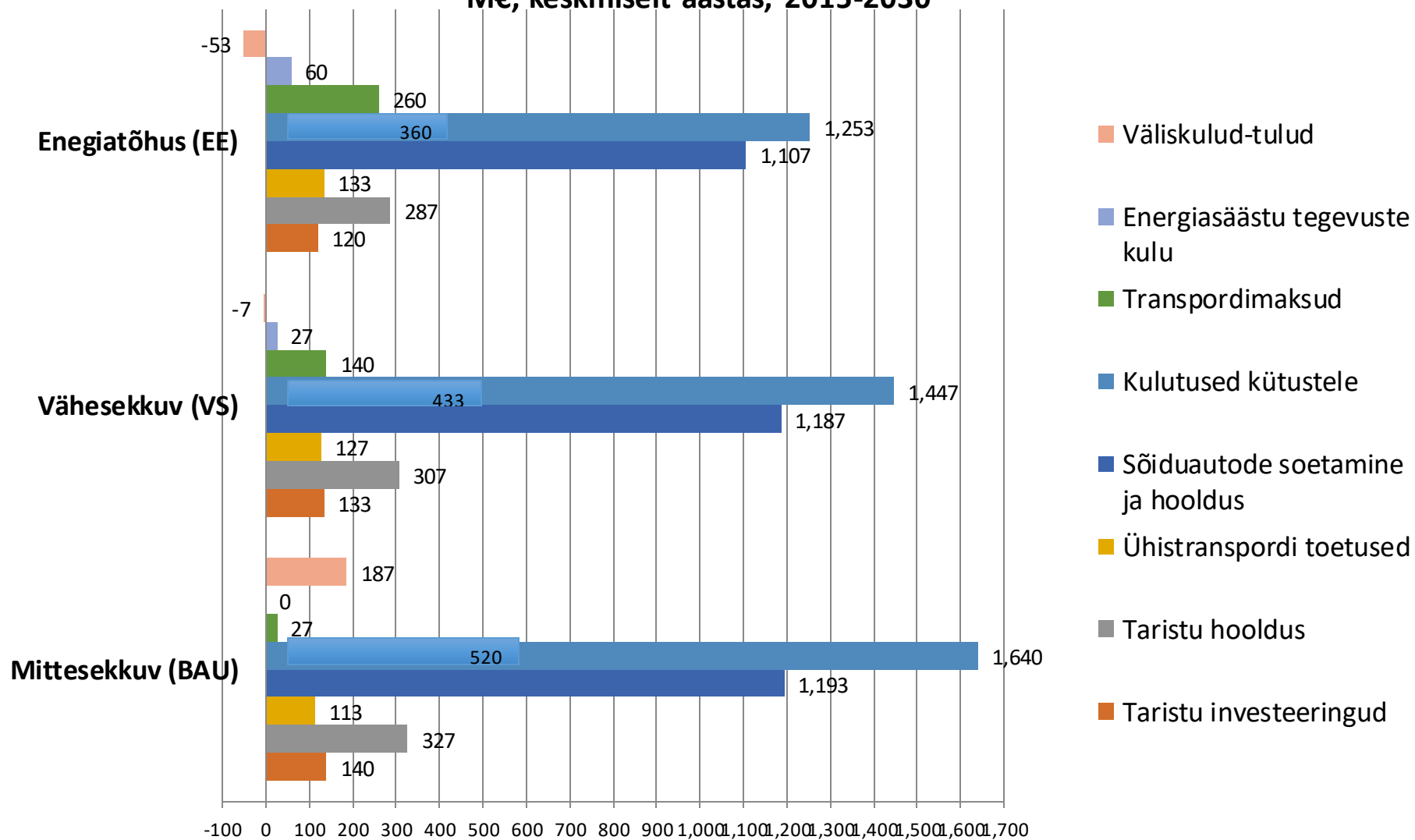
**ENMAK 2030+ Transpordi stsenaariumide kulud kokku,
M€, keskmiselt aastas, 2015-2030**



**ENMAK 2030+ Transpordi stsenaariumide kulud kokku,
M€, keskmiselt aastas, 2015-2030**



**ENMAK 2030+ Transpordi stsenaariumide kulud kokku,
M€, keskmiselt aastas, 2015-2030**



ARVAMUS
POSTIMEES ARVAMUS E24 SPORT ILM VALISMAA NAINE24 ELU24 TARTU
Kerikatuur Juhtkiri Päävakomm Toimetused AK Aruame Eurovaikudus Reamatublo



Majandusteadlane Heiko Vitsur. Foto: Heiko Kruusi / LinnaLeht

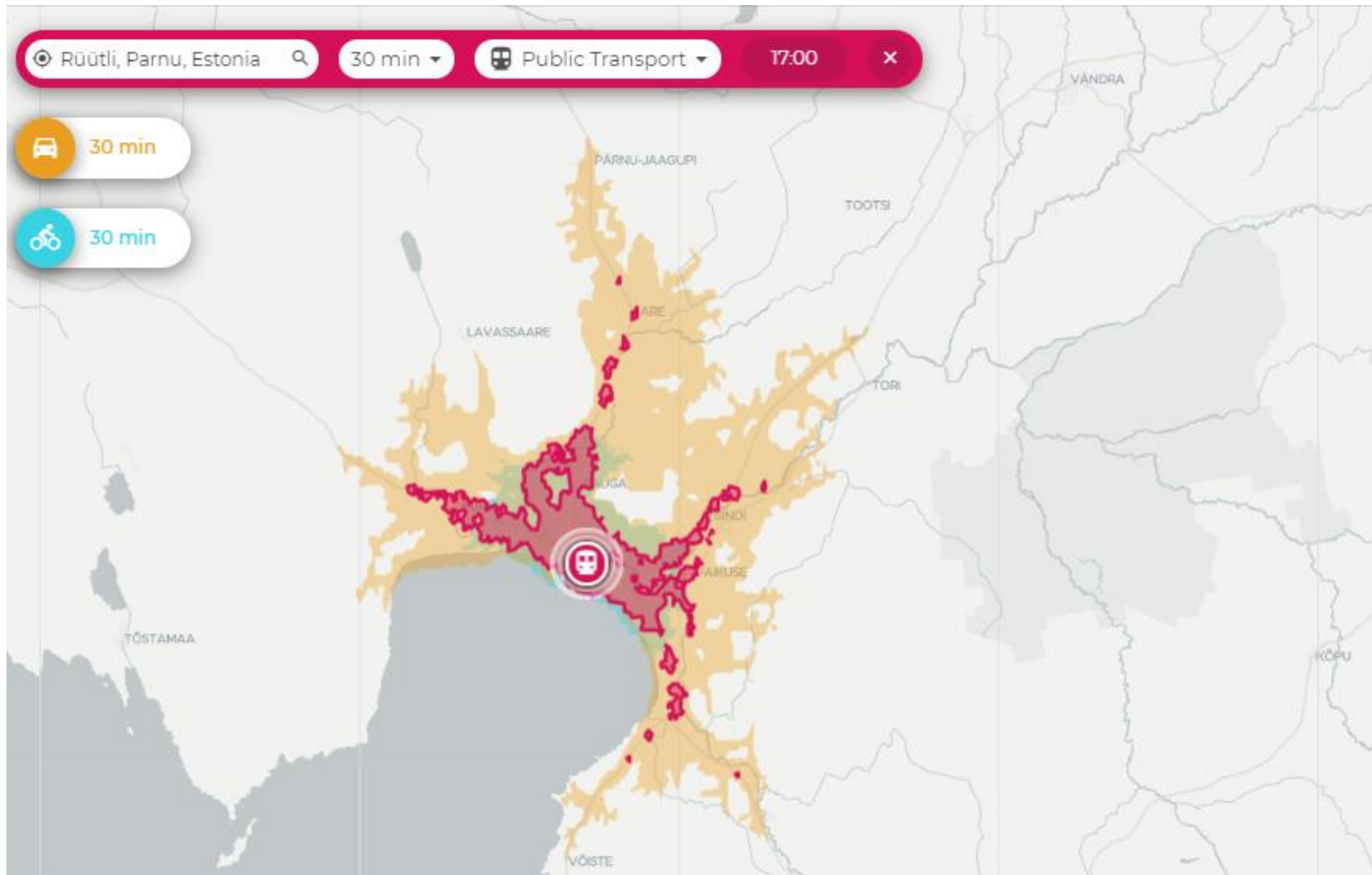
Vitsur: kallite autode kultus on ohuks Eesti tulevikule

Avaldatud: 26. jaanuar kell 14:00

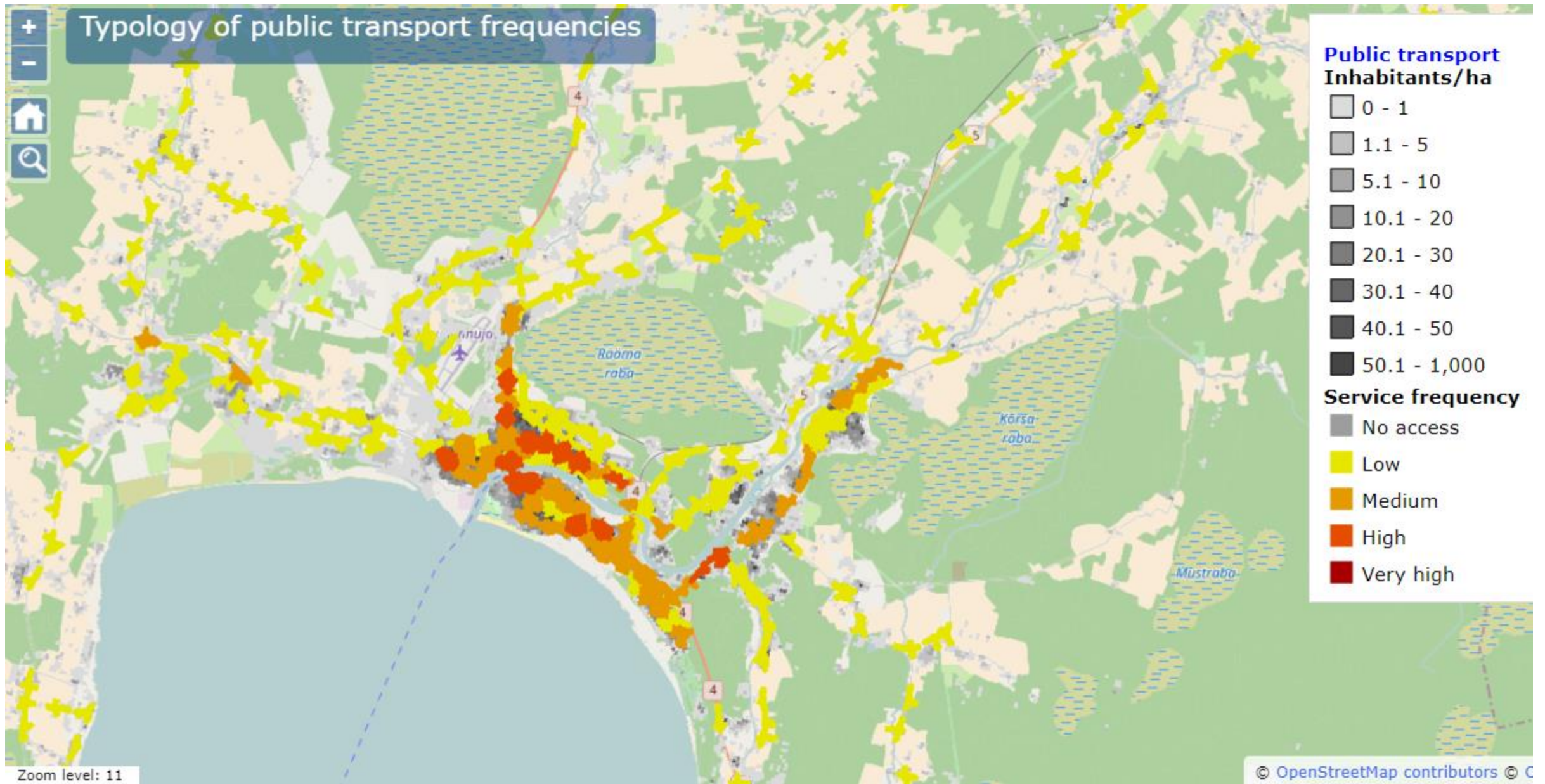
Liikluse ja taristu planeerimisest ja sõiduki vaatest - liikuvuse ja ligipääsetavuse planeerimisele ja inimese vaatele



- Püütke saada tervikpilt praegusest liikuvuse olukorrast:
 - liikumisviisid erinevate vanusegruppide lõikes
 - autode omamine leibkondades ja kulud transpordile
- Kuidas tulevad toime autota leibkonnad? Kui ulatuslik on autost sõltuvus, liikuvusvaesus?
- Liikumiste peamised sihtkohad, eesmärgid ja vahemaad
- Jalgsi ja rattapotentsiaal, eraldi kergliikluse ja rattateede vajadus
- Tänavate ja teede funktsioonid. Kas piirkiirused vastavad tee või tänava põhifunktsioonile?
- Rahustatud liiklusega tänavate võrgustiku võimalused, loomulike otse-jalgradade tarastamise vältimine või otse-läbipääsude taasavamine
- Uue taristu mõju kohalikule liikuvusele, jalgsi ja jalgrattaga ühendatusele
- Olulised ühistranspordipeatused ja sõlmed – multimodaalsuse soodustamine, eriti rongi-kohaliku ühistranspordi sujuv ühendamine
- Uute arenduste asukohavalik – olemasolevasse asutusse, rongipeatuse, olemasoleva tihedama ühistranspordi lähedusse



<https://app.traveltimeplatform.com/>



https://ec.europa.eu/regional_policy/mapapps/public_transport/service_frequency.html#


Koolilaste iseseisev kooli liikumine on suur väärtus




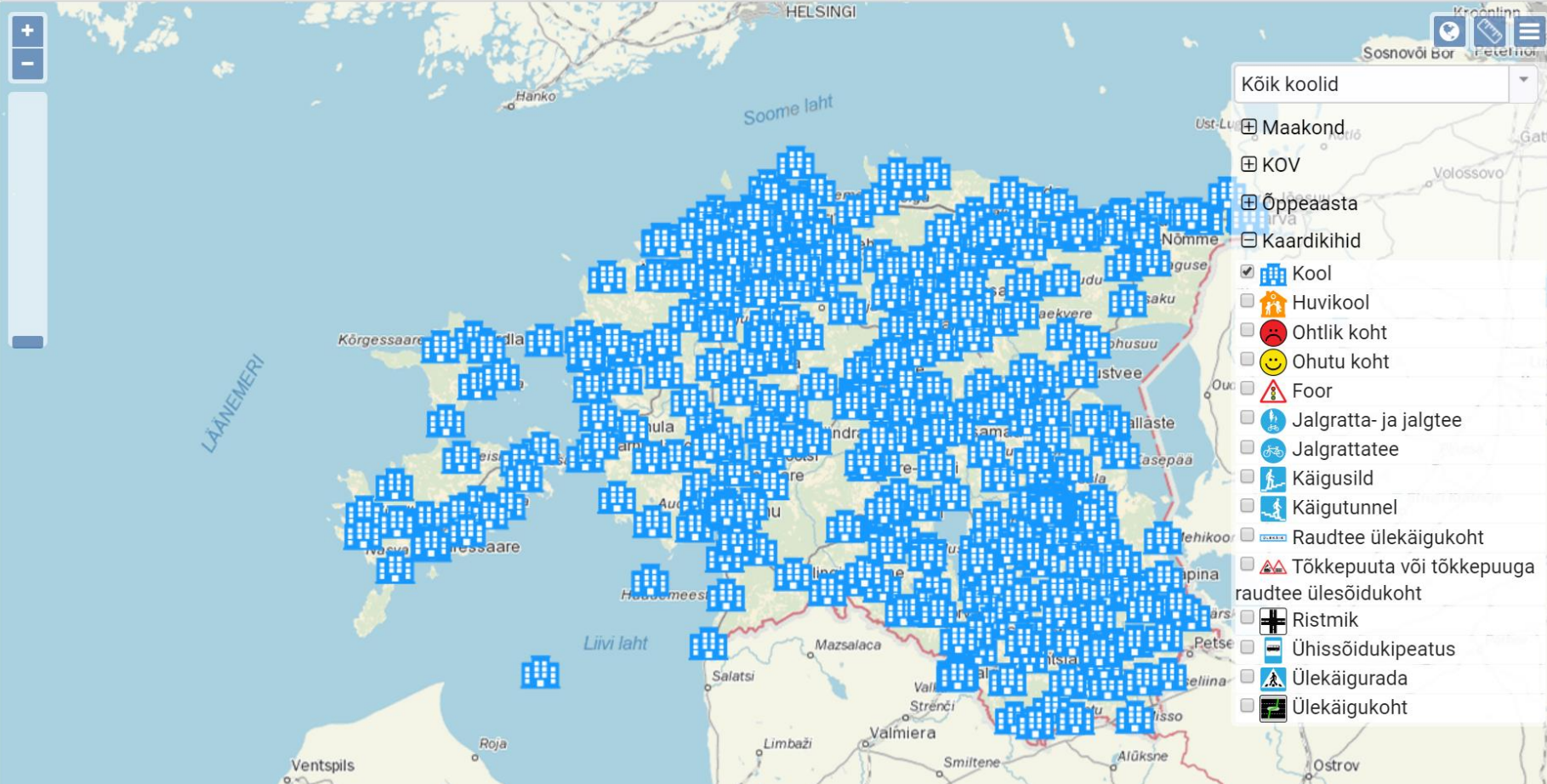
Traffic Inducing Traffic



<https://koolitee.mnt.ee/>

 **MAANTEEAMET** Koolitee kaardistamine ? 🇪🇪 Logi sisse

Kaart  Tulemused



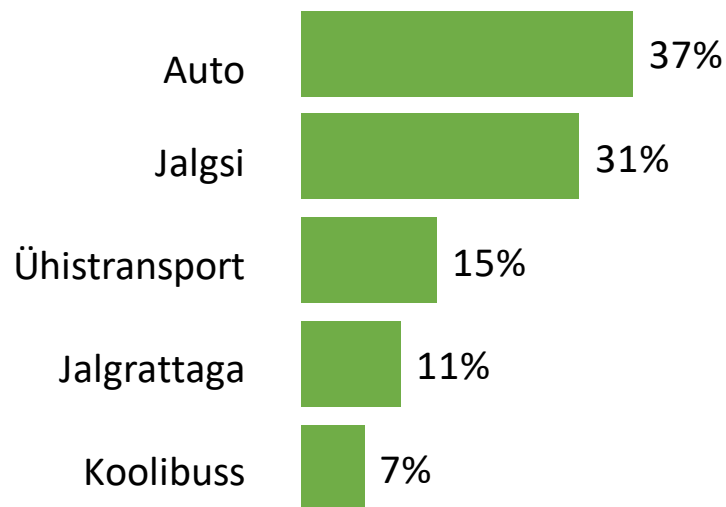
Kõik koolid

- Maakond
- KOV
- Õppeaasta
- Kaardikihid
- Kool
- Huvikool
- Ohtlik koht
- Ohutu koht
- Foor
- Jalgratta- ja jalgte
- Jalgrattatee
- Käigusild
- Käigutunnel
- Raudtee ülekäigu
- Tõkkepuuta või tõkkepuuga raudtee ülesõidukoht
- Ristmik
- Ühissõidukipeatus
- Ülekäigurada
- Ülekäigu

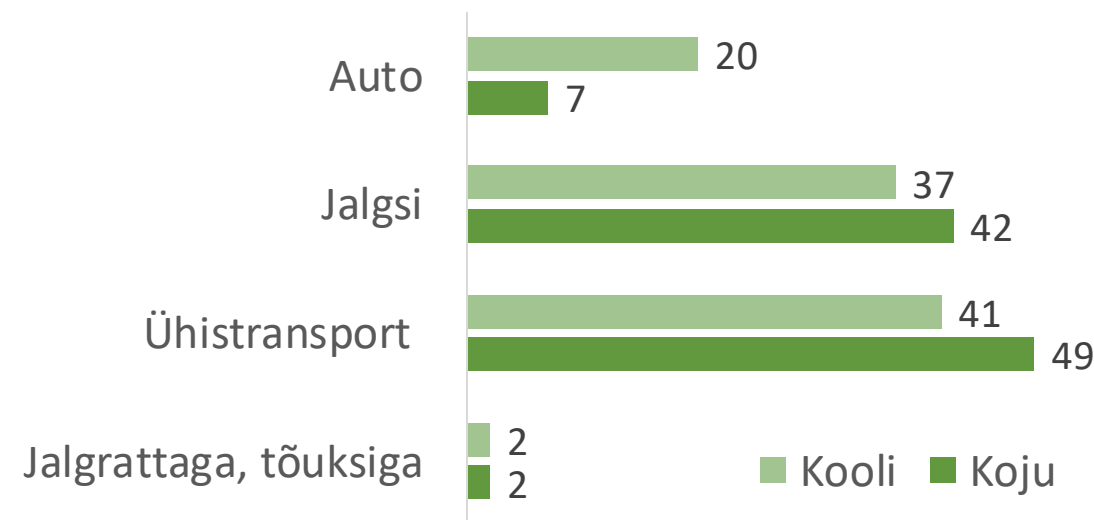
Koolilaste liikumised kooli – ei ole lootusetult autokeskne. Iseisvalt liikuv algkoolilaps kui ühiskonna turvalisuse indikaator



Harjumaa

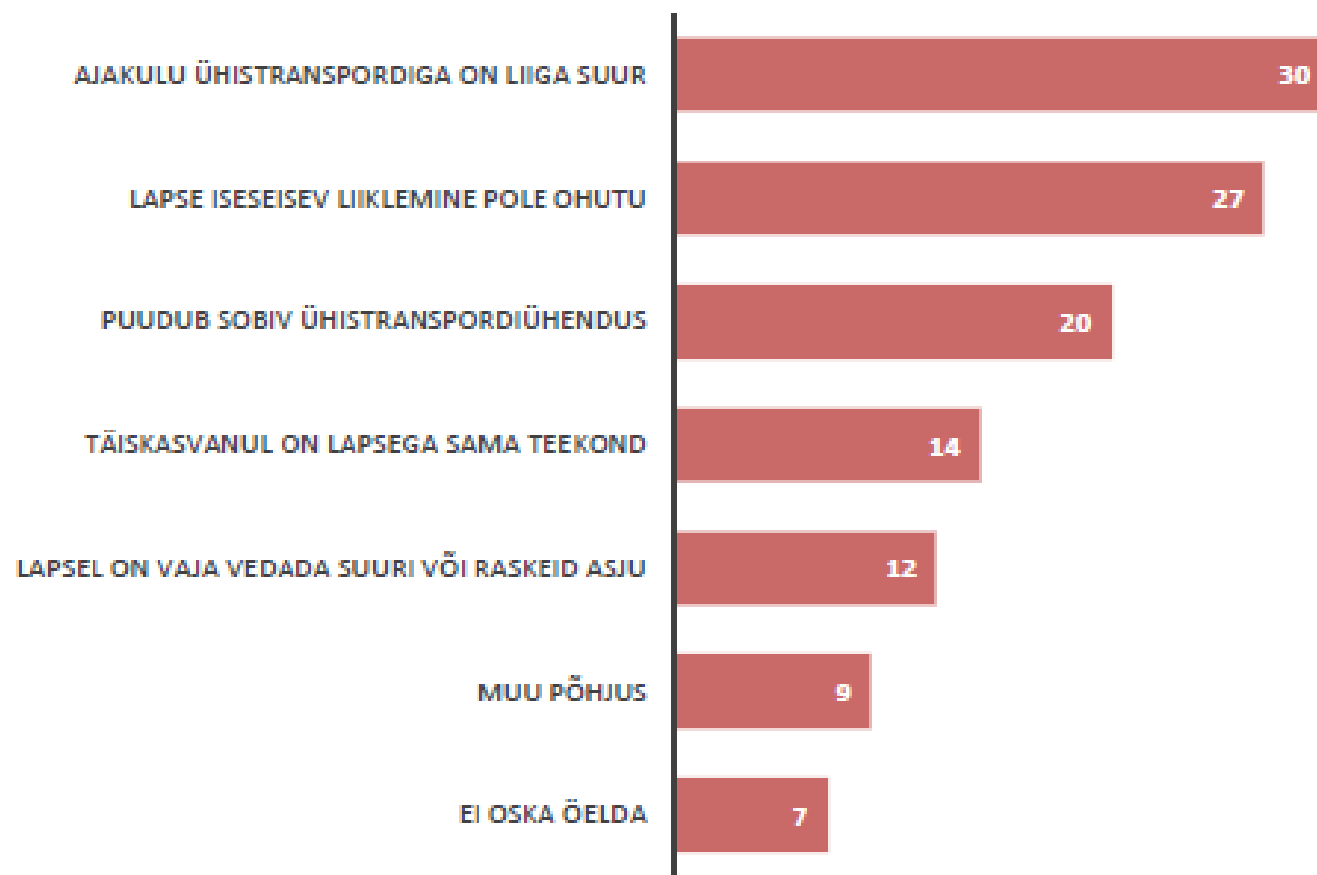


Tallinn



Kõikidest autoga tehtud liikumistest 9% tehakse laste vedamise eesmärgil.

Laste autoga kooli viimise põhjused



Joonis 37. Peamine põhjus, miks lapsi sõidutatakse kooli ja/või huviringidesse ja trennidesse autoga.

Transport of goods and people

Key figures:

- The mobility sector employs more than 11 million people. [Source 1]
- Road transport accounts for almost half of the total freight transport activity. [Source 1]
- From 2010 to 2050, it is estimated that passenger transport will grow by about 42%. [Source 1]
- Freight transport is expected to grow by 60% from 2010 to 2050. [Source 1]
- The EU crude oil import bill is estimated at around €187 billion a year. [Source 2]
- Transport is responsible for around a quarter of the greenhouse gas emissions in the EU. [Source 3]
- Three quarters of transport greenhouse emissions come from road transport. [Source 4]

[Source 1](#)

[Source 2](#)

[Source 3](#)

[Source 4](#)

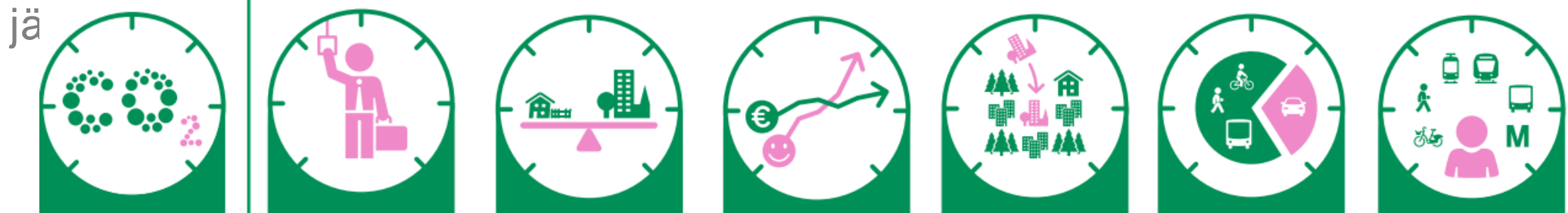
II. Sustainable Mobility



YENESIS benefits from a € 2.3 M grant from Iceland, Liechtenstein and Norway through the EEA and Norway Grants Fund for Youth Employment.
The project aims at creating employment opportunities for NEETs in islands

Liikuvuse mõiste, säästva liikuvuse eesmärk

- **Liiklus** – on taristu lõigul liikuvate transpordisüsteemi kasutajate hulk
- **Liikuvus** tähendab inimeste ja kaupade võimet liikuda vajalikesse sihtkohtadesse, kasutades ühte või mitut transpordiliiki või teenuseid.
- **Säästev liikuvus** lähtub taristu ning liikuvus- jm teenuste toimivusest tervikuna, arvestades liikuvuse korraldamist majanduslikult, sotsiaalselt ning keskkondlikult



YENESIS benefits from a € 2.3 M grant from Iceland, Liechtenstein and Norway through the EEA and Norway Grants Fund for Youth Employment.
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III. European Policy Framework



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European Policy Framework

In **Europe**, several policies and initiatives have been promoting Sustainable Mobility, namely:

- [Green Paper 2007 - Towards a new culture for urban mobility](#);
- [White Paper on Transport 2011 – Roadmap to a single European transport area](#);
- [Urban Mobility Package 2013](#);
- [A European Strategy for Low-Emission Mobility 2016](#)
- [Europe on the Move](#);
- [European emission standards for new cars](#);
- [CO₂ emission performance standards for cars and vans](#);
- [Sustainable mobility in land-use planning](#);
- [EU climate action – Sustainable mobility in energy and climate planning](#)
- [Sustainable urban mobility planning](#)



Some of these policies address sustainable mobility for rail, road, air and maritime transport. This presentation will focus on the urban and interurban mobility aspects of these European policies.

Green New Deal – 2019 December



Green Paper 2007

Towards a new culture for urban mobility

The [Green Paper 2007](#) identifies the priority axis of intervention to improve urban mobility:

- Promote walking and cycling;
- Optimise the use of private cars and freight transport;
- Promote the use of collective transport;
- R&D for clean and energy efficient vehicle technologies and alternative fuels;
- Green procurement to promote clean and energy efficient vehicles and alternative fuels;
- Encourage eco-driving among citizens and professionals;
- Introduce traffic restrictions (pedestrianization, restricted access, speed limits, urban charging, etc.);

Green Paper 2007

Towards a new culture for urban mobility

The [Green Paper 2007](#) priority axis of intervention (continued)

- Use of ITS – Intelligent Transportation Systems to ensure an improved management of operations and new services (fleet management, traveller information systems, ticketing systems, etc.);
- Towards accessible urban transport (urban transport infrastructure with quality, collective transport meeting the citizens' needs, integrating sustainable mobility in urban planning, mobility plans covering both passenger and freight transport);
- Improve road safety (safer behaviour, safer and more secure infrastructures, safer vehicles);
- Improve knowledge (set up partnerships, develop new planning methods and tools, promote awareness among citizens and professionals on the adoption of sustainable mobility solutions);
- Improve data collection for the decision making process of politicians, technicians and transport users);
- Financial resources (local, regional, national and EU budget; public transport users, parking charges, congestion charging, etc.).

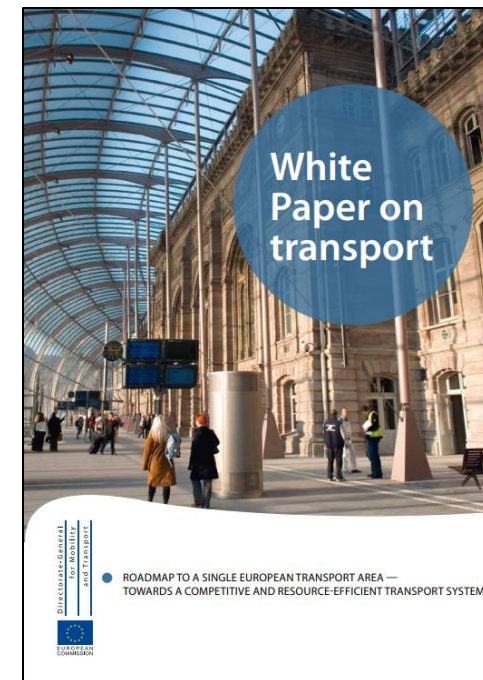


White Paper on Transport 2011

Roadmap to a single European transport area

[White Paper on Transport 2011](#) establishes the goal of the European Commission to reduce at least 60% of GHGs by 2050 with respect to 1990 associated to the transport sector (rail, road, air and maritime).

- Reduce by 50% the use of 'conventionally fuelled' cars in urban transport by 2030; phase them out in cities by 2050.
- Achieve essentially CO2-free city logistics in major urban centres by 2030.
- 30% of road freight over 300 km should shift to other modes such as rail or maritime transport by 2030, and more than 50% by 2050.
- By 2050, move close to zero fatalities in road transport. In line with this goal, the EU aims at halving road casualties by 2020.
- Move towards full application of 'user pays' and 'polluter pays' principles.





Urban Mobility Package 2013

[Urban Mobility Package](#) recognises that urban mobility is primarily a responsibility of the relevant actors at a local level. They are encouraged to develop new, integrated strategies for sustainable urban mobility as well as transport plans that can underpin their successful implementation. In this context, the European Commission presented a concept for Sustainable Urban Mobility Plans (SUMP) and also focused on the following areas: city logistics, access regulation, urban ITS and urban safety.

With the Urban Mobility Package, the European Commission reinforces its supporting measures in the area of urban transport by:

- Sharing experiences, show-casing best practices, and fostering cooperation;
- Providing targeted financial support;
- Focusing research and innovation on delivering solutions for urban mobility challenges;
- Involving the Member States and enhancing international cooperation.

Europe on the move

The agenda focuses on areas where the EU can make a real difference in delivering clean, competitive and connected mobility for all:

Accelerating the shift to clean and sustainable mobility:

- Promoting sustainable mobility through improved emission standards;
- Empowering the consumer to make informed choices;
- Smart road charging;
- Public procurement as a market-driver for clean transport;
- Cleaner and smarter mobility in cities.



[Source](#)

Milline on vähesaastav auto?



CO₂ emission performance standards for cars and vans

Since 2009, EU legislation sets mandatory CO₂ **emission reduction targets** for new cars.

On 17 April 2019, the European Parliament and the Council adopted [Regulation \(EU\) 2019/631](#) setting CO₂ emission performance standards for new passenger cars and for new light commercial vehicles (vans) in the EU for the period after 2020.

The Regulation also includes a mechanism to encourage the uptake of zero- and low-emission vehicles (ZLEV), in a technology-neutral way. A ZLEV is defined in the Regulation as a passenger car or a van with CO₂ emissions between 0 and 50 g/km.

[Source](#)

CO₂ emission performance standards for cars and vans

Annual Targets

- From 1st January 2020:
- the target for the average emissions of new passenger cars registered in the EU is 95g CO₂/km;
- the target for the average emissions of new light commercial vehicles registered in the EU is 147g CO₂/km;

From 1st January 2025:

- the CO₂/km target will be reduced to 15% of the 2020 target for both new passenger cars and light commercial vehicles;
- zero and low emission vehicles should make up a 15% share of the respective fleets of new passenger cars and light commercial vehicles.

From 1st January 2030:

- the CO₂/km target will be further reduced to 37.5% of the 2020 for new passenger cars and 31% for new commercial vehicles;
- zero and low emissions vehicles should make up 35% and 30% of new passenger cars and light commercial vehicles respectively.

[Source](#)

CO₂ emission performance standards for cars and vans

Expected benefits of this Directive include:

- 23% reduction of greenhouse gas emissions from road transport in 2030, compared to 2005;
- Savings for consumers of around €1,100 over the lifetime of an average new car bought in 2030 and nearly €4,000 for an average new van;
- Positive impacts on employment across the overall economy, with around 60,000 jobs created by 2030 and up to 80,000 if batteries are produced in the EU;
- Smooth and gradual transition towards zero-emission mobility;
- Signal for investors for refueling and recharging infrastructures, ensuring that conditions for deploying zero-and low-emission vehicles are fulfilled.

[Source](#)

Säästev transport, liikuvus ja ruumiline planeerimine



Sustainable mobility in land-use planning

Urban planning requires coordination between authorities from several policy sectors, such as urban planning, transport, economic and social affairs, in order to include sustainable mobility requirements.

The integration of land-use and transport planning is one of the key elements of a long-term strategy aiming at energy efficient districts.

Urban expansion must be planned to avoid dispersion of homes, work and leisure facilities, resulting consequently in, increased transport demand. It is difficult to provide collective transport solutions with sufficient quality to the low-density peripheral areas to attract substantial amounts of users, which leads to the increased use of private vehicles and social isolation of the elderly population.

Sustainable mobility in land-use planning

The location of strategic services and infrastructures, such as public services, shopping areas, health care facilities, seaports, airports, collective transport terminals, logistics centres and public transport networks, must be studied in order to reduce transport demand and provide high quality collective transport solutions, which promote the use of collective transport.

Soft modes (walking and cycling) are encouraged by land planning measures such as green areas, pedestrian circuits, roads closed to traffic, pedestrian priority zones, sidewalks, bicycle lanes, and limited traffic zones.

Transit Oriented Development (TOD) is a planning strategy which aims at producing low carbon development, by considering public transport and transit stations as priorities. The development of housing, employment, activity sites and public services are placed around existing or new stations served by frequent and efficient service.

Sustainable mobility in land-use planning

The main characteristics of Transit Oriented Development are:

- rapid and frequent transit service;
- high accessibility;
- mixed use development that blends residential, commercial, cultural, institutional, or entertainment uses into one space, where those functions are physically and functionally integrated, and provides pedestrian connections;
- high quality public spaces and streets;
- pedestrian and cycle routes;
- medium-to high-density development within 800 meters of the transport station.

Copenhagen has demonstrated successful applications of Transit Oriented Development.



EU Climate Action

Sustainable mobility in energy and climate planning

Fighting climate change and achieving the transition to a climate-neutral society will require significant investments, research and innovation, new ways of producing and consuming, and changes in the way we work, **use transport** and live together.

The EU is on track to meet its greenhouse gas emissions reduction target for 2020, has put in place the key laws and measures to achieve its climate and energy targets for 2030, and is working towards a [climate-neutral EU by 2050](#).

The [2020 climate and energy package](#) sets binding legislation to ensure the EU meets its **climate and energy targets for the year 2020**:

- 20% cut in **greenhouse gas** emissions (from 1990 levels);
- 20% of EU energy from **renewables**;
- 20% improvement in **energy efficiency**.

[Source](#)

EU Climate Action

Sustainable mobility in energy and climate planning

The [2030 climate and energy framework](#) includes EU-wide targets and policy objectives for the period from 2021 to 2030. Key targets for 2030:

- At least 40% cut in **greenhouse gas emissions** (from 1990 levels)
- At least 32% share for **renewable energy**
- At least 32.5% improvement in **energy efficiency**

The 2020 and 2030 targets are defined to put the EU on the way to achieve the transformation towards a low-carbon economy as detailed in the 2050 long-term strategy: [“A Clean Planet for all - A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy”](#) (COM (2018) 773).

The vision for a **climate-neutral future** is in line with the [Paris Agreement](#) objective to keep the global temperature increase to well below 2°C and pursue efforts to keep it to 1.5°C, and covers nearly all EU policies. **“Embrace clean, safe and connected mobility”** is one of the strategic priorities in the road to a net-zero greenhouse gas economy.

[Source](#)

EU Climate Action

Sustainable mobility in energy and climate planning

The [Regulation \(EU\) 2018/1999](#) on the Governance of the Energy Union and Climate Action sets the legislative foundation to ensure the achievement of the 2030 and long-term objectives and targets in line with the 2015 Paris Agreement on climate change.

These objectives and targets should be ensured through a combination of Union initiatives and coherent national policies set out in integrated [National Climate and Energy Plans](#) (NECPs) that Member States are obliged to adopt, by 31 December 2019, according to a mandatory template, where the **transport sector should be specifically approached** in:

- targets and objectives of GHG emissions reduction, share of renewable energy in final energy and energy efficiency
- policies and measures namely to achieve low emission mobility (including electrification of transport) current situation and projections with existing policies and measures
- impact assessment of planned policies and measures
- energy balances and indicators

The regulation also specifies that expected emissions and energy sources by transport type (e.g. cars and vans, heavy duty road transport, shipping, aviation, rail) and decarbonization options in transport sector must be addressed in **the general framework for long-term strategies** that Member States should develop with a perspective of at least 30 years.

The integrated national energy and climate plans and the long-term strategies should be consistent with each other.

[Source](#)

EU Climate Action

Sustainable mobility in energy and climate planning

Local and regional authorities also have an important role to achieve European Union's climate and energy objectives:

- The **Covenant of Mayors for Climate and Energy** brings together local and regional authorities voluntarily committing to implementing the European Union's climate and energy objectives in their territory. Signatory local authorities share a vision for making cities decarbonised and resilient, where citizens have access to secure, sustainable and affordable energy.
- Since October 2015, local authorities commit to reduce their CO₂ emissions (and possibly other greenhouse gases) by at least 40%, increase their resilience to the impacts of climate change and provide secured access to sustainable and affordable energy by 2030.
- Signatories of the former Covenant of Mayors addressing only energy and climate change mitigation have committed to prepare and implement a Sustainable Energy Action Plan (SEAP) before 2020. Signatories of the new Covenant of Mayors for Climate and Energy now commit to prepare and implement **Sustainable Energy and Climate Action Plan (SECAP)**, addressing both climate mitigation and adaptation before 2030.

[Source 1](#)

[Source 2](#)

EU Climate Action

Sustainable mobility in energy and climate planning

How must the transport sector be addressed in **Energy and Climate Action Plans**?

According to the [2018 Guidebook “How to Develop a Sustainable Energy and Climate Action Plan \(SECAP\), Part 3 – Policies, Key Actions, Good Practises for Mitigation and Financing SECAPs”](#), important issues to be addressed under transports are:

- Traffic lights: the replacement of incandescent lamps in traffic lights by more energy-efficient and durable LED results in a reduction of more than 50% energy consumption;
- Transport and land-use;
- Urban transport, including planning measures (**Sustainable Urban Mobility Planning – SUMP**) and sustainable mobility measures.

[Source](#)



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Sustainable Urban Mobility Planning

The **Sustainable Urban Mobility Plan (SUMP)** is a planning instrument aiming to improve accessibility and provide high-quality and sustainable mobility and transport, within urban areas and its surroundings.

In 2013, the analyses of existing approaches, discussion of problems and identification of best practices resulted in the publication of [A Concept for Sustainable Urban Mobility Plans \(COM\(2013\) 913 final\)](#) and [Guidelines for Developing and Implementing a Sustainable Urban Mobility Plan](#), which were updated in 2019.

The SUMP concept **does not represent a one-size-fits-all approach** to urban transport planning. Instead, the concept can and should be adapted to the particular circumstances of the urban area under consideration.

The guidelines provide a structured approach on how to develop and implement strategies for urban mobility based on the analysis of the current situation, combined with a clear vision for sustainable development of the urban and neighboring areas under consideration.

People are the main focus of SUMP. This people-centric approach is one of the main differences from more traditional transport planning, which tend to focus on traffic and infrastructure rather than people and their mobility needs.

[Source](#)

Areneb see, mida arendatakse ja kelle liikumismugavuse eest hoolitakse

- Kelle liikumiskeskonda ja liikuvusteenuseid me arendame?
- Kui palju me teame erinevate kasutajate liikumismustrite ja vajaduste kohta?
- Kelle liikumiskiirused ja mugavus on olulised?
- Kelle ohutus ja turvalisus on oluline?
- Kelle liikumiskeskonna eest me hoolitseme talvel?
- Milliseid alternatiive me kaalume taristuobjektide arendamisel? Millise teadmise ja andmete alusel?

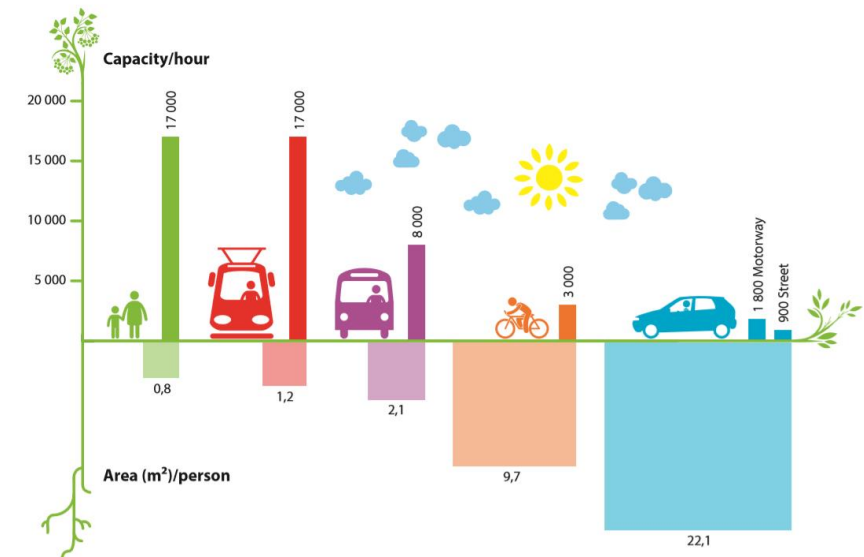


Figure presenting the general flow capacity per hour, and the space required per person, for different transport modes. This shows, among other things, that pedestrian traffic is more space efficient than public transport and that public transport in turn is more space efficient than passenger car traffic. Space demand per transport mode includes both space required for movement, streets and carriageways, and for parking. Source: TØI, Norwegian Centre for Transport Research.

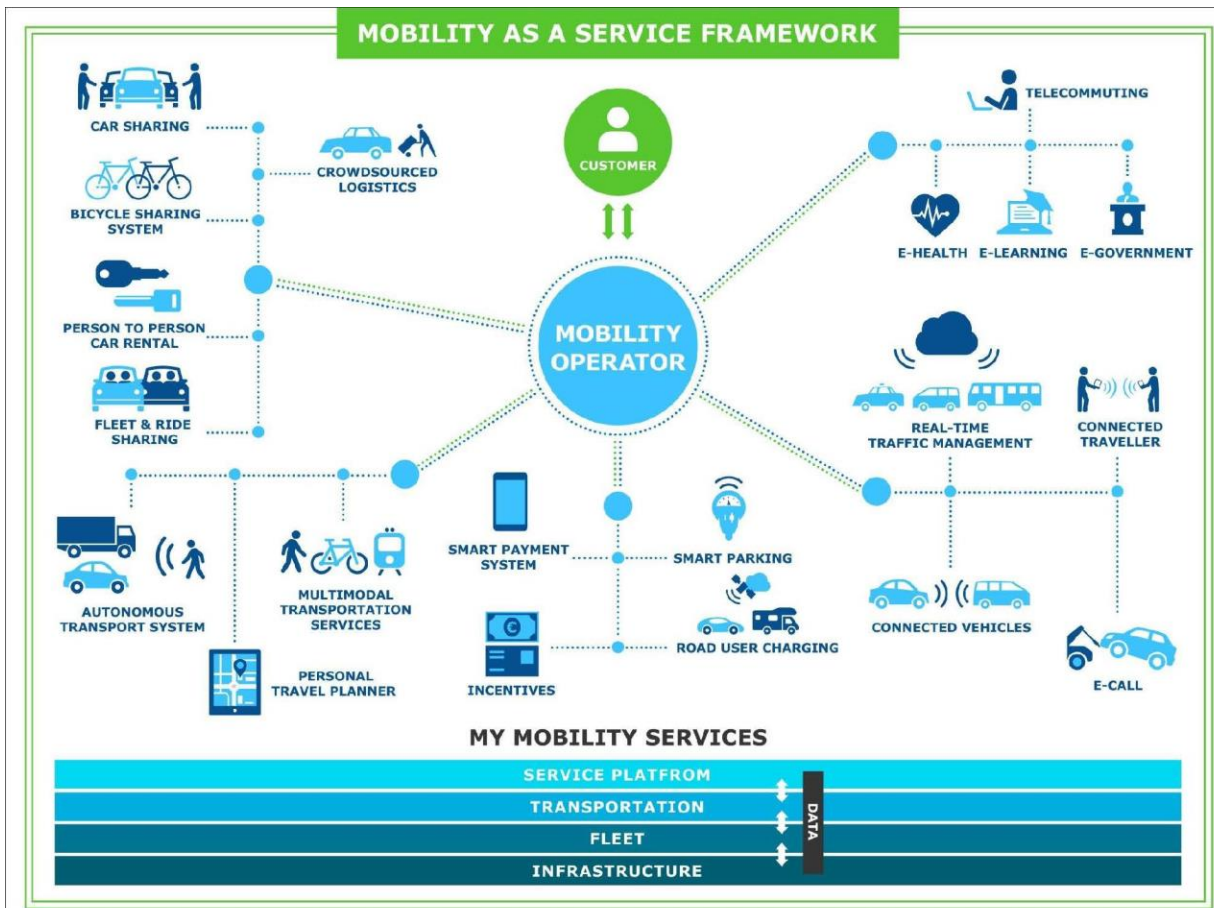
Differences between Traditional Transport planning and Sustainable Urban Mobility Planning

(Adapted from Figure 1, page 10, SUMP Guidelines, 2nd Edition)

Traditional Transport Planning	→	Sustainable Urban Mobility Planning
Focus on traffic	→	Focus on people
Primary objectives: Traffic flow capacity and speed	→	Primary objectives: Accessibility and quality of life, including social equity, health and environmental quality, and economic viability
Mode-focused	→	Integrated development of all transport modes and shift towards sustainable mobility
Infrastructure as the main topic	→	Combination of infrastructure, market, regulation, information and promotion
Sectoral planning document	→	Planning document consistent with related policy areas
Short and medium-term delivery plan	→	Short and medium-term delivery plan embedded in a long-term vision and strategy
Covering an administrative area	→	Covering a functional urban area based on travel-to-work flows
Domain of traffic engineers	→	Interdisciplinary planning teams
Planning by experts	→	Planning with the involvement of stakeholders and citizens using a transparent and participatory approach
Limited impact assessment	→	Systematic evaluation of impacts to facilitate learning and improvement

[Source](#)

„Isiklikust autost parem transporditeenus“ MaaS Mobility as a Service



- + elektrifitseerimine
- + jagatud mobiilsus
- + automatiseerimine

Tervet liikumisahelate
terviklahendused
Isikliku auto omamise ja
kasutamise vähendamine

Uued liikuvusteenused:

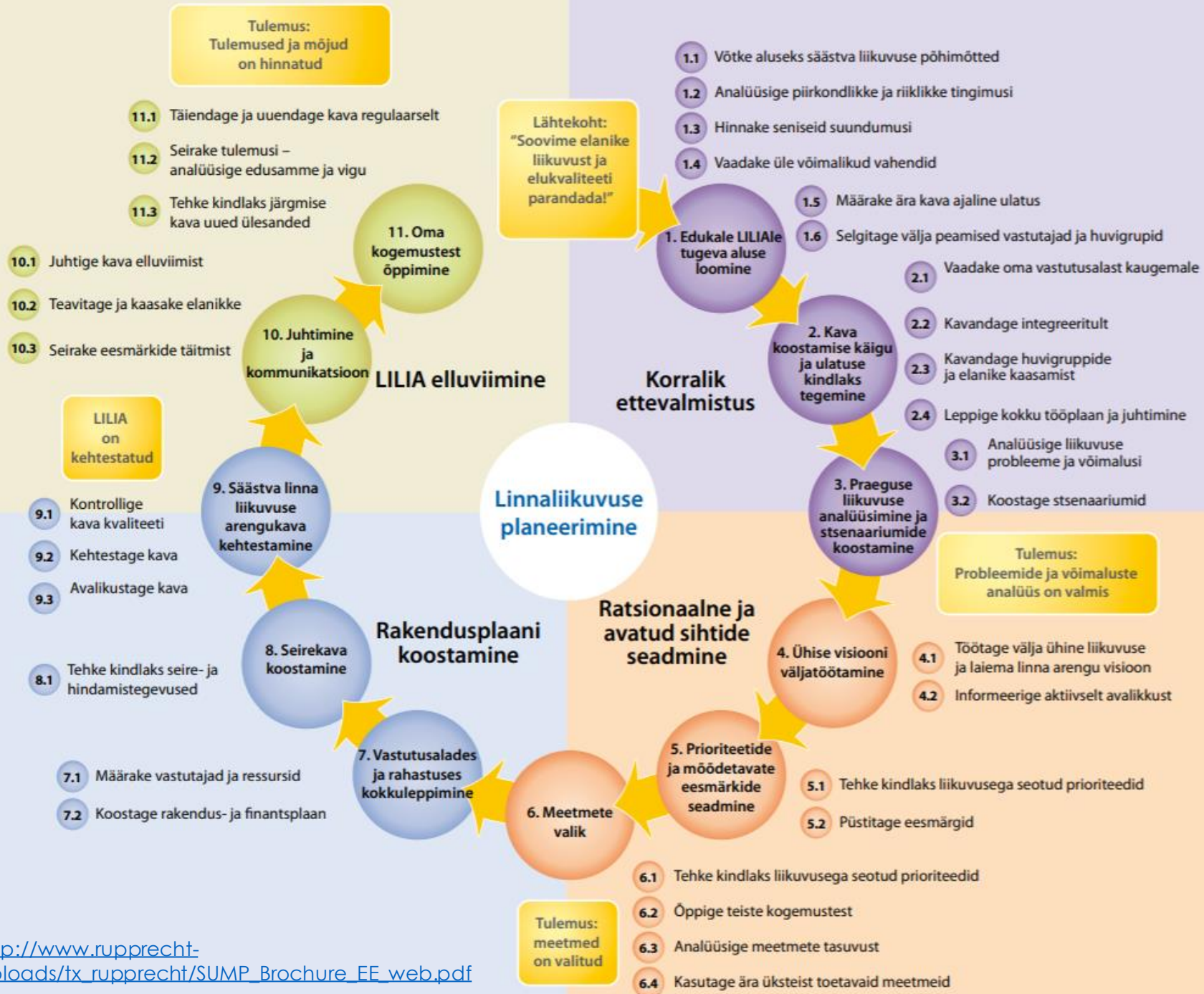
Kõik-ühes pilet (ÜT, takso,
rendisüsteemid), ühtne
piletisüsteem

Nõudepõhised ühistranspordiliinid
Auto- ja sõidujagamine, lühirent

Jalgratta-toukeratta ringlus
Kullerteenused

through the EEA and Norway Grants Fund for Youth Employment.

The project aims at creating employment opportunities for NEETs in islands



Liikuvuskavast saadav kasu omavalitsusele



Paranenud maine

Linn, mis tegeleb säästva linnaliikuvuse planeerimisega kuvab endast innovaatilise ja tulevikku vaatava linna mulje.



Parem elukvaliteet

LILIA tähendab pigem inimestele planeerimist, kui autodele ja liiklusele. Selles on emotsionaalne sõnum, näiteks püüe parandada avaliku ruumi kvaliteeti või laste ohutust.



Paranenud liikuvus ja ligipääsetavus

Inimestele suunatud liikuvuse planeerimise pikaajalise mõju tulemusena paranevad elanike liikuvusvõimalused, ligipääs linnapiirkondadele ja -teenustele.



Kasu keskkonnale ja tervisele

Töö õhukvaliteedi parandamise, müra vähendamise ja kliimamuutuste leevendamise nimel toob kaasa ka positiivse mõju tervisele ning märgatava kokkuhoiu tervisega seotud kulutustele.



Potentsiaal jõuda rohkemate inimesteni

Säästev linnaliikuvuse planeerimine pakub võimalusi rohkemate inimesteni jõudmiseks ning võimaldab paremini erinevate kasutajatega arvestada



Elanike ja huvigruppide toetus otsustele

Inimestele planeerimine tähendab inimestega koos planeerimist. Tänu elanikele ja huvigruppidele võivad linnaliikuvuse meetmed omandada avalikkuse heakskiidu.

Sustainable Urban Mobility Planning

Goals and objectives of SUMP – to improve accessibility and provide high-quality and sustainable mobility and transport to, through and within urban areas. To achieve this goal, the SUMP seeks to contribute to the development of an urban transport system which:

- a) Is accessible and meets the basic mobility needs of all users;
- b) Balances and responds to the diverse demands for mobility and transport services by citizens, businesses and industry;
- c) Guides a balanced development and better integration of the different transport modes;
- d) Meets the requirements of sustainability, balancing the need for economic viability, social equity and environmental quality;
- e) Optimizes the use of urban space and existing transport infrastructure and services;
- f) Makes better use of urban space and of existing transport infrastructure and services;
- g) Enhances the attractiveness of the urban environment, quality of life, and public health;
- h) Improves traffic safety and security;
- i) Reduces air and noise pollution, greenhouse gas emissions, and energy consumption;
- j) Contributes to a better overall performance of the trans-european transport network and Europe's transport system as a whole.

[Source](#)

Sustainable Urban Mobility Planning

Long-term vision and clear implementation plan – The SUMP presents, or is linked to an existing, long-term strategy for the future development of the urban area and, in this context, for the future development of transport and mobility infrastructures and services. It also includes a delivery plan for short-term implementation of the strategy that includes:

- A timetable for implementation and a budget plan. The sources for the requisite funding should be identified. The delivery plan should cover ideally a period of 3-10 years. SUMP guidelines recommend focusing on long-term measures that will start during the 10-year period and continue afterwards
- A clear allocation of the responsibilities for the implementation of the policies and measures set out in the plan and identify the required resources for each actor.

Assessment of the current and future performance – The SUMP should lay on a careful assessment of the present and future performance of the urban transport system through:

- The establishment of a baseline which will be used to measure future progresses. A SUMP should include a review of the institutional framework, planning process and delivery mechanisms. A SUMP should also include an Impact Assessment on the proposed measures.
- The identification of suitable indicators to describe the current status of the urban transport system, namely: quality and accessibility of transport services and infrastructures; land-use and spatial development; safety; energy; environment; social inclusion and gender equity; economic development; health; and education. A SUMP should identify 'hotspots' within the urban areas where performance of the present transport system is particularly poor.

[Source](#)

Assessment of the current and future performance – The SUMP should lay on a careful assessment of the present and future performance of the urban transport system through (continuation):

- The identification of specific performance objectives, which are realistic in view of the current situation in the urban area, as established by the status analysis, and ambitious with regard to the goal and general objectives of a Sustainable Urban Mobility Plan.
- Should set measurable targets, which are based on a realistic assessment of the baseline and available resources. These targets should reflect the specific objectives of a SUMP.

Balanced and integrated development of all modes – The SUMP fosters a balanced development of all relevant transport modes, while encouraging a shift towards more sustainable modes. The plan puts forward an integrated set of technical, infrastructure, policy-based, and soft measures to improve performance and cost-effectiveness with regard to the declared goal and specific objectives. The following topics would typically be addressed in a SUMP:

- Public transport: provide a strategy to enhance the quality, security, integration and accessibility of public transport services.
- Non-motorised transport: provide a plan to raise attractiveness, safety and security of walking and cycling. Existing infrastructures should be assessed and improved where necessary. The development of new infrastructures should be envisaged not only along the itineraries of motorised transport. Exclusive infrastructures should be considered for cyclists and pedestrians to separate them from heavy motorised traffic. These measures should be complemented by other technical, as well as policy-based, and soft measures.

[Source](#)

Sustainable Urban Mobility Planning

Balanced and integrated development of all modes. The following topics would typically be addressed in a SUMP: (continuation)

- **Inter-modality:** contribute to a better integration of the different modes, and should identify measures aimed specifically at facilitating seamless and multi-modal mobility and transport.
- **Urban road safety:** present actions to improve road safety based on an analysis of the main road safety problems and risk areas in the concerned urban area.
- **Road transport (flowing and stationary):** measures addressing moving and stationary traffic aim at optimising the use of existing road infrastructures and improving the situation in the identified 'hot-spots' and overall. The potential for reallocating road space to other modes of transport or other public functions and use which are not related to transport should be explored.
- **Urban logistics:** should present measures to improve the efficiency of urban logistics, including urban freight delivery, while reducing related externalities like emissions of GHGs, pollutants and noise.
- **Mobility management:** should include actions to foster a change towards more sustainable mobility patterns. Citizens, employers, schools, and other relevant actors should be engaged.
- **Intelligent Transport Systems:** ITS being applicable to all transport modes and mobility services, both for passengers and freight, they can support strategy formulation, policy implementation and monitoring of each of the measures designed under the SUMP.

[Source](#)

Sustainable Urban Mobility Planning

Horizontal and vertical integration – The development and implementation of a SUMP follows an integrated approach with a high level of cooperation between the different levels of government. Integrated planning and implementation involves:

- Interdepartmental consultation and cooperation at the local level to ensure consistency and complementarity of a SUMP with local policies, strategies and measures in related policy areas (such as transport; land-use and spatial planning; social services; energy; health; education; enforcement and policing, etc.).
- Close exchange with the relevant authorities at the different levels of administration and government, and neighbouring urban areas. This exchange should involve the authorities with responsibilities for transport and mobility services and infrastructures inside or leading to the urban area.
- Familiarity with and due consideration for policy objectives and relevant development and transport plans, which already exist or are being developed and which impact the concerned urban area.

[Source](#)

Sustainable Urban Mobility Planning

Participatory approach – SUMP follows a transparent and participatory approach. The Local Planning Authority should involve the relevant actors - citizens, as well as representatives of civil society and economic actors – in developing and implementing the plan from the outset and throughout the process to ensure a high level of acceptance and support.

Monitoring, review, reporting – The implementation of a Sustainable Urban Mobility Plan should be closely monitored. The progress towards the goal and specific objectives of the plan and meeting the targets should be assessed regularly on the basis of the selected indicators. Appropriate action should be taken to ensure timely access to the relevant data and statistics. A monitoring report should provide the basis for a review of the Sustainable Urban Mobility Plan implementation.

Quality assurance – Local Planning Authorities should have mechanisms to ensure the quality and validate compliance of the Sustainable Urban Mobility Plan with the requirements of the Sustainable Urban Mobility Plan concept.

[Source](#)

SUMP

Development and Implementation

The process of developing and implementing a Sustainable Urban Mobility Plan consists of 4 phases involving in total 12 main steps, which in turn are made up of 32 activities, allowing for a continuous improvement process.

This is an idealized and simplified representation of a complex planning process. In some cases, steps may be executed almost in parallel, the order of tasks may be adapted to specific needs, or an activity may be partially omitted because its results are available from another planning exercise.

Planners are encouraged to make reasonable adaptations to their specific situation, if required by framework conditions, as long as the overall principles of Sustainable Urban Mobility Planning are followed.

[Source](#)

SUMP

Phases

Phase 1: Preparation & analysis

The first milestone, and the starting point for the SUMP process, is an explicit decision by policy makers to prepare a Sustainable Urban Mobility Plan. The concluding milestone of the first phase is a completed analysis of the major problems and opportunities related to mobility in the entire functional urban area.

Phase 2: Strategy development

The goal of the second phase is to define the strategic direction of the Sustainable Urban Mobility Plan in cooperation with citizens and stakeholders. By the end of the second phase, the milestone of a widely agreed supported vision, objectives and targets should have been reached.

[Source](#)

SUMP Phases

Phase 3: Measure planning

In the third phase, the planning process moves from the strategic to the operational level. This phase focuses on measures to achieve the agreed objectives and targets. Here, the Sustainable Urban Mobility Plan is finalized and its implementation prepared. The most important milestone of the planning process concludes the measure planning phase. The Sustainable Urban Mobility Plan is adopted by the decision makers.

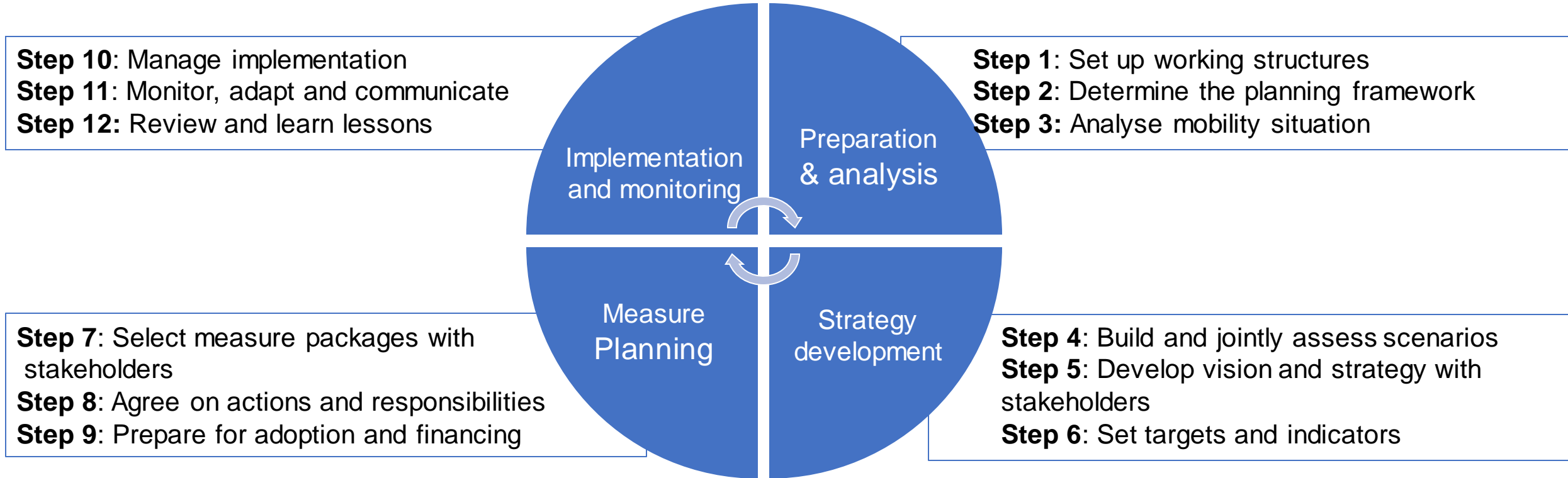
Phase 4: Implementation and monitoring

The fourth phase focuses on implementing the measures and related actions defined in the SUMP, accompanied by systematic monitoring, evaluation and communication. The last step of the SUMP cycle is about reviewing successes and failures, and communicating these results with the stakeholders and public. The milestone 'Measure implementation evaluated' concludes the SUMP cycle.

[Source](#)

SUMP

The planning cycle



[Source 1](#)

[Source 2](#)

IV. National and Regional Policy Framework



YENESIS benefits from a € 2.3 M grant from Iceland, Liechtenstein and Norway through the EEA and Norway Grants Fund for Youth Employment.
The project aims at creating employment opportunities for NEETs in islands

National and Regional Policy Framework

Transpordi arengukava 2014-2020

Kliimapoliitika põhisuunised

Energiamajanduse arengukava 2030

Eesti kliimamuutustega kohanemise arengukava, ENFRA

Eesti 2030+ üleriigiline planeering

Maakonna, valla, linna üldplaneeringud

Teemaplaneeringud, detailplaneeringud

Maakonna, valla, piirkonna arengukavad

Koalitsioonilepped, valitsusese tegevuskavad

V. (Urban Mobility) Tools and Measures



YENESIS benefits from a € 2.3 M grant from Iceland, Liechtenstein and Norway through the EEA and Norway Grants Fund for Youth Employment.
The project aims at creating employment opportunities for NEETs in islands

Urban mobility tools and measures

This section describes several sustainable urban mobility measures as well as the main EU supported projects and initiatives, that provide knowledge, best practices and tools on sustainable urban mobility:

- [Soft Modes](#)
- [Public Transport](#)
- [Intermodality](#)
- [Park and Ride](#)
- [Sharing Systems](#)
- [Carpooling](#)
- [Demand Responsive Transport and MaaS](#)
- [Eco driving](#)
- [ITS – Intelligent Transportation Systems](#)
- [C-ITS - Cooperative Intelligent Transportation Systems](#)
- [Green Propulsion in Transports](#)
- [Urban Freight / City Logistics](#)
- [Traffic and Demand Management](#)
- [Mobility Management](#)
- [EU Financing Mechanisms for Sustainable Mobility](#)
- [EU supported projects and initiatives to promote sustainable mobility](#)

Soft Modes

- Being non-motorized forms of transport, walking and cycling have many advantages. They do not use fuel, do not emit air pollutants, do not contribute to congestion and ensure the region's energy security and its citizen's social inclusion. They are particularly suited for short to moderate distances and are appropriate for daily use.
- Cycling and walking promote physical exercise, which contributes to the health and well-being of the population.



Adapted from www.eltis.org

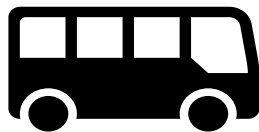


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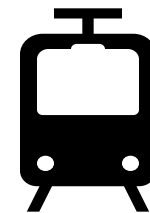
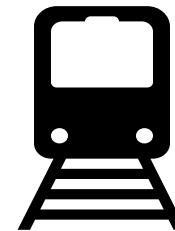
[Source](#)

Public Transport

- A public transport system that is affordable, modern, energy-efficient and well integrated with other transport modes is the key to reduce car traffic and related emissions and congestion, creating an appealing urban environment.
- A high quality public transport system can be defined as a reliable system, by its ability to effectively meet the mobility needs of people. For users, a high quality public transport system should be frequent, comfortable, reasonably priced, fast, accessible to the elderly and people with reduced mobility, clean, operates at convenient schedules, and suitable for journeys between residential areas and the city centre.



[Source](#)

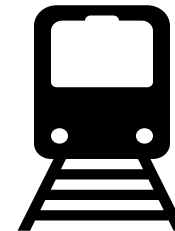


Public Transport

- The great majority of European cities are responsible for public transport (planning, development, tendering, operating) and its infrastructures (bus/tram stops, exclusive public transport lanes, traffic light priority). Therefore, most cities have all the necessary tools to create local high quality public transport systems.
- **Accessibility** and **Marketing** are the two main preconditions that increase the use of public transport.



[Source](#)



Public Transport

Accessibility for people with reduced mobility

- Public transport is the only option for independent travel for many elderly people and people with disabilities or reduced mobility. Given the ageing population trend, the creation of a fully accessible public transport network becomes increasingly important and it requires:
- Adaptation of public transport infrastructures and equipment (roads, bus stops, ticketing machines and vehicles).
- Specific door-to-door public transport services, such as “dial-a-ride”, for persons with high mobility constraints, namely those using wheelchairs.

[Source](#)



Adapted from www.eltis.org



Adapted from www.eltis.org

Public Transport



Marketing

Marketing is a relatively new phenomenon in public transport.

For some time, it has been clear that cities need to create high-quality public transport systems to improve the urban environment and quality of life. However, only recently has it become clear that, to compete with individual vehicle use, cities must also convince the public that these high-quality systems are in fact high-quality.

As a result of marketing efforts by the auto industry, private car is considered to be one of the most comfortable and fast means of transport and is always associated with notions like “freedom” or “control”, even though these notions do not necessarily reflect the mode of car use in a congested city.

Taking this into consideration, it is important to develop marketing of public transport in order to improve the overall image associated to it, restrain current users from switching to the use of private vehicles and attract new users.

[Source 1](#)

[Source 2](#)

Public Transport

Marketing

To successfully influence citizens' behaviour, they must perceive the quality, versatility and advantages of the available services. Cities and public transport services need to invest in marketing campaigns to raise awareness of citizens that public transport services are a competitive and desirable alternative to private vehicle use.

Marketing of public transport requires a shift from supply-oriented to customer-oriented management, requiring in-depth knowledge of the potential customer.

To promote public transport, a marketing campaign of services is essential, which is characterized by:

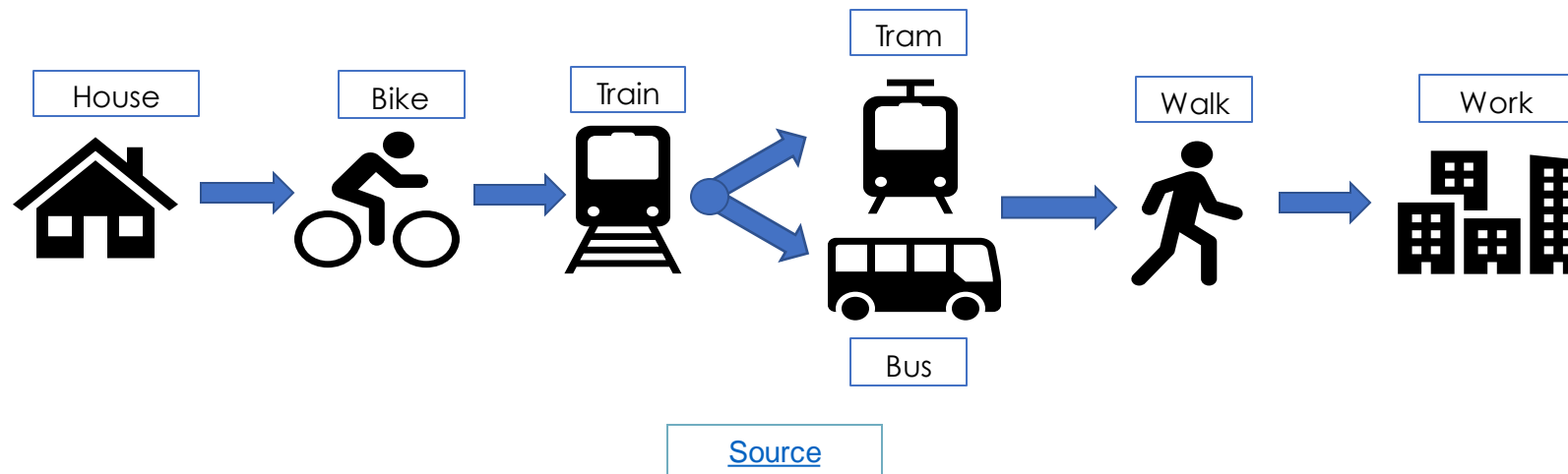
- Meeting citizens' transport needs;
- Product quality;
- Affordable and reasonable prices;
- Attractive promotion strategies;
- Smooth process in ticket sales;
- User-friendly information systems;
- Effective feedback systems (handling of recommendations and complaints);
- Pleasant personnel offering quality customer care.

[Source 1](#)

[Source 2](#)

Intermodality

- Intermodality consists on the use of at least two different modes during a journey. A major goal of modern intermodal passenger transport is to reduce the use of private vehicle and promote the use of public transport.
- Intermodality improvement requires a high efficient transport chain with door-to-door information and ticketing, smooth interchanges at train and bus stations, integration of long distance and regional transport with the “last mile urban trip”.



Park and Ride

- Park-and-ride is a solution that foresees the reduction of private cars entering the city contributing to decrease traffic congestion, air and noise pollution and public space occupation in city centers.
- Parking facilities are provided for drivers to leave their cars on the outskirts of a city and transfer to public transports or carpooling for the remainder of the journey to the city center. The system must offer carefully planned transport alternatives for passengers to save time and money.
- Park-and-ride solutions promote the use of public transport and intermodality.



Adapted from www.eltis.org



Adapted from www.eltis.org

Sharing Systems

- Sharing systems are a relatively new form of transport where the user does not own a vehicle but benefits of a door-to-door service.
- Sharing systems allow different people access to the use of a fleet of vehicles (normally owned and maintained by a private company) by booking a vehicle for a defined period of time. Car and bike are the most popular vehicles used in the these systems.
- These systems are usually associated to an APP where one can book and pay for mobility needs and the APP also has an awareness raising component that helps promote the use of this new form of transportation.

[Source](#)

Sharing Systems



Adapted from www.eltis.org

Sharing Systems have a large range of advantages such as:

- there is no maintenance expenses;
- less parking space is required;
- book a vehicle according to one's needs;
- payment is done according to the duration of the travel or, in some cities, the system is free for bike sharing and serves to encourage cycling as a means of transportation in a city.

[Source](#)

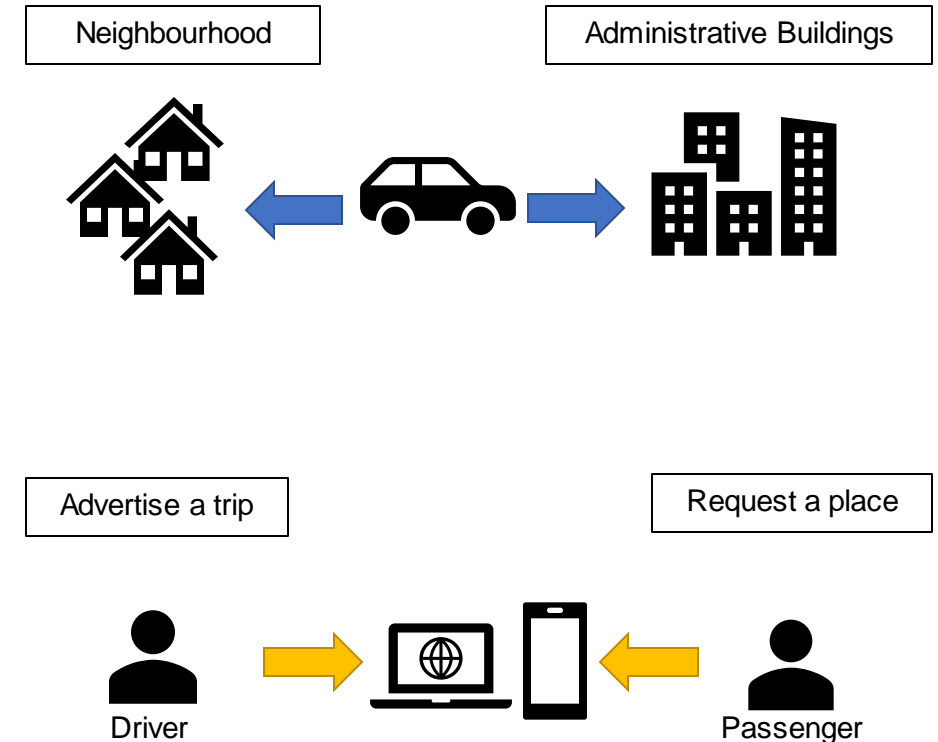
Sharing Systems

- The payment-per-usage means that users of the car-sharing programmes are encouraged to limit their kilometres.
- The most important success factors of the scheme include the proximity of public transport stations and convincing practicalities such as an online booking system, a round-the-clock call centre and an easy card access to the car-sharing programme.
- With these sharing systems, the use of collective transport and intermodality are encouraged for displacement to the city centres where these services are available, reducing the number of private cars entering the cities.

[Source](#)

Carpooling

- **Carpooling** (also called ride sharing or lift sharing) involves two or more people travelling together in a car (usually owned by the driver of the vehicle) to a shared destination. Normally, these are daily journeys from home to work and vice versa. Carpooling users can be neighbours or live along the route.
- Fuel expenses are divided among the group or no payment is involved and a different car from the group is used each day.
- Carpooling is facilitated by mobile apps and websites where its users advertise their journey referring the date, time, origin, destination and cost. Then other users, of the same platform, can request a place on the advertiser vehicle.



Demand Responsive Transport and MaaS

Demand-responsive transport (DRT) is a flexible mode of transportation where vehicles alter their routes based on particular transport demand rather than using a fixed route or timetable. It's characterized by using smaller vehicles, operating in shared-ride mode, to pick-up and drop-off passengers in locations according to passengers needs, and can include taxis, buses or other vehicles , enabling:

- Efficient public transport services in areas of low passenger demand where a regular bus service is not considered to be financially viable, such as in rural areas;
- On demand transport for passengers with limited mobility;
- Carbon emissions reduction and improving transport flows in cities, by connecting suburban areas with train stations and metro or tram lines.

Typically, this involves users calling a booking service, which will then plan a route for the day to pick-up users and take them to their required destination. Increasingly, such systems are also using internet connections, via web browser or apps, to enable bookings. A key challenge is ensuring that the DRT system is efficient and easy to use, overcoming perceptions that it is slow or inefficient.

[Source](#)

Demand Responsive Transport and MaaS

With greater awareness of 'sharing economy' principles, as well as uptake of Demand-responsive transport solutions, the emerging trend is a shift away from personally-owned modes of transportation and towards mobility provided as a service.

Mobility as a Service (MaaS) is the integration of various forms of transport services into a single mobility service accessible on demand. MaaS involves a combination of cashless payment systems, mobile applications, and integrated transport networks.

To meet a customer's request, a MaaS operator facilitates a diverse menu of transport options, be they public transport, ride-, car- or bike-sharing, taxi or car rental/lease, or a combination thereof. For the user, MaaS can offer added value through the use of a **single application to provide access to mobility, with a single payment channel** instead of multiple ticketing and payment operations.

The aim of MaaS is to provide an **alternative to the use of the private car** that may be as convenient, more sustainable, help to reduce congestion and constraints in transport capacity, and can be even cheaper.

[Source](#)

Eco-driving

It is a modern and efficient way of driving that emphasizes fuel efficiency, and safety. It contributes to the decrease of oil dependence and to the improvement of road safety.

These are some golden rules for Eco-driving

Shift up as soon as possible: Shift up gears when the RPM are between 2.000 and 2.500.

Maintain a steady speed: Avoid rapid acceleration, as it leads to increased fuel burn and braking. Use the highest gear possible and drive with low engine RPM.

Anticipate traffic flow: Read the traffic ahead and anticipate the movements of the surrounding vehicles.

Decelerate smoothly: When you have to slow down or stop, decelerate smoothly by releasing the accelerator in time, leaving the car in gear.

Check the tyre pressure frequently: When your tyres are under-inflated, rolling resistance is higher than normal, the engine has to work harder and you therefore consume more fuel.

Limit the extras: Use the air conditioning and other electric equipment only when necessary because it burns more fuel, avoid transporting heavy weight unnecessarily and open the car windows and rooftop only if needed because it increases the friction of your vehicle.



[Source 1](#)

[Source 2](#)

ITS - Intelligent Transportation Systems

- Intelligent Transport Systems (ITS) are vital to increase safety and tackle Europe's growing emission and congestion problems.
- Intelligent Transportation Systems apply various information and communication technologies to all modes of passenger and freight transport to provide safe, time-efficient, financially-friendly and cleaner mobility solutions.
- They collect real-time transport data, process and communicate the data, in real-time, to traffic control centres, motorists on the road and passengers.
- ITS solutions can be used namely in traffic management, traveller information, electronic pricing and payment and vehicle safety systems.

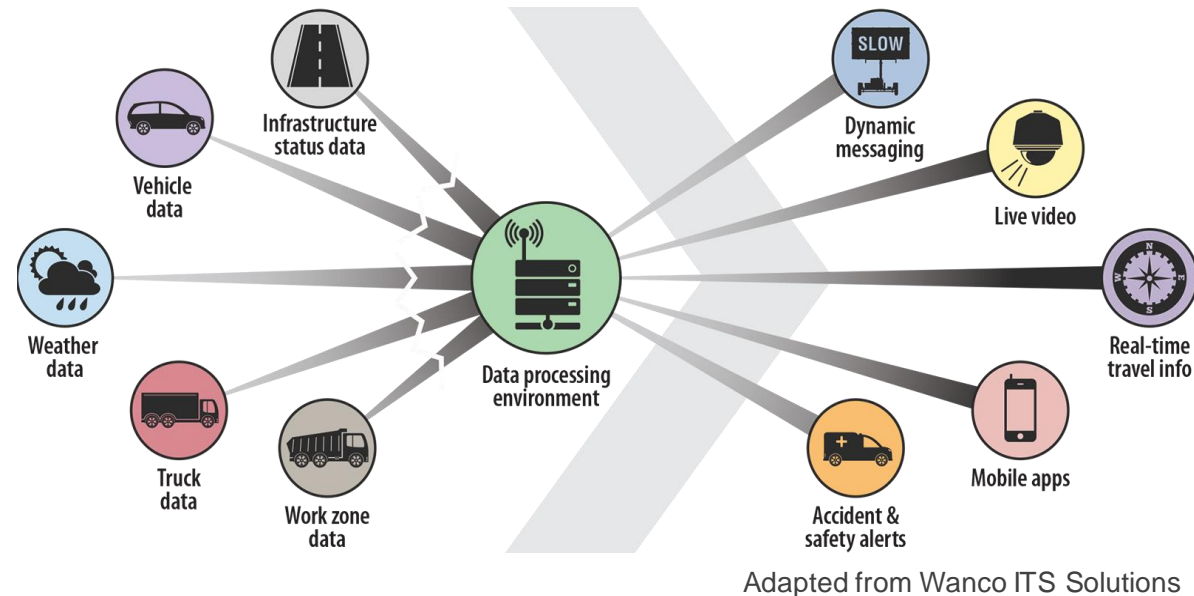
[Source 1](#)

[Source 2](#)

ITS - Intelligent Transportation Systems

Some of ITS implementation include:

- Traffic management systems;
- “Trucks Entering Highway” warnings;
- Queue detection-and-warning systems;
- Traffic Camera System;
- Travel Time System;
- Working Zones data;
- Accident and event warning;
- Speed limit information;
- Public transport information and ticketing;
- Infrastructure status data;
- Weather information;
- Intelligent parking;
- Applications for freight services.



[Source](#)

Green Propulsion in Transport

Growing concerns over security of energy supply, climate change and health are driving a shift from fossil to alternative fuels and new vehicle propulsion systems capable of delivering long term sustainability.

The European Commission is presently supporting three main alternative types of fuels and propulsion technologies. The candidate fuels and propulsion systems include:

- Biofuels, liquid or gaseous
- Hydrogen and fuel cells
- Battery electric and hybrid electric vehicles

[Source](#)

Green Propulsion in Transport

Biofuel Use in Transport

- Biofuels are transportation fuels such as ethanol and biodiesel that are made from biomass materials. Biofuels are largely compatible with today's vehicles and can be blended with current fossil fuels, offering benefits for security of energy supply, mitigation of climate change, reducing of urban pollution and development of rural areas.
- **Ethanol** is an alcohol fuel made from the sugars found in grains such as corn. Other sources of sugars to produce ethanol include sugar cane, rice and potato skins.
- A mixture of different fatty acid methyl esters is commonly referred to as **biodiesel**. FAME are made from oil seeds (rapeseed, sunflower, soy, palm), used cooking oil, waste animal fat and microalgae. The use of biodiesel as a low-blend component in transport fuel does not require any changes in the distribution system, therefore avoiding expensive infrastructure changes.

[Source 1](#)

[Source 2](#)

Green Propulsion in Transport

Biofuel Use in Transport

- The promotion of biofuels is a political priority as part of the EU energy-climate policy. [Directive 2009/30/EC](#) allows for the blending of ethanol into petrol up to 10% (volume) and for a FAME (Fatty Acid Methyl Esters) content of 7% (volume) in diesel.
- The present EU biofuels policy focuses on the development of second generation biofuels, overcoming market barriers, and the improvement of distribution and storage systems. Biofuels should be produced in ways that do not cause significant environmental damage or competition with food production, or compromise bio-diversity.
- The [REGULATION \(EU\) 2018/1999](#) establishes that by 30 April 2022, each Member State shall report to the Commission on the achievement of the national overall targets for the share of energy from renewable sources in 2020, including the share of energy from biofuels and bioliquids produced from cereal and other starch-rich crops, sugars and oil crops in energy consumption in transport.

[Source 1](#)

[Source 2](#)

Green Propulsion in Transport

Hydrogen Use in Transport

- Hydrogen can be produced from renewable energy sources, using biogas, a gaseous form of methane obtained from biomass, or through electrolysis using electricity generated by renewable sources to split water (fresh water or sea water)
- Hydrogen has great potential for clean and efficient power in transport applications. It is envisaged as a significant element of the future fuel mix for transport, enhancing energy security, reducing oil dependency, greenhouse gas emissions and air pollution.
- The **hydrogen fuel cell electric vehicles (FCEVs)** convert compressed hydrogen from their fuel tanks into electricity that powers the electric motor in the vehicle.
- Compared with electric vehicles, hydrogen fuel cell electric vehicles have the advantage of being able to cover longer distances and have much shorter refuelling times (three to five minutes) at hydrogen fuelling stations.



Adapted from www.eltis.org

[Source 1](#)

[Source 2](#)

Green Propulsion in Transport

Electric Mobility

Electrification of transport (electromobility) is a priority of European Commission policies. Electric mobility offers the possibility to substitute fossil fuels with a diversity of primary energy sources contributing to:

- Increase the use of renewable and carbon-free energy sources contributing to reduce CO₂ emissions, with particular relevance to islands, where the isolated electricity system has limitations to receive intermittent renewable energy (wind, solar).
- Secure energy supply by reducing the dependence on fossil fuels and therefore the vulnerability of economies to price oscillations.
- Achieve the targets on CO₂ emissions reduction.

Electric vehicles' main features:

- About 3 times more efficient than internal combustion engine vehicles.
- Do not have local CO₂ emissions or other pollutants such as nitrogen oxides (NOx), non-methane hydrocarbons (NMHC) and particulate matter (PM).
- The preferential charging period during the night enables the increase of renewable energy contribution to the electricity production mix.
- Provide quiet and smooth operation, creating less noise and vibration.

[Source 1](#)

[Source 2](#)

[Source 3](#)

Green Propulsion in Transport

Electric Mobility

The European Union has recognised that Electric Vehicles (EVs) are needed to make transport smarter and more sustainable. However, the EV market is still largely dependent on support policies.

The development of the EV market depends on:

- Ambition of the EU emission regulations;
- Incentives offered to users of EVs;
- Evolution of fuel prices;
- Public acceptance;
- Advances in research for technological optimisation.



Adapted from www.elfis.org

Some of the future challenges of electric mobility are the reliability and durability of batteries, weight and volume of the battery, and EV safety, cost reduction and charging infrastructures.

[Source 1](#)

[Source 2](#)

[Source 3](#)

Urban Freight / City Logistics

- Logistic services are essential to the efficient functioning of cities. They cover transportation methods, handling and storage of goods, management of inventory, waste collection routes and schedules, as well as home delivery services.
- Logistic infrastructures include physical aspects, such as transport route networks and logistics facilities, and software aspects, such as route management and traffic management and control.
- A holistic vision should cover freight transport and pay attention to aspects of land-use planning, environmental considerations and traffic management.
- Intermodal transport is the transport of freight without handling the freight when changing modes and can save companies money, increase safety, and even help reduce goods transport environmental footprint.

[Source 1](#)

[Source 2](#)

Urban Freight / City Logistics

- The location of logistic facilities has a significant impact on the transport needs. Land-use planning has an important role to optimize the displacement needs between the production centres and/or train stations, ports, and airports and the consumer centres.
- In islands, the economic activities rely on the service sector, namely tourism, resulting in a significant dependence of imported goods, which makes the location of ports, airports and logistic centres, a sensitive issue of land-use planning and sustainable mobility.
- Intelligent Transportation Systems provide, in a secure way, online information for tracking and tracing (especially dangerous goods and animal transport), fleet management, intelligent truck parking and remote freight information, playing an important role for sustainable mobility.

[Source 1](#)

[Source 2](#)

Traffic and Demand Management

- Traffic and demand management refer to measures aimed to improve the flow and efficiency of traffic. They include:
 - Reallocating urban space in favour of sustainable modes
 - Urban traffic management
 - Demand management
- These measures are developed and implemented through the identification and prioritisation of intervention areas, to efficiently manage road networks and to inform and motivate users to choose more sustainable mobility options.
- The increasing availability of large amounts of data and ICT have an important role to play in urban traffic management and demand management strategies, including better monitoring, access and management of information related to mobility.



[Source 1](#)

[Source 2](#)

Traffic and Demand Management

Reallocating Urban Space

Automobile-oriented infrastructure results in wide roadways with large expanses of impervious surface, which can lead to poor water quality, increase flooding, and worsen urban heat-island effects.

In order for cities to unlock the full potential of streets, they must shift away from a paradigm of using streets predominantly for moving and storing private motor vehicles toward one which recognizes that streets can serve other functions beyond mobility, such as place and environmental functions:

- The public space function, which may also be referred to as the place function, refers to the street as a place for socialization, recreation, and cultural activity.
- The environmental function refers to streets' capacity to maximize environmental benefits and reduce the environmental impact of street design.

[Source](#)



Traffic and Demand Management

Reallocating Urban Space

By efficiently reallocating street space (the street's function as a public space), cities can balance the **mobility, place, and environmental functions of streets**, thus improving urban health, reducing social inequalities, and increasing resilience and environmental sustainability:

- **Mobility:** encouraging trips by walking, cycling, and public transportation, and discouraging private motor vehicle use reduce GHG emissions, reduce air and noise pollution.
- **Environment:** ensuring the health and biodiversity of urban flora and fauna helps to improve the air quality, provide shading and pleasant areas for socialization and leisure.
- **Public Space:** providing spaces and amenities for leisure and recreation to contribute to the mental and physical well-being of city residents.

[Source](#)

Traffic and Demand Management

Reallocating Urban Space

In making geometric changes to streets to improve conditions for people who walk, cycle, and use transit, space is often unlocked for green infrastructure as well. Green infrastructure can be incorporated into traffic-calming infrastructure such as curb extensions, transit stop, median island, and bikeway design. Also a wider sidewalk can provide more space for walking and seating, but also more space for trees and vegetation that retain stormwater, improve water quality, absorb air and noise pollution, provide a safety barrier from motor vehicle traffic, and create a more pleasant environment for street life.



Adapted from www.eltis.org

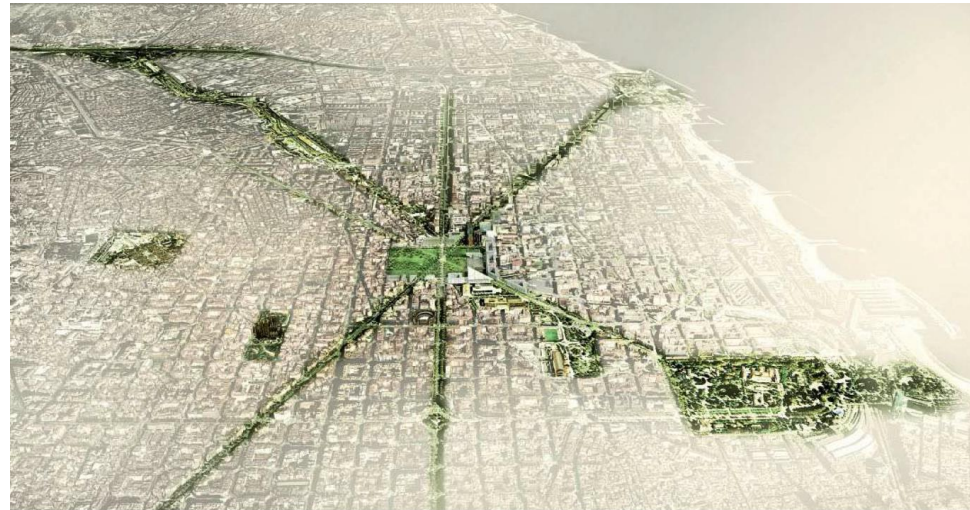


[Source](#)

Traffic and Demand Management

Reallocating Urban Space

Green Urban Corridors: the [“Barcelona green infrastructure and biodiversity plan 2020”](#) suggests green corridors as a novel street typology. Consists of streets that cross the urban fabric, connecting existing parks, plazas and open spaces with a dominant presence of vegetation and exclusive or priority use by pedestrians and bicycles. By creating a connected network of green spaces, these streets can boost the environmental, social, and health benefits of urban green spaces and increase urban residents’ quality of life, thus demonstrating that the benefits of network connectivity are not limited to mobility but also extend to place and environmental functions.



Adapted from Barcelona green infrastructure and biodiversity plan 2020

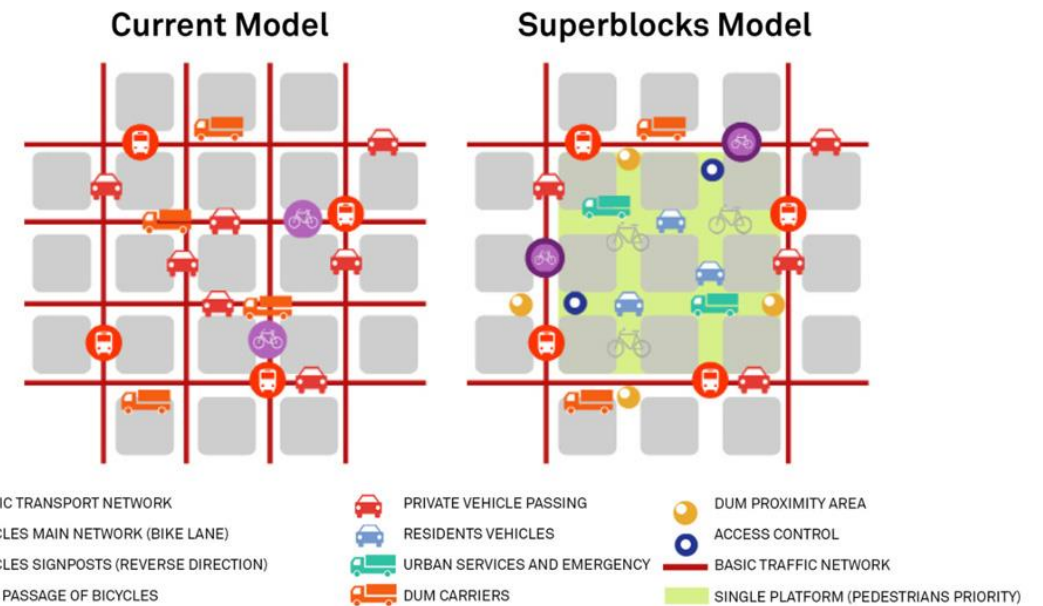
Traffic and Demand Management

Reallocating Urban Space

Barcelona's Superblocks: The superblocks model represents an innovative planning approach for addressing urban challenges such as mobility, public space, biodiversity and social cohesion. It is set to free up nearly 70% of street space, currently used by motor vehicles, for different public space uses. The idea is to restrict traffic in the superblocks (about 400 x 400 meters), by closing the area to traffic to other destinations, transforming the space inside the superblocks into low-speed zones (10 km/h) and shared space where motor vehicles should feel like guests rather than the owners of the space.

 **Ajuntament de Barcelona**
Urban Mobility Plan of Barcelona 2013-2018

SUPERBLOCKS MODEL



Adapted from [Urban Mobility Plan of Barcelona 2013-2018](#)

[Source 1](#)

[Source 2](#)

Traffic and Demand Management

Urban Traffic Management

Traffic management is a task of the public authorities and road operators and its operation is mostly handled by traffic control centres. Reducing urban traffic problems as traffic congestion, road accidents and air and noise pollution are challenges of current urban traffic management. A wide variety of measures have been developed for urban traffic management, namely:

- one-way street systems;
- roundabouts and more complex traffic gyratories;
- signal controlled junctions (static and vehicle-actuated);
- linked, time-coordinated traffic signal control;
- computerised traffic signal control (traffic-responsive);
- dedicated bus, taxi lanes, cycle lanes;
- bus priority at traffic signals;
- Closed Circuit Television traffic surveillance.



[Source 1](#)

[Source 2](#)

Traffic and Demand Management

Urban Traffic Management

Among the traffic management measures, computerized traffic signal control, also known as Urban Traffic Control (UTC), allow signal plan changing in response to varying traffic conditions in dense urban networks.

Urban Traffic Control systems have been getting “smarter” by adopting Intelligent Transport Systems (ITS) and Cooperative Intelligent Transport Systems (C-ITS) based on cloud computing, internet of things and data analytics, that allow to collect and analyze driving information of vehicles, perform the optimal traffic signal control in accordance with the constantly changing traffic situation, and **provide useful traffic information to drivers** based on the data collected.

ITS e C-ITS will contribute to a safe and comfortable road traffic environment by predicting an optimum route, reducing the average waiting time, reducing traffic congestion, improving road safety, and reducing fuel consumption and air pollution.

[Source 1](#)

[Source 2](#)

Traffic and Demand Management

Demand management

The quantity and type of traffic that contributes to air pollution, noise and congestion in cities can be managed by demand management rules, also known as access regulation measures or traffic restrictions.

These measures are often based on economic incentives, regulations on the type of vehicle or trip that can enter an area, or on environmental regulation which sets strict limits for certain urban areas. Examples of access regulation measures are:

- Low emission zones;
- Congestion charging;
- Limited traffic zones;
- Parking policies.

[Source](#)

Traffic and Demand Management

Demand management - Low emission zones

- Many cities struggle to reduce emissions to meet the EU Air Quality Limit Values. Emission zoning is a way to restrict access by the most polluting vehicles to a specific area within a city.
- The vehicles emission level is established by the European Commission through euro emission standards that establish emission limits for new cars registered in the EU.
- Most LEZs operate 24 hours a day, 365 days a year. Low emission zones are enforced either with camera systems or manually, usually together with windscreen stickers. In some zones, it is necessary to register or buy a sticker before entering. In most zones, foreign vehicles are affected as well as national vehicles and must be registered before entering.

[Source 1](#)

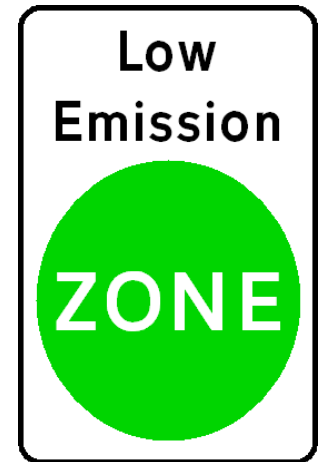
[Source 2](#)

Traffic and Demand Management

Demand management - Low emission zones

Examples of restrictions in LEZ are:

- Restrict higher emission vehicles - Vehicles below a certain European emission standard are not allowed to enter the LEZ. For example, only Euro 4 and later vehicles may be allowed, while Euro 3 and older vehicles cannot enter the zone. Some LEZs have different standards for petrol and diesel (Euro 4 for petrol and Euro 6 for diesel).
- Retrofit options - Vehicles' emission ratings can be upgraded by a retrofit with an emission control device. For example, a Euro 3 vehicle retrofitted with a diesel particulate filter may be considered equivalent to a Euro 4 vehicle in the zone.
- Charging scheme - Higher emission vehicles may be charged a fee to enter the zone, while vehicles meeting a certain minimum Euro level enter for free.



[Source 1](#)

[Source 2](#)

Traffic and Demand Management

Demand management - Congestion Charging

- The measure consists in the introduction of a congestion charge, with a penalty levied for non-payment, to access to certain roads or delimited areas in city centers, which, without the charge, are often congested.
- The **congestion charge** can be implemented only in working days in a certain period when congestions normally occur (e.g. between 7:00h – 19:00h).
- The street name or the post code can be used to identify the congestion charging zone.
- This financial instrument is a price incentive for car users to switch to other modes of transport.
- The charge helps to reduce high traffic flow and minimize air and noise pollution and raise investment funds that can be invested in sustainable mobility measures.



Adapted from www.eltis.org

[Source](#)

Traffic and Demand Management

Demand management - Limited Traffic Zones

- Limited traffic zones allow cities to regulate access by other methods than payment or emissions. These include for example areas where:
 - all but certain vehicles or trips are banned (e.g. access limited to residents, priority vehicles and waste collection vehicles);
 - a permit is required to drive into the zone;
 - access is only allowed at certain times of the day;
 - restriction of the maximum weight lorry allowed, or lorry through traffic bans.
- They can be enforced by cameras, physical barriers, traffic signs or police/city officers.

[Source](#)

Traffic and Demand Management

Demand management - Parking Policies

- Parking regulation includes all forms of parking measures intended to control the availability or price of parking spaces.
- Managing public and private parking provision in the city is a part of the city's overall transport policy to control car traffic, promote public transport and increase the quality of life in the urban areas.
- In Europe, a large industry has developed, offering all services related to parking: planning, organization, enforcement, equipment, management, operation, etc. Innovative user-friendly solutions like pay by phone, dynamic parking guidance etc. are already widespread.

[Source](#)



Adapted from www.eltis.org

Mobility Management

A Sustainable Urban Mobility Plan should include actions of **Mobility Management** to foster a change towards more sustainable mobility patterns. Citizens, employers, schools, and other relevant actors should be engaged ([COM\(2013\) 913 final](#)).

[Mobility Management](#) is a concept to promote sustainable transport and reduce single occupancy car use by changing travellers' attitudes and behaviour.

At the core of mobility management are "soft" measures such as marketing, information, communication, education, organisation of services and coordination activities of different partners that enhance the effectiveness of "hard" measures within urban transport (e.g. new tram lines, new roads or bike lanes).

[Source](#)

Mobility Management

Examples of Mobility Management measures:

- Telecommunications and flexible time organisation, e.g. teleworking, changing opening hours, changing the number of times patients or citizens are required to travel to the hospital or city hall, internet shopping and e-government;
- Provides information, including real-time travel information;
- Awareness raising and promotion of sustainable modes;
- Education and training, both in schools and elsewhere;
- Site-based measures such as school and company travel plans;
- On-demand PT services;
- Car sharing, bike sharing and carpooling;
- Public participation and stakeholder involvement.



[Source](#)

Adapted from www.eltis.org

EU Financing Mechanisms for Sustainable Mobility

The European Union designed a variety of financial mechanisms to support research, development, demonstration and implementation of policies and technologies. Concerning the improvement of urban mobility, the following financial tools are considered:

The European Regional Development Fund	Contributes to reduce disparities among the various regions across the EU and the backwardness of the least favoured regions.
The Cohesion Fund	Provides financial assistance to increase economic and social cohesion among Member States, in particular the least favoured regions by financing environment and transport projects.
The LIFE programme	Provides financial support to environmental, nature conservation and climate action projects throughout the Europe.
Intelligent Energy Europe (IEE)	Addresses energy savings and energy efficiency in the transport sector, including the promotion of alternative fuels, and clean and energy efficient vehicles.
TEN-T programme	Aims to promote the completion of an EU multi-modal transport infrastructure network.
EIB tools	EIB supports initiatives aimed at environmental improvement, regional development, the knowledge economy, and the trans-European networks.
H2020	H2020 supports research and innovation projects to promote Smart, Green and Integrated Transport and supports the CIVITAS 2020 Initiative.

[Source](#)

EU supported projects and initiatives to promote Sustainable Mobility

CIVITAS



THE CIVITAS INITIATIVE
IS CO-FINANCED BY THE
EUROPEAN UNION

- The [CIVITAS](#) initiative was launched by the European Commission in 2002, with the aim of redefining transport measures and policies, in order to create cleaner and better transport in cities.
- CIVITAS is a network of cities dedicated to cleaner, better transport in Europe and beyond. Since it was launched by the European Commission in 2002, the CIVITAS Initiative has tested and implemented over 800 measures and urban transport solutions as part of demonstration projects in more than 80 Living Lab cities Europe-wide.
- The knowledge garnered through these practical experiences is complemented, and supported, by a number of research and innovation projects ([ECCENTRIC](#), [PORTIS](#) and [DESTINATIONS](#)), also run under CIVITAS. These research projects look at ways of building a more resource efficient and competitive transport system in Europe.

EU supported projects and initiatives to promote Sustainable Mobility

CIVITAS works on 10 thematic areas:

- **Car-Independent Lifestyles** – cycling, walking, car-sharing, bike-sharing, carpooling, co-modality, ride-sharing
- **Clean Fuels and Vehicles** – electric mobility, fueling infrastructures, hybrid vehicles, use of biodiesel, biogas and compressed natural gas, cleaner fleets
- **Collective Passenger Transport** – accessibility, intermodality, service improvements, ticketing systems, innovative PT systems, fleet management, procurement schemes
- **Demand Management Strategies** – congestion charging, access restrictions, parking management and strategies, low emission zones, car-free zones, priority lanes, mobility credits, financial incentives and disincentives
- **Integrated Planning** – land-use, housing, new developments, sustainable urban mobility plans

EU supported projects and initiatives to promote Sustainable Mobility

CIVITAS works on 10 thematic areas (continuation):

- **Mobility Management** – marketing and communications, personal and company travel plans, mobility info centres
- **Public Involvement** – multi-stakeholder consultations, information campaigns, participatory processes
- **Safety and Security** – traffic calming, infrastructure design, shared space, cycle highways, secure school paths, anti-vandalism measures
- **Transport Telematics** – intelligent transport systems, communication, routing, smartphone applications, plate recognition system
- **Urban Freight Logistics** – urban delivery centres, distribution schemes, fleet management, cycle logistics, freight partnerships, urban freight transport plans.

EU supported projects and initiatives to promote Sustainable Mobility

ELTIS - The urban mobility observatory



- [ELTIS](#) facilitates the exchange of information, knowledge and experience in the field of sustainable urban mobility in Europe.
- It serves professionals working in the area of transport and related disciplines including urban and regional development, health, energy and environmental sciences.
- ELTIS provides information, good practices, tools and communication channels needed to help turn cities into models of sustainable urban mobility.
- The ELTIS [Mobility Plans](#) section offers information on how to develop and implement Sustainable Urban Mobility Plans (SUMP).

EU supported projects and initiatives to promote Sustainable Mobility

European Mobility Week

- Since 2002, EUROPEANMOBILITYWEEK promotes clean mobility and sustainable urban transport to improve public health and quality of life in cities.
- The EUROPEANMOBILITYWEEK campaign provides cities the perfect opportunity to present sustainable mobility alternatives to local residents.
- Local authorities are strongly encouraged to use the week to test new transport measures and get feedback from the public. It is also an excellent opportunity for local stakeholders to get together and discuss the different aspects of mobility and air quality, find innovative solutions to reduce car-use and transport emissions, and test new technologies and planning measures.
- The 2019 EUROPEANMOBILITYWEEK theme was "Safe Walking and Cycling" and counted with the participation of 3136 cities, from 50 participating countries. From Portugal, 108 cities participated in the initiative.
- In the scope of the EUROPEANMOBILITYWEEK, cities are encouraged to promote a **Car-free day** by closing one or more streets to traffic and opening it to pedestrians, cyclists and public transport. The Car-free day should preferably append on 22 September to mark the city as part of the world car free day.

[Source](#)

VI. Sustainable Mobility and Other YENESIS Thematic Areas

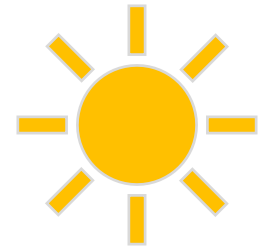


YENESIS benefits from a € 2.3 M grant from Iceland, Liechtenstein and Norway through the EEA and Norway Grants Fund for Youth Employment.
The project aims at creating employment opportunities for NEETs in islands

Sustainable Mobility and Renewable Energy

Developing and deploying greener fuels and propulsion systems is one of the EU goals for a competitive and resource efficient transport system, in order to achieve the 60% GHG emission reduction target in transport sector by 2050, in comparison to 1990.

The European Commission promotes the research, innovation and implementation of **greener fuels and propulsions technologies**, in order to **speeding up the deployment of low-emission alternative energy for transport**, such as advanced biofuels, electricity, hydrogen and renewable synthetic fuels and removing obstacles to the electrification of transport.



Adapted from www.eltis.org

Sustainable Mobility and Energy Efficiency

The freight transport and transport of persons **are responsible** for around a quarter of the greenhouse gas emissions in the EU. Insularity implies **higher costs** for **imported goods and transport of persons**, mainly associated with higher energy consumption.

The majority of today's transport systems still rely on fossil fuels. **Increasing the efficiency of the transport system** by making the most of digital technologies, smart pricing and further encouraging the shift to lower emission transport modes and systems contributes to CO2 reduction and help to decrease air and noise pollution while improving health and well being, particularly in large urban centres.

Planning instruments and sustainable mobility tools and measures contribute to the energy efficiency of the transport sector, including:

- Integrating sustainable mobility in land use planning and climate and energy planning;
- Development of Sustainable Urban Mobility Plans;
- Promotion of soft modes, public transports, intermodality, sharing systems, Intelligent transportation systems, cooperative-intelligent transportation systems, traffic and demand management measures, awareness raising campaigns, etc.

Sustainable Mobility and Sustainable Tourism

The increase in standard of living has led to an exponential growth of dislocations related to the tourism sector, with significant impacts on the environment and quality of life, especially in urban areas.

The increasing awareness of the tourists for environmental issues and the promotion of eco-friendly destinations contribute to decrease the environmental and social impacts of tourism.

Sustainable mobility tools and measures decrease the impacts of tourism in urban areas. Additionally, **specific mobility strategies for the tourism sector should be implemented:**

- Integration of sustainable mobility in land use and tourism planning;
- Promotion of rail touristic routes;
- Promotion of flight carbon compensation projects;
- Promotion of walking and cycling touristic tours;
- Improvement of public transport services, taking into consideration the location of hotel facilities and touristic attractions;
- Provision of information tools in foreign languages.

[Video](#)

VII. Real Life Projects in Madeira

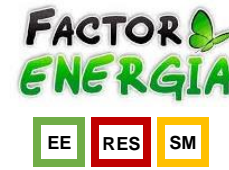


YENESIS benefits from a € 2.3 M grant from Iceland, Liechtenstein and Norway through the EEA and Norway Grants Fund for Youth Employment.
The project aims at creating employment opportunities for NEETs in islands

Real life projects in Madeira



App for creation of personalised itineraries to explore cities by foot.



Energy monitoring, energy certificates (buildings), electric mobility and renewable energy systems



Equipped with a public charging station for electric cars, energy self sufficient from renewable sources, use of highly efficient equipment and materials.



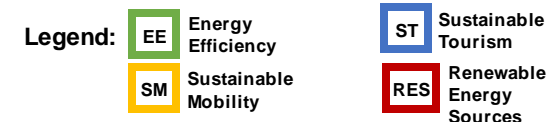
Use of electric vehicles for touristic city tours.



App with detailed information about regional hiking trails.



Use of electric buses and fleet management systems.



VIII. Examples of Professions for Sustainable Mobility



YENESIS benefits from a € 2.3 M grant from Iceland, Liechtenstein and Norway through the EEA and Norway Grants Fund for Youth Employment.
The project aims at creating employment opportunities for NEETs in islands

Examples of professions for Sustainable Mobility

- Land use planners, climate and energy planners and transport and mobility planners
- Transportations engineers
- Alternative fuel distributors and operators
- Digital transformation experts, augmented reality experts, automation and robotics experts and Big Data experts
- Charging station managers and maintenance technicians
- Eco driving instructors
- Electric bike mechanics and electric motor mechanics
- Electric bus drivers
- Entrepreneurs in electric vehicle rental
- Entrepreneurs in the logistics services
- Tour guide entrepreneur (urban pedestrian and bicycle tours)
- Info mobility experts
- Information and communication technology (ICT) technicians and engineers
- Sustainable mobility managers for public and private fleets
- Expert in awareness raising and training in sustainable mobility



IX. Examples of Functions/Business Ideas in the Scope of Sustainable Mobility

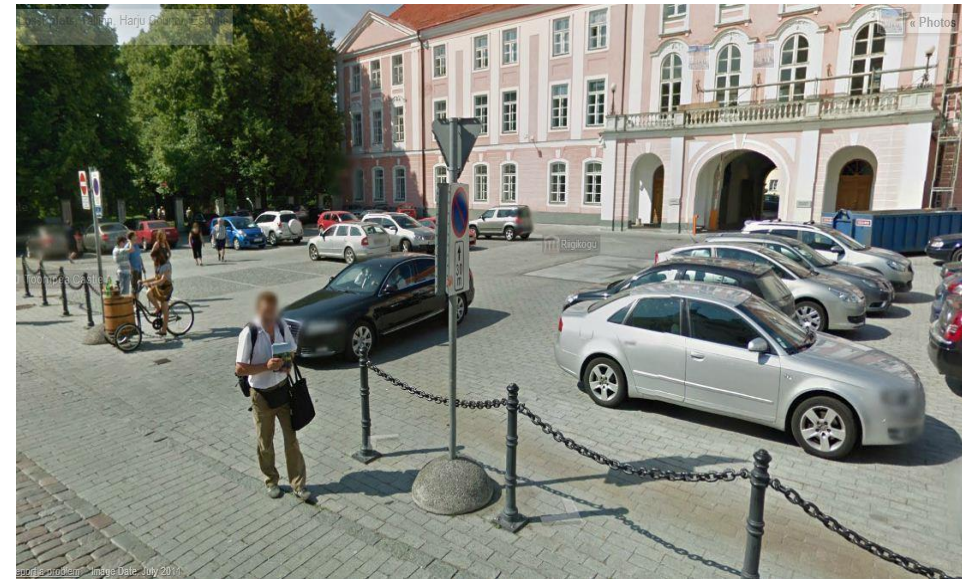


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Examples of functions/business ideas in the scope of Sustainable Mobility

- Development of territory planning and management instruments.
- Development of energy and climate planning instruments.
- Development of mobility and transport plans (Action Plan for Sustainable Mobility, Logistic Plan).
- Manufacture of electric vehicles and conversion of convectional vehicles to electric vehicles.
- Maintenance and repairing of electric vehicles and battery regeneration.
- Installation, operation and maintenance of charging points for electric vehicles.
- Sustainable management of public and private fleets (route optimization, eco-driving training, maintenance management and fleet renovation).
- Software development to support sustainable mobility measures (ITS and C-ITS)
- Awareness raising and training for sustainable mobility, namely in the domains of eco-driving, soft modes (walking, cycling) and promotion of public transport.
- Freight transport services.
- RTDI – Research, Technology Development and Innovation (cleaner technologies and fuels, ITS and C-ITS, automation, etc.)

“Kõigepealt kujundab inimene linna ja siis kujundab linn inimest” Taani arhitekt Jan Gehl



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The project aims at creating employment opportunities for NEETs in islands

Juhendeid liikuvuse planeerimiseks

Säästev transpordipoliitika -
eestikeelne juhendmaterjal

<https://www.digar.ee/arhiiv/nlib-digar:7653>

Liikuvuskavade ingliskeelsed
juhendmaterjalid

- <https://civitas.eu/knowledge-base>
- <https://www.eltis.org/mobility-plans>
- <http://sump-network.eu/>

Jalgrattakasutuse ja jalgrattateede
arendamise juhendmaterjalid

- https://ec.europa.eu/transport/themes/urban/cycling/guidance-cycling-projects-eu_en

Jalgsi, rattaga liikumise mõjude
hindamine (tervisekulude vähenemine,
enneaegsete surmade vähenemine)

- <https://www.heatwalkingcycling.org/>

Thank you

NAME Mari Jüssi

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www.yenesis.eu



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