MAL 2019

DRAFT PLAN
key facts
26 October 2018

Helsinki region municipalities, number of residents and jobs

The region is home to **1,478,000** people and **709,000** jobs. The region prepares for population growth.

Capital region

Helsinki
Population 645,179
Jobs 379,518

Espoo
Population 279,529
Jobs 116,246

Vantaa
Population 223,600
Jobs 109,779

Kauniainen
Population 9,602
Jobs 2,371

Siuntio
Population 6,149
Jobs 1,444

Kuuma region

HSL area

Kirkkonummi
Population 39,232
Jobs 10,536

Kerava
Population 35,635
Jobs 12,101

Sipoo
Population 20,299
Jobs 5,532

Tuusula
Population 38,650
Jobs 14,105

Vihti
Population 29,094
Jobs 8,069

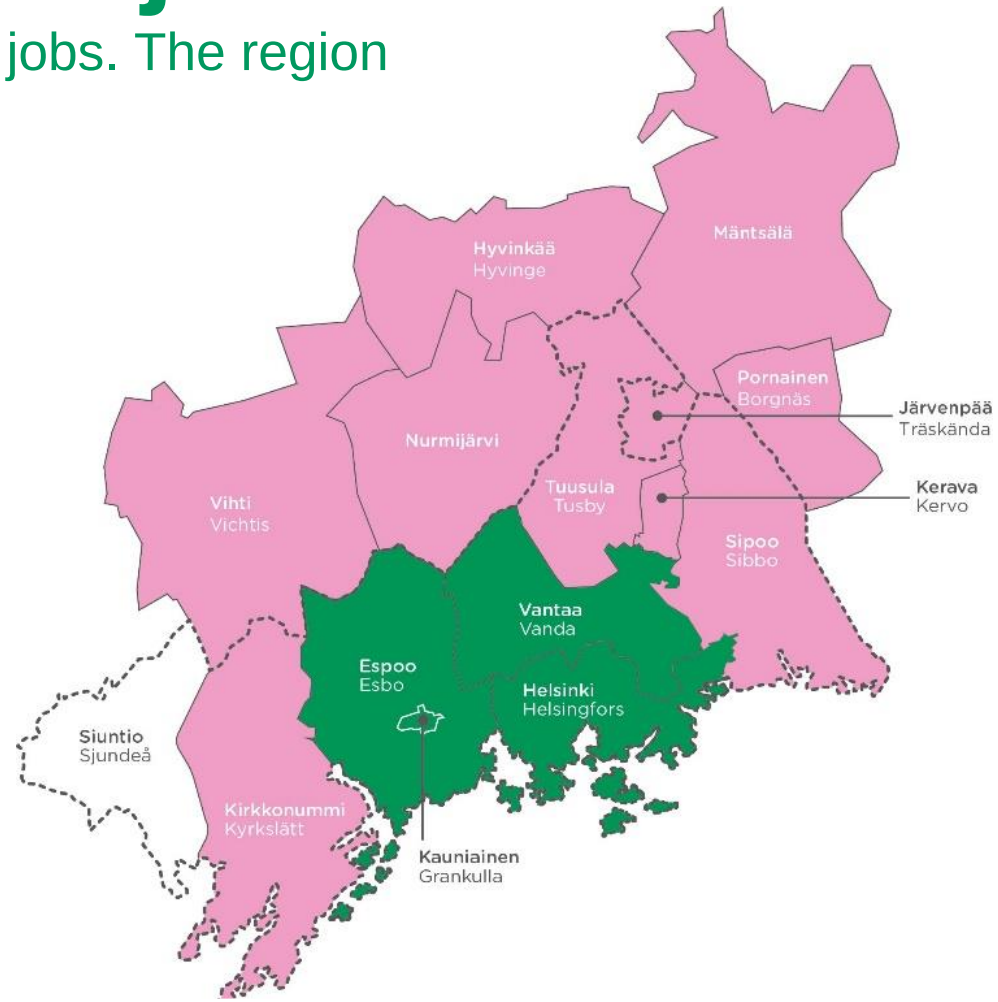
Hyvinkää
Population 46,739
Jobs 19,179

Mäntsälä
Population 20,777
Jobs 6,055

Järvenpää
Population 42,656
Jobs 12,238

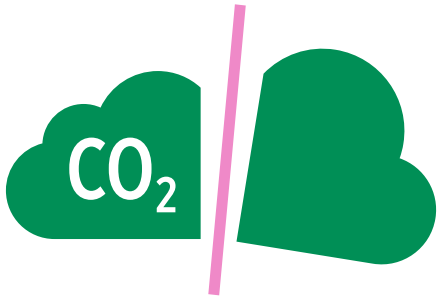
Pornainen
Population 5,120
Jobs 1,048

Nurmijärvi
Population 42,211
Jobs 11,731



The 14 Helsinki region municipalities and Siuntio

MAL 2019 objectives

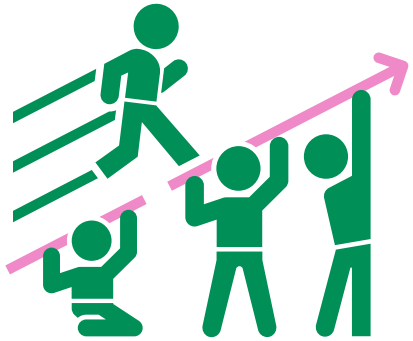


Low-emission

The region grows sustainably and emissions are effectively reduced

Attractive

An internationally connected region attracts new businesses and residents



Vibrant

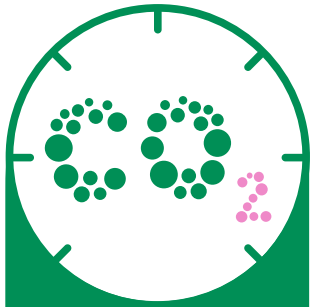
Economic efficiency ensures the development and functioning of the region

Healthy

A safe and healthy living environment enables everyone to lead an active everyday life

MAL 2019 core indicators and target levels

MAL 2019

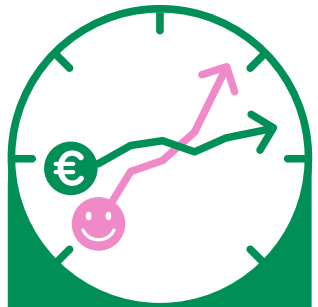


Greenhouse gas emissions from traffic decrease by at least 50% by 2030 against 2005 levels [CO2]

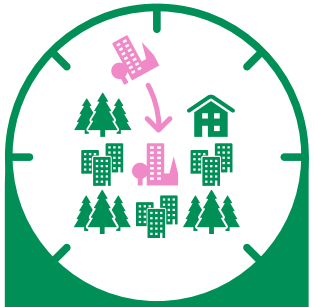
Decisive target level

Labor force accessibility improves at least by 10% by 2030 from the current level.

Differences between areas decrease from the current level and social segregation does not increase from the present situation by 2030.



Socio-economic efficiency: the cost/benefit ratio of system level development activities is over 1



At least 90% of new housing developments are located in the primary land-use development zones

The modal share of sustainable modes of transport (walking, cycling, public transport) in the region is at least 70%.

At least 85% of the population is located in sustainable mobility zones.

In 2030, the goals are achieved by an effective and concrete set of measures

MAL 2019

Growth in the region is directed to the existing structure and to areas that are competitive in terms of public transport

At least 90% of housing located in the primary development zones

Enough new housing units are built and the quality of the living environment is ensured

16,500 housing units a year

Major investments in rail transport and cycling; road transport developed with a focus on freight transport and public transport

Investments:
Public transport €1.8bn
Cycling €0.3bn
Road transport €0.3bn

Emissions are reduced by implementing road pricing, which reduces vehicle mileage, and by renewing the vehicle fleet

The plan reduces greenhouse gas emissions from traffic by 50%

New land use is located sustainably in areas with good accessibility and infill development of the existing urban structure is enabled

The quality of housing and the living environment in a compact urban structure is ensured

The potential of areas around stations is harnessed

Availability and affordability of housing is ensured

Diversity of housing is promoted

The quality of living environments is enhanced

The quality of the housing stock is ensured

Energy-efficiency of the building stock is promoted

Getting the most out of the current system

Using data to optimize the transport system

New networked links as enablers of sustainable growth

Share of cycling up through strong joint efforts

New mobility services and technologies support sustainable mobility

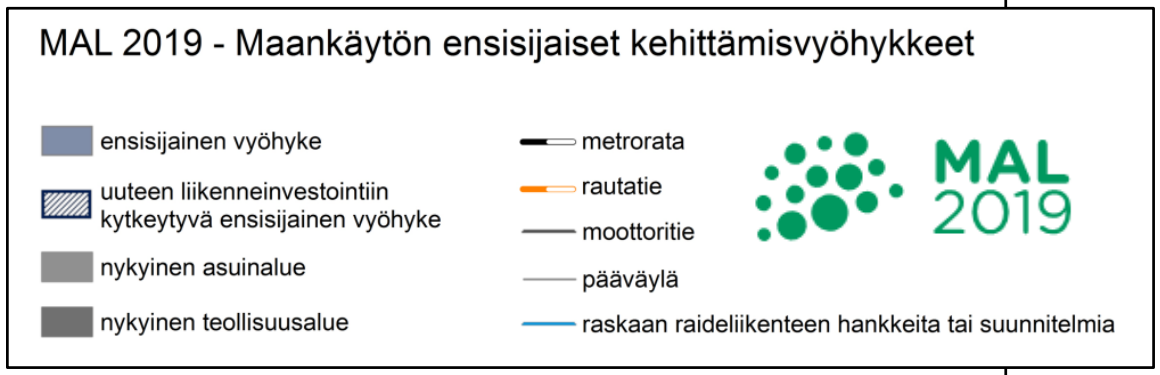
Road transport network is developed with a focus on freight and public transport

Provisions are made for nationally important rail links

Road traffic pricing is an effective measure for emission reduction, funding and improved flow of traffic

Parking policy steers people towards sustainable mobility

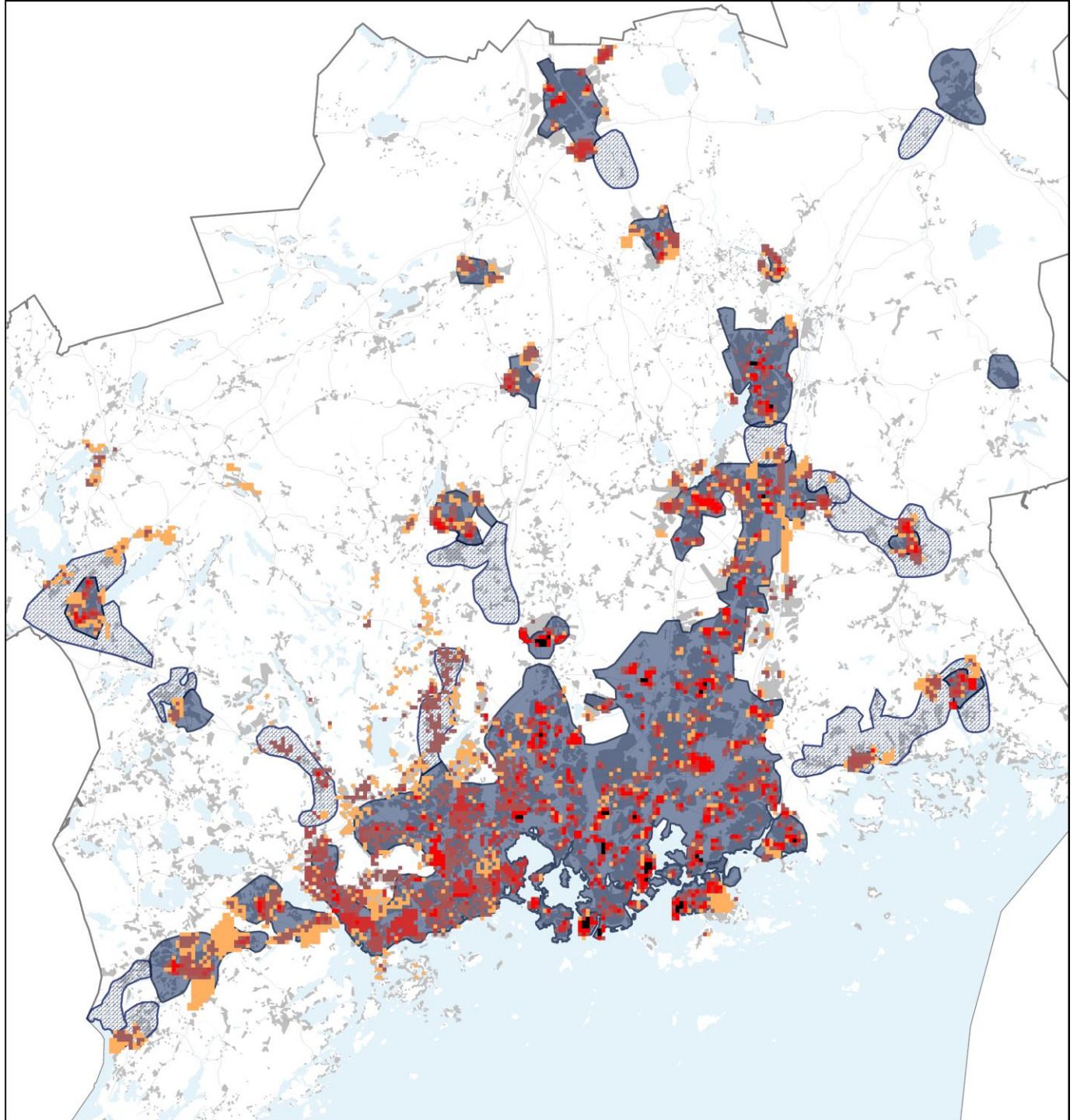
The share of electric cars and low-emission vehicles is increased by joint means



MAL 2019 Primary land use development zones
Primary zone
Primary zone linked to a new transport investment
Existing residential area
Existing industrial area
Metro line
Rail line
Motorway
Main road
Heavy rail projects and plans

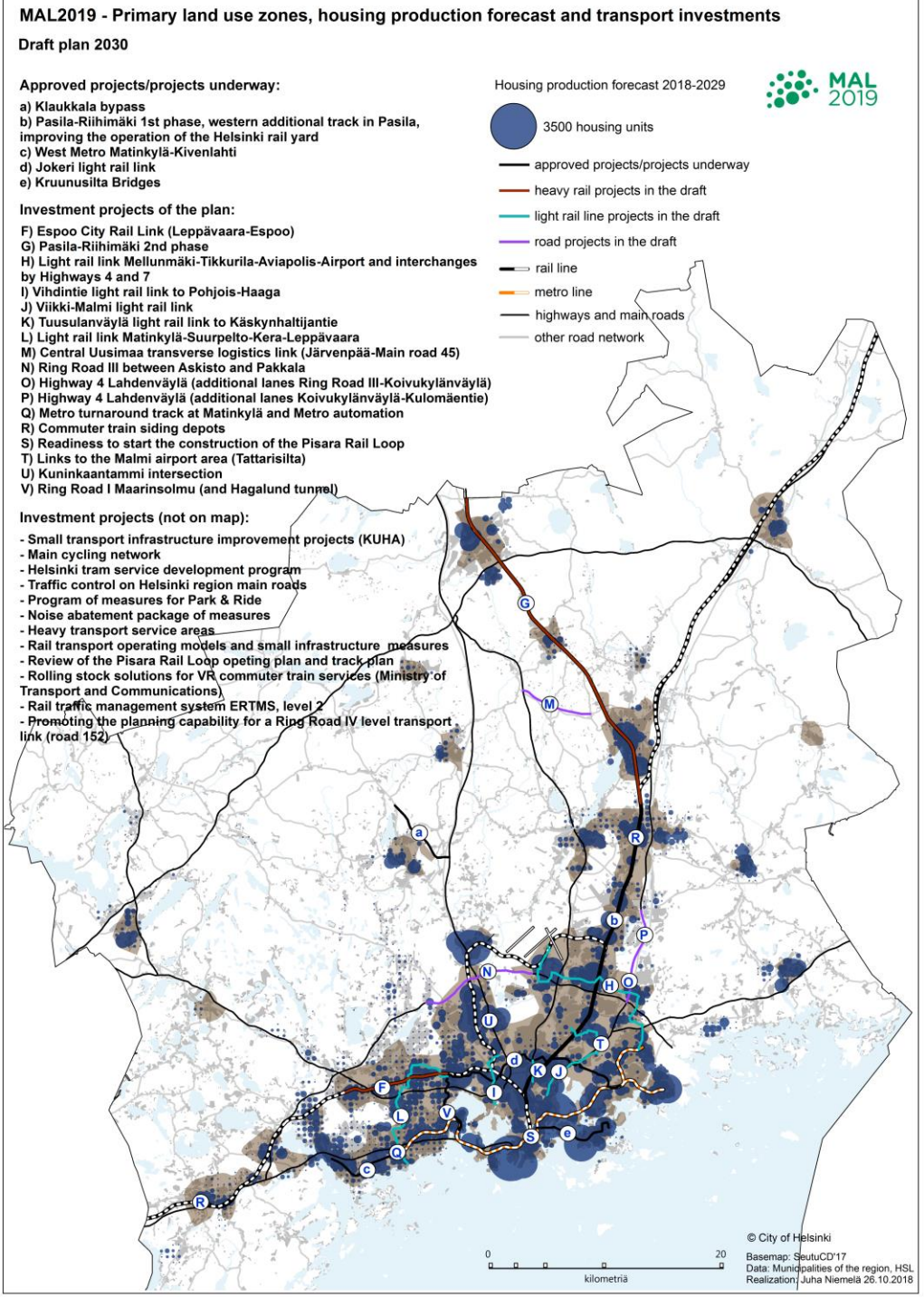
Housing production 2018-2029, as estimated by municipalities
Housing units to be completed on a 250 x 250m grid
Primary development zones (updated zone boundaries)

500	–	1 340	(43)
100	–	500	(469)
50	–	100	(530)
20	–	50	(765)
5	–	20	(1143)
0	–	5	(1335)



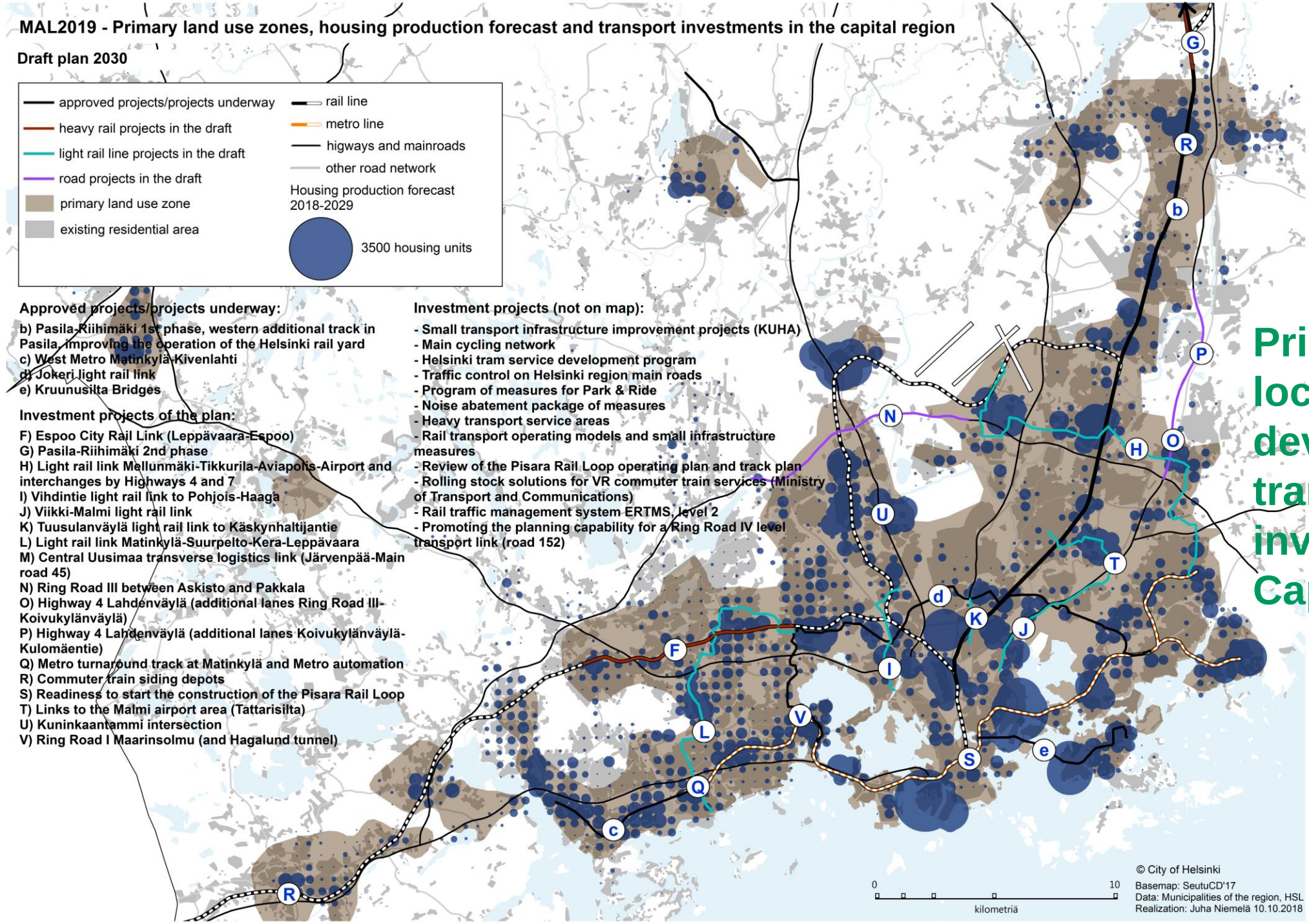
Forecast enabling housing construction 2018-2029

	Completed		Forecast					Target	
	2016	2017	2018	2019	Average (2020-2024)	Average (2025-2029)	Altogether 2018-2029	2019	
Espoo	2,474	3,269	3,688	4,079	3,303	3,160	40,080	3,300	Espoo
Helsinki	4,395	4,890	4,274	6,020	6,989	6,979	80,137	6,600	Helsinki
Kauniainen	27	187	15	102	154	107	1,424	80	Kauniainen
Vantaa	2,943	3,289	4,530	4,043	3,042	2,100	34,281	2,640	Vantaa
Helsinki Metropolitan Area	9,839	11,635	12,507	14,244	13,489	12,346	155,922	12,620	Pk-seutu
Hyvinkää	288	365	204	283	328	493	4,591	396	Hyvinkää
Järvenpää	721	1,023	575	760	735	610	8,058	566	Järvenpää
Kerava	354	314	703	753	501	278	5,351	514	Kerava
Kirkkonummi	345	298	400	435	426	453	5,230	434	Kirkkonummi
Mäntsälä	165	134	50	150	133	177	1,749	212	Mäntsälä
Nurmijärvi	355	356	464	376	313	300	3,901	434	Nurmijärvi
Pornainen	18	14	35	35	35	35	420	80	Pornainen
Sipoo	344	170	368	637	559	554	6,569	434	Sipoo
Tuusula	357	282	62	373	476	429	4,960	462	Tuusula
Vihti	140	184	193	299	164	209	2,359	344	Vihti
KUUMA municipalities (Keski-Uusimaa Region municipalities)	3,087	3,140	3,054	4,101	3,670	3,537	43,188	3,876	Kuuma-kunnat
Helsingin seutu	12,926	14,775	15,561	18,345	17,158	15,882	199,110	16,496	Helsingin seutu
Target Helsinki Metropolitan Area	10,325	11,090	11,855	12,620	12,620	12,620			
Target KUUMA municipalities	3,174	3,408	3,642	3,876	3,876	3,876			



MAL 2019

Primary zones, location of housing developments and transport investments, Helsinki region



MAL 2019

Primary zones, location of housing developments and transport investments, Capital region

MAL 2019 assessment framework

Low-emission

Greenhouse gas emissions

Need to travel and sustainable modes of transport

Energy consumption

Resource efficiency

Urban structure

Use of resources

Biodiversity

Landscape and built environment

Waterways

Adaptation

Attractive

Competitiveness and conditions for business and industry

Functioning of the housing market

Functioning of the labor market

Agglomeration

Internal and external accessibility of the region

Other pull factors, such as health and safety

Ease of day-to-day life

Housing supply

Service supply

Mobility options

Local accessibility

Flow of traffic and ease of travel

Vibrant

Socio-economic efficiency

Impacts on public finances

Agglomeration

Functioning of the labor market

Link between transport and land use

Wider socio-economic impacts

Healthy

Segregation

Number, variety and location of housing units

Service supply

Mobility options

Transport costs

Health and safety

Exposure to local emissions from traffic

Traffic safety

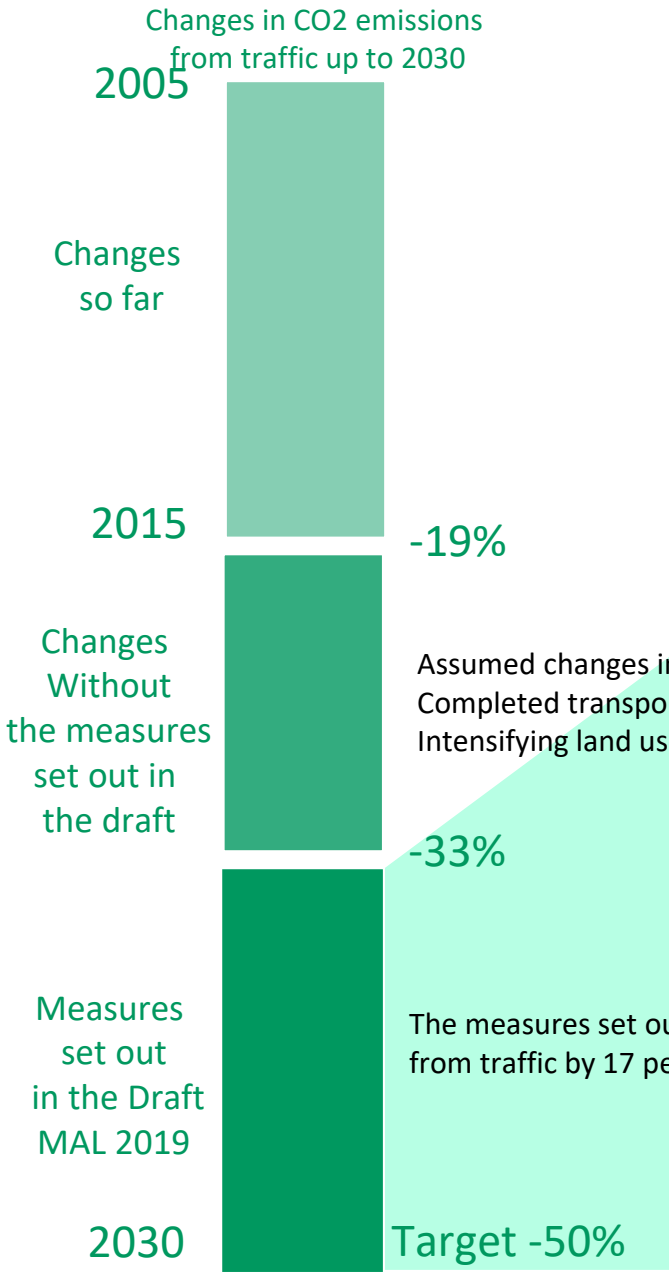
Living environment and comfort

Health benefits and wellbeing

Areas of assessment

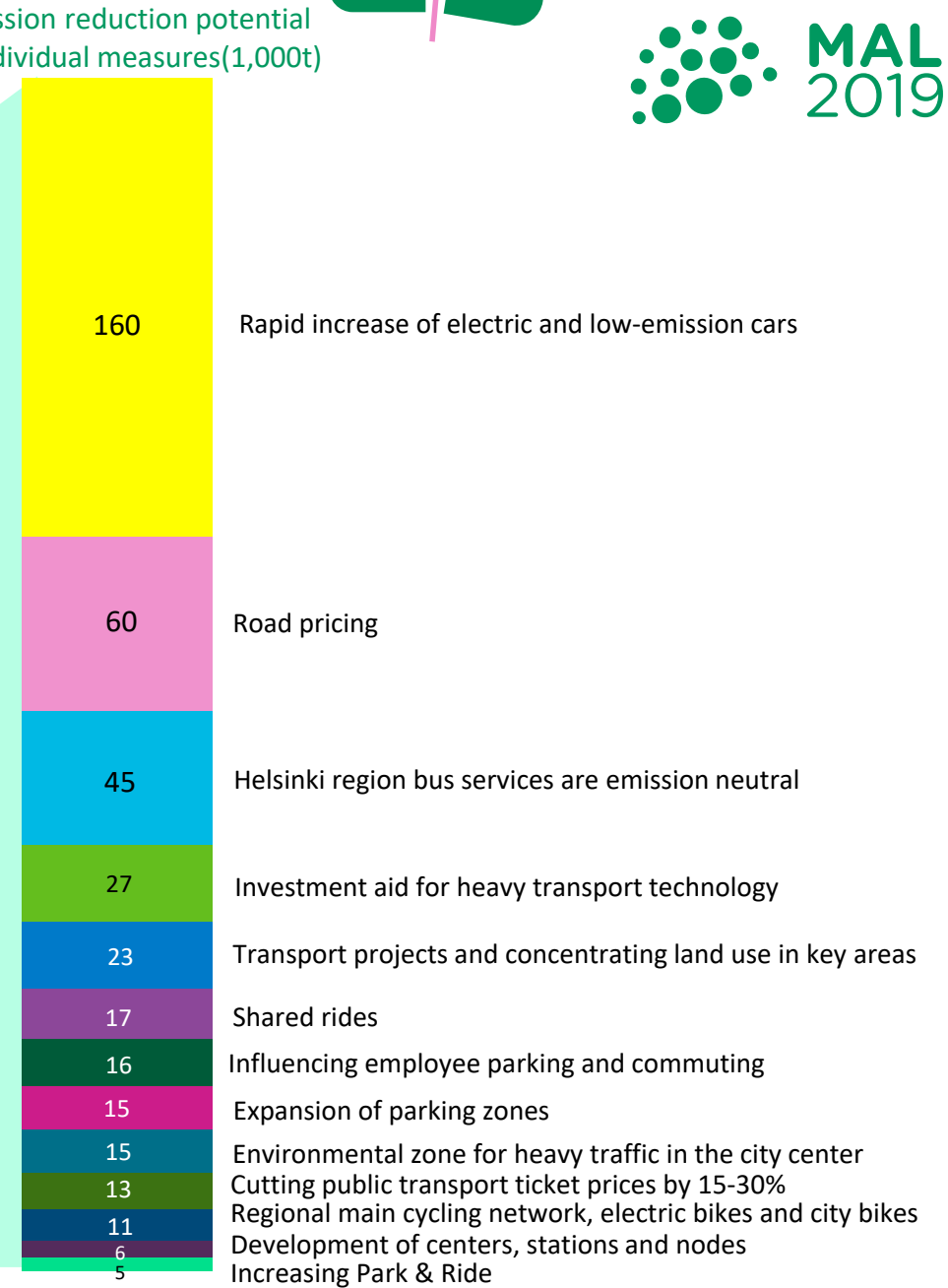
Overarching themes in the assessment

Measures to reduce greenhouse gas emissions from traffic in the Helsinki region by 2030



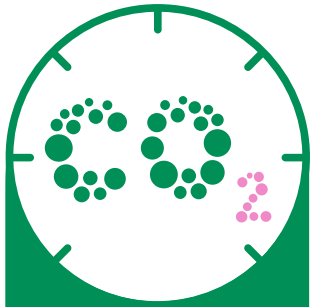
Assumed changes in vehicle emissions per unit
Completed transport projects and projects underway
Intensifying land use which affects car ownership

The measures set out in the draft reduce CO2 emissions from traffic by 17 percentage points, or about 400,000 tons



MAL 2019 core indicators and target levels

MAL 2019



Greenhouse gas emissions from traffic

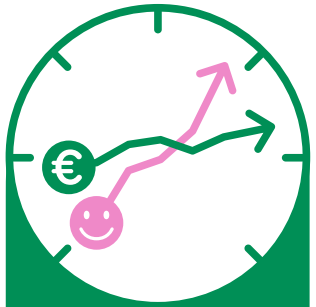
Target -50%
Draft **-50%**
(0 ALT -33%)

Accessibility of labor

Target +10%
Draft +14%
(0 ALT +8%)

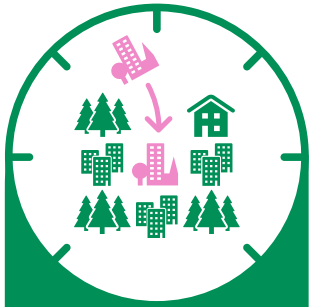
Differences between areas decrease and social segregation does not increase

Draft: the measures contribute to positive changes



Socio-economic efficiency

Target >1.0
Draft 2.9



Housing production located in the primary development zones

Target 90%
Draft **94%**

Share of sustainable modes of transport

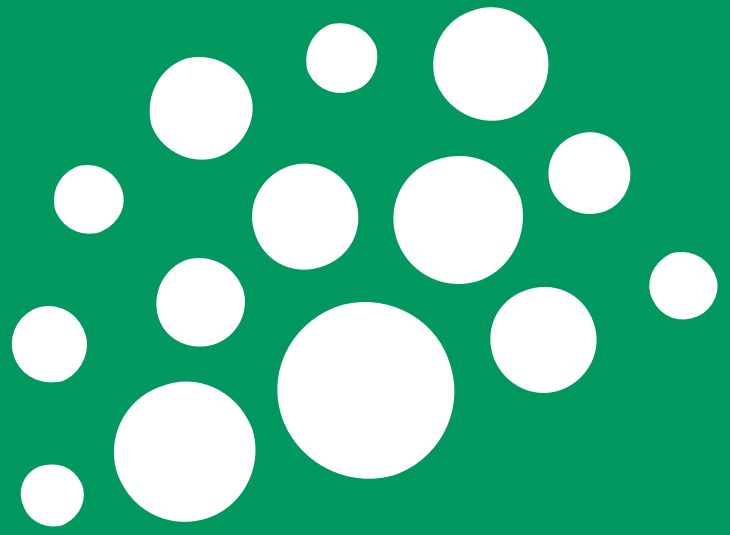
Target 70%
Draft 65%
(0 ALT 57%)

Location of population in sustainable mobility zones

Target 85%
Draft 90%
(0 ALT 82%)

Measures after 2030

- → Greenhouse gas emissions are reduced from the 2030 levels so that Helsinki region is carbon neutral by 2050
  - by land use and transport planning
  - by economic steering tools
  - by developing and utilizing new services and technologies
  - by local production of food and energy
  - by emission compensations and carbon sinks
- → New land use is located sustainably in the primary development zones and their infill areas
  - Potential expansion areas are used if a binding decision has been made on the required transport investment
- → Ensuring sufficient housing to meet the needs of the growing population that enables high-quality housing for all population groups
- → Integrated public transport, beginning with the train and metro network
  - The transport system is developed to be increasingly based on sustainable modes of transport by creating a long-term rail vision and implementation path for the entire region.



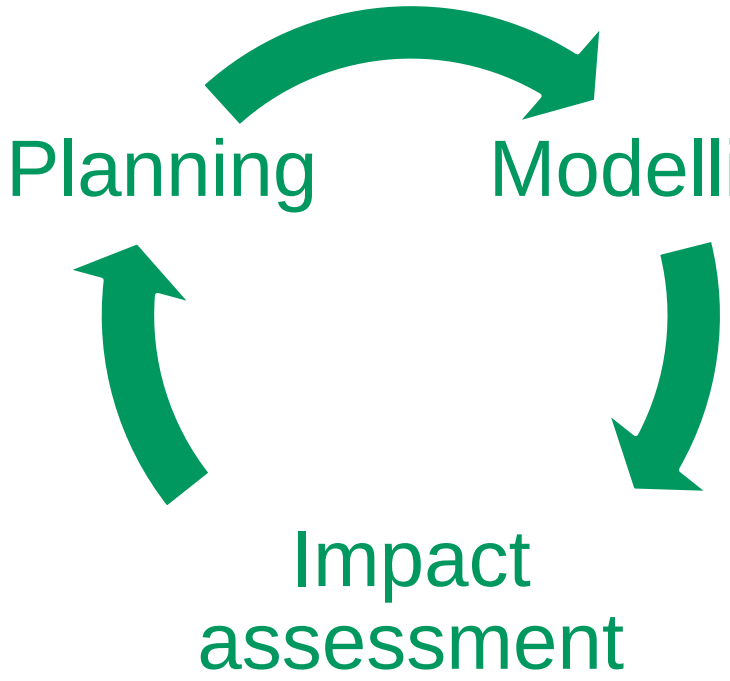
MAL 2019

Abstract of the impact assessment of the Draft MAL 2019

5 November 2018

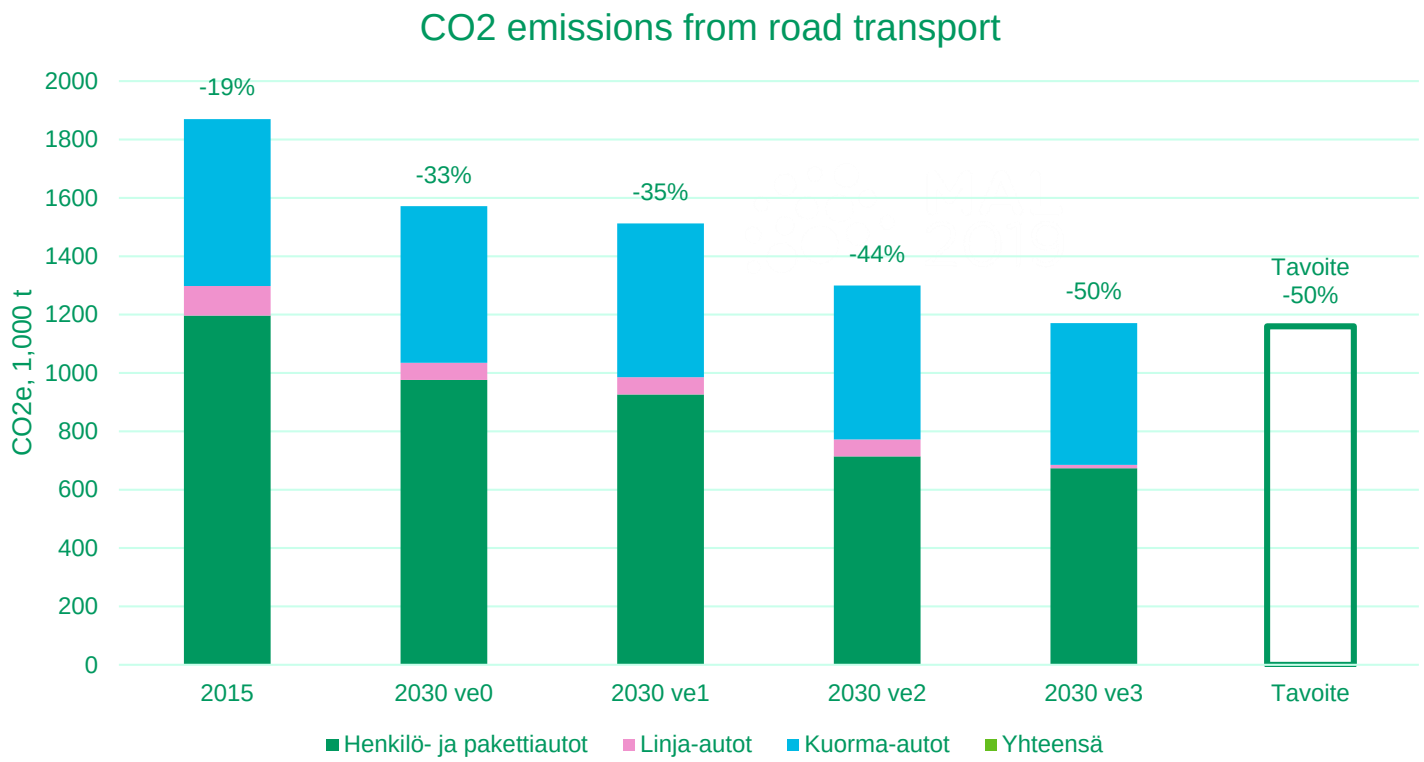
Impact assessment is an integral part of planning

3x



Continuous interaction

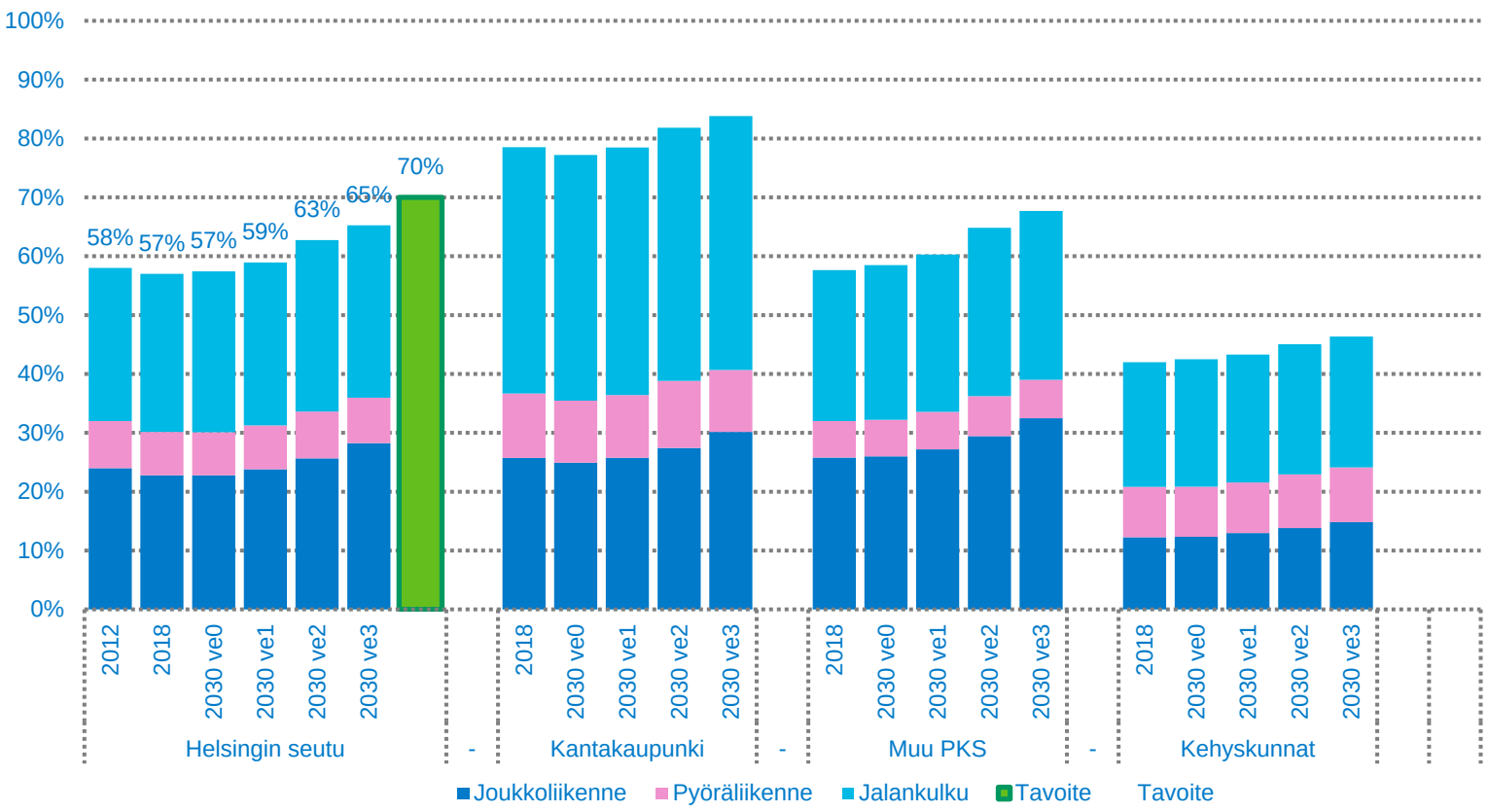
The CO_2 emission reduction target for transport is achieved



Private cars and vans Buses and coaches Trucks Total Target -50% Target

- Greenhouse gas emissions from traffic can be reduced by half if the proposed measures are adopted quickly and efficiently.
- According to the goal proposed in the National Energy and Climate Strategy for 2030, there should be at least 250,000 fully electric vehicles and rechargeable hybrids in 2030. This is also the point of departure when drafting MAL 2019.
- The assumption in MAL 2019 is that 20% of the vehicles in the region will be powered by electricity in 2030. The emissions calculated for an electric car are 15 g CO_2 per vehicle kilometer.

The share of sustainable modes of transport will increase throughout the region, especially in new rail corridors.



- Urban structure will become more compact as land use focuses on centers, areas around stations, and areas with good accessibility.
- Walking, cycling and the use of public transport for everyday journeys will become easier.
- Motor vehicle traffic mileage will almost remain at the present level in spite of considerable growth in the region.
- Car density will decrease considerably. Vehicle mileage per inhabitant will also decrease.

MAL 2019

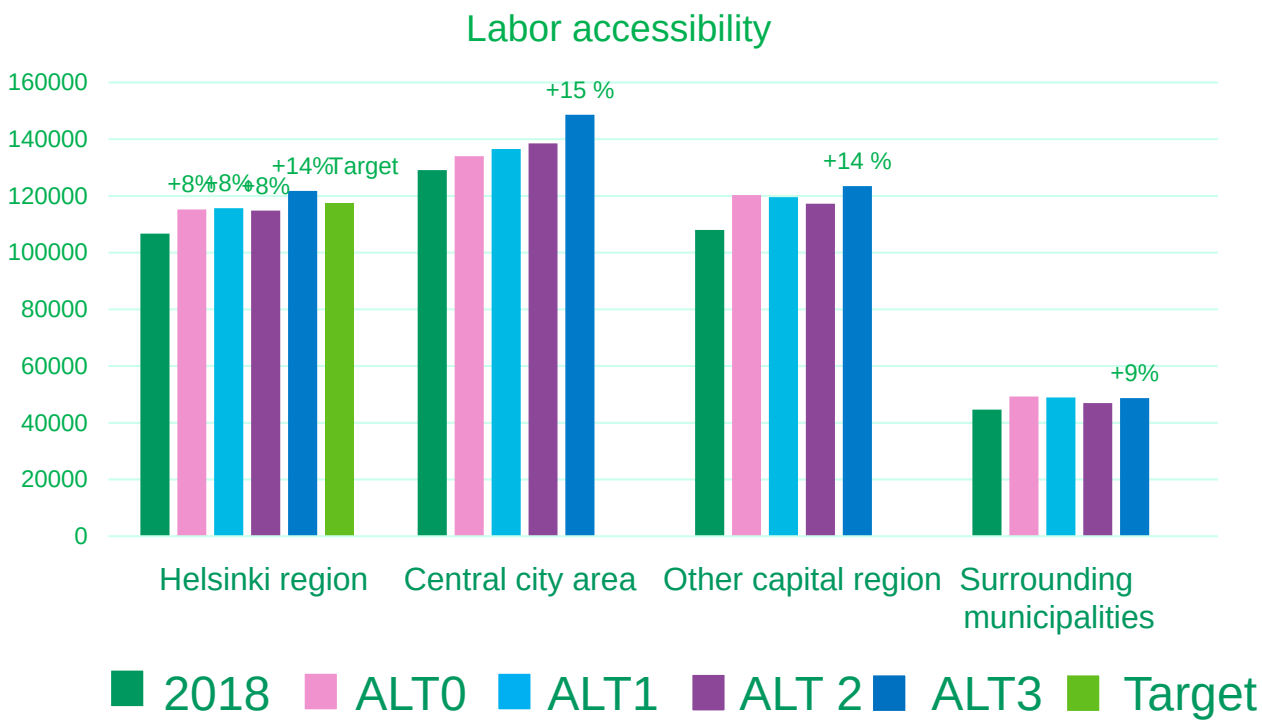
- Introducing a more compact urban structure and making efficient use of the transport system is sensible in view of the use of resources.
- A more compact urban structure will also reduce the use of natural resources in the long term.
- Concentrating land use development will save natural areas and support the maintenance of the green network.
- In further planning, it is possible to significantly affect the formation and intensity of impacts through area borders and planning solutions.

Dependence on private cars will continue to high outside rail centers

- → As the population increases and the urban structure becomes more compact, local recreational areas may be threatened and there is pressure on their use. Noise and local emissions may also increase.
- → Pressure will be imposed on landscape areas and the built environment, especially in central Helsinki and close to the rail network.
- → Residential areas and new transport projects will be located in flood risk areas in places. There will also be some pressure on groundwater areas.
- → A compact structure increases rainwater risk and strengthens the urban heat island phenomenon.

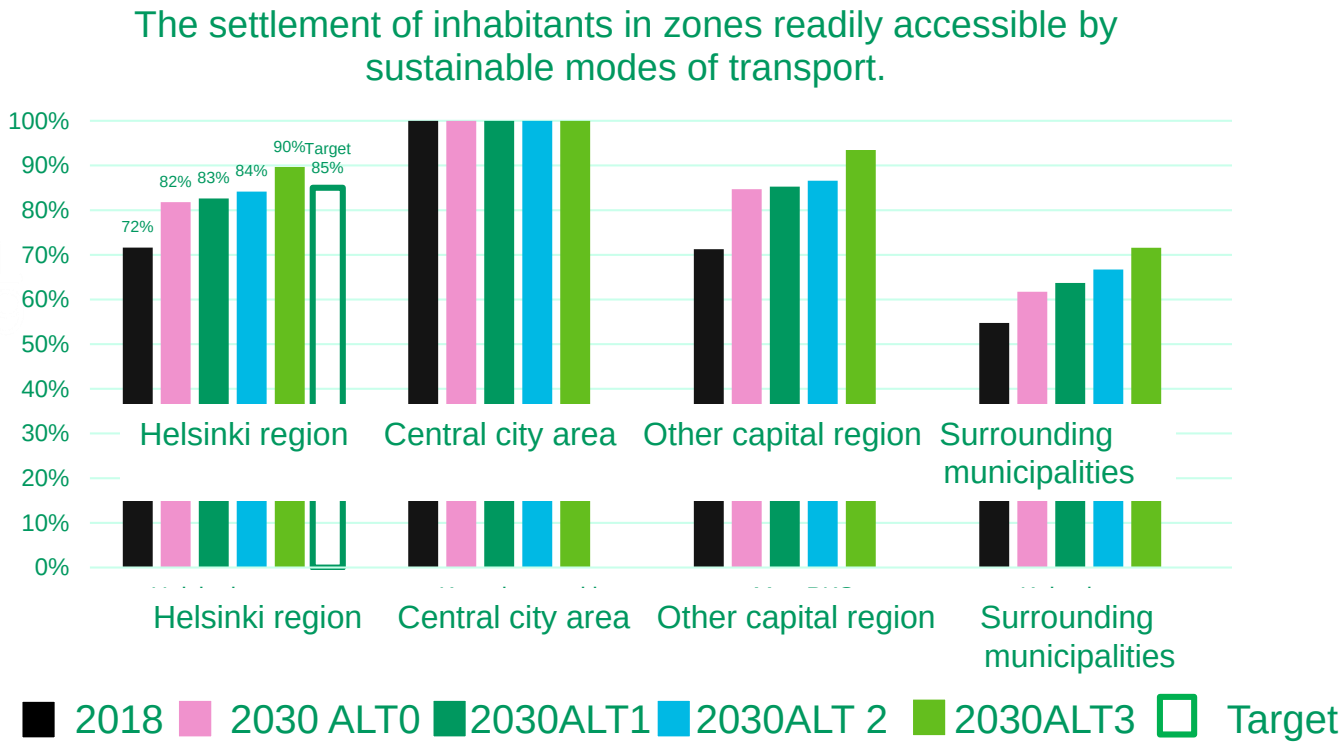
More labor closer to jobs

- → The measures listed in the draft improve the operating conditions for business and industry.
  - ⑩ Labor accessibility will increase by 6 percentage points, the reliability of transportation will improve, and travel times will shorten.
  - ⑩ Population growth, locating population in the core areas and rail transport zones of the region and improving the flow of traffic (e.g. the road charges) will improve labor accessibility.
- → 94% of the planned housing production will focus on the primary regional development zones close to the region's urban centers and rail corridors.
- → The measures outlined in the draft will improve accessibility by different modes of transport, which in part will sustain economic growth.



Smoother travel and everyday life

- → 90% of the region's population and jobs are located in areas where it is possible to use public transport or to walk or cycle to make everyday journeys.
- → The share of new inhabitants settling in the rail zones is approximately 71%.
- → The use of private cars will become easier and travel times more predictable as congestion decreases.
- → People can reach their jobs and leisure activities faster.



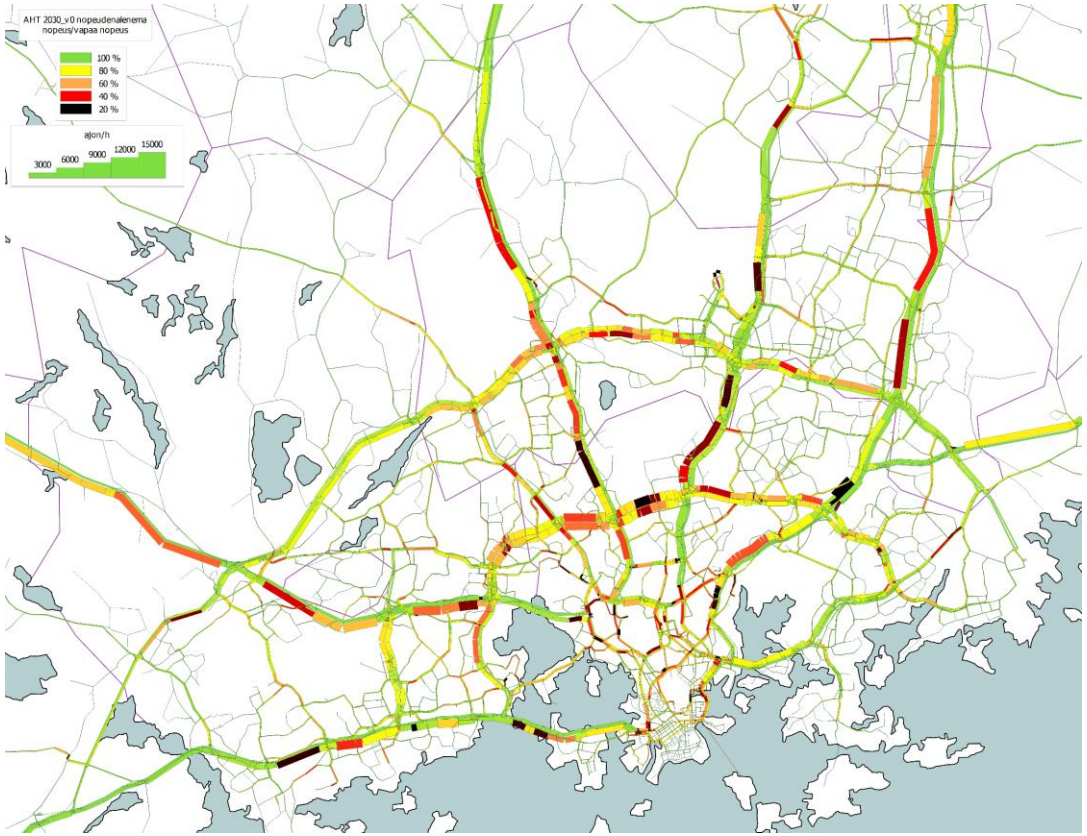
Congestion on the road network will decrease and the reliability of transportation will improve.

- → Road pricing will considerably reduce congestion on the region's road network.
  - Congestion will decrease by almost half, compared to the base alternative.
- → Road pricing will also reduce travel times by approximately 10%.
- → They will also improve the reliability of transportation.
- → The fees will affect less than 20% of the region's inhabitants travellng during the morning rush hour.

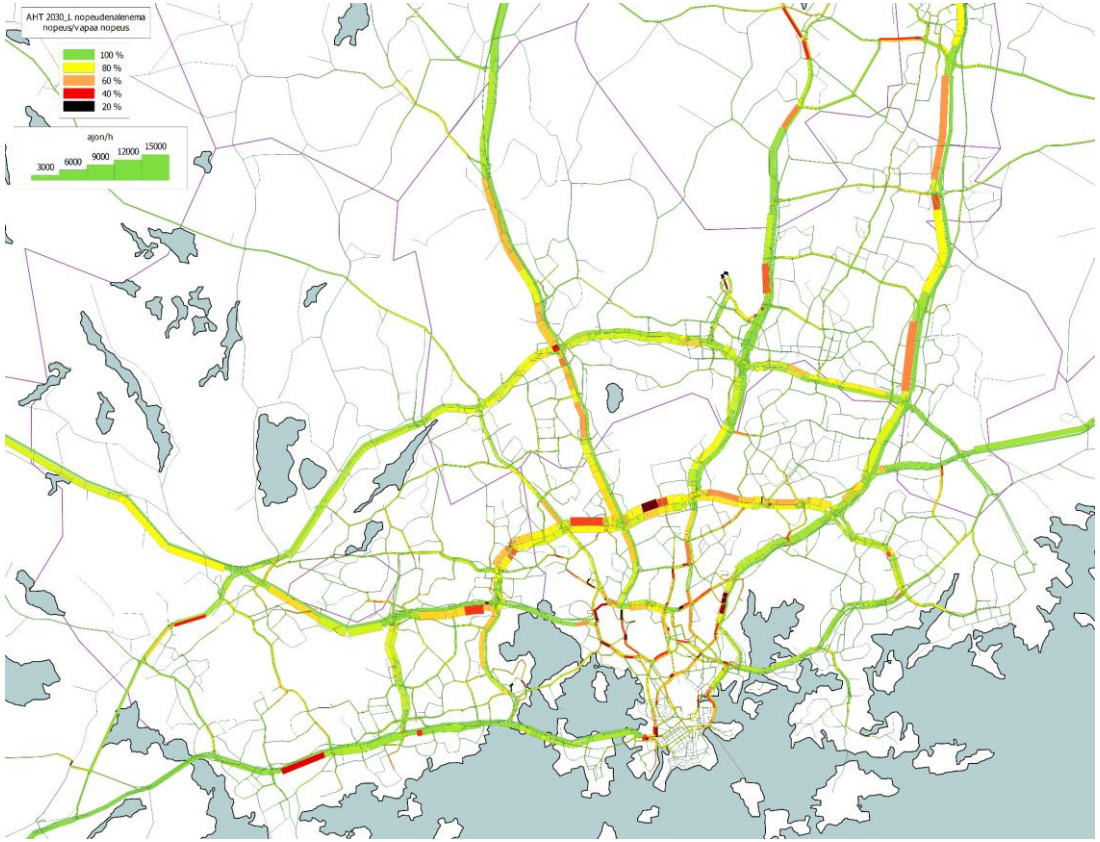
Road pricing is a very efficient, flexible way of cutting CO2 emissions from traffic, promoting the use of sustainable modes of transport, reducing congestion, and ensuring the availability of transport system development resources.

Faster travel – easier day-to-day life

The zero alternative 2030



Draft 2030



Congestion on the road and street network /morning peak hour

Challenges with attractiveness are connected with improved accessibility.

- → Road pricing and parking fees in part impair labor accessibility by increasing mobility costs. Together with improved transport links and reduced public transport fares, however, the combined effect on accessibility will be positive.
- → Labor accessibility in the surrounding municipalities will not increase in the same way as elsewhere in the region.
- → The higher the population growth in the region, the more important beginning to implement these measures becomes. This is also connected with housing production.
- → Improving accessibility depends on when the measures are implemented and infrastructure projects completed.

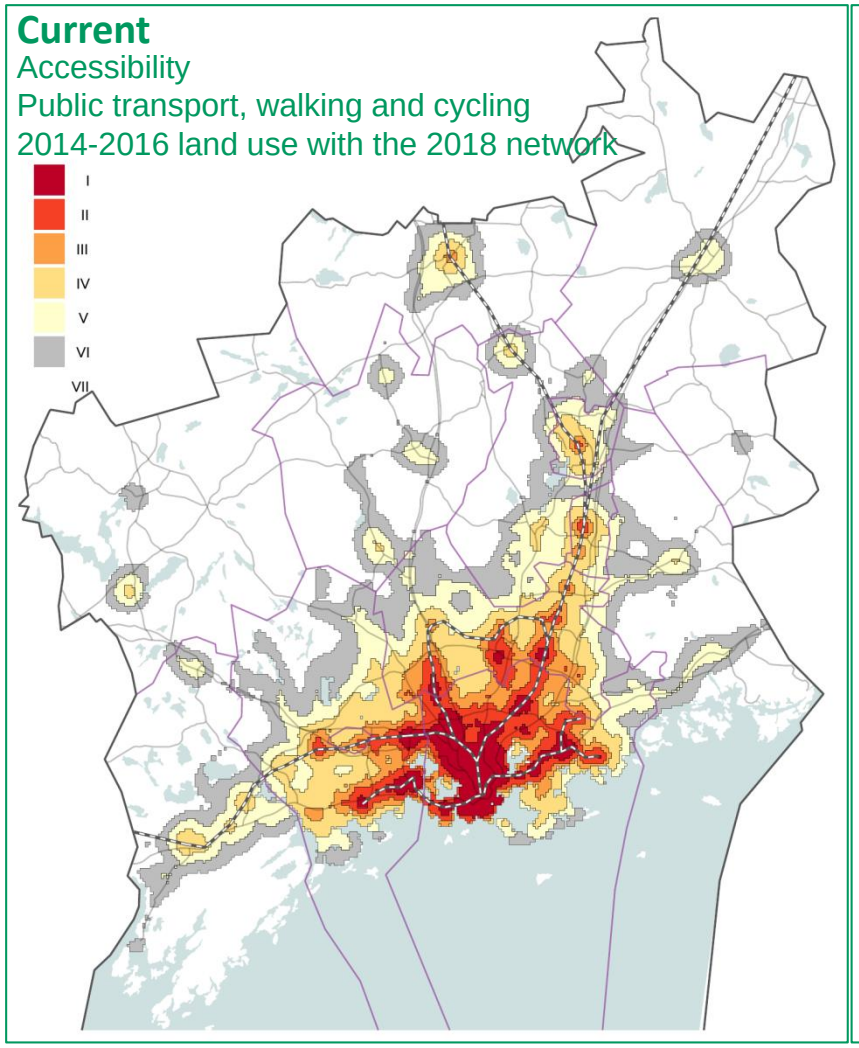
Sustainable and strong public finances create basic conditions for the whole plan

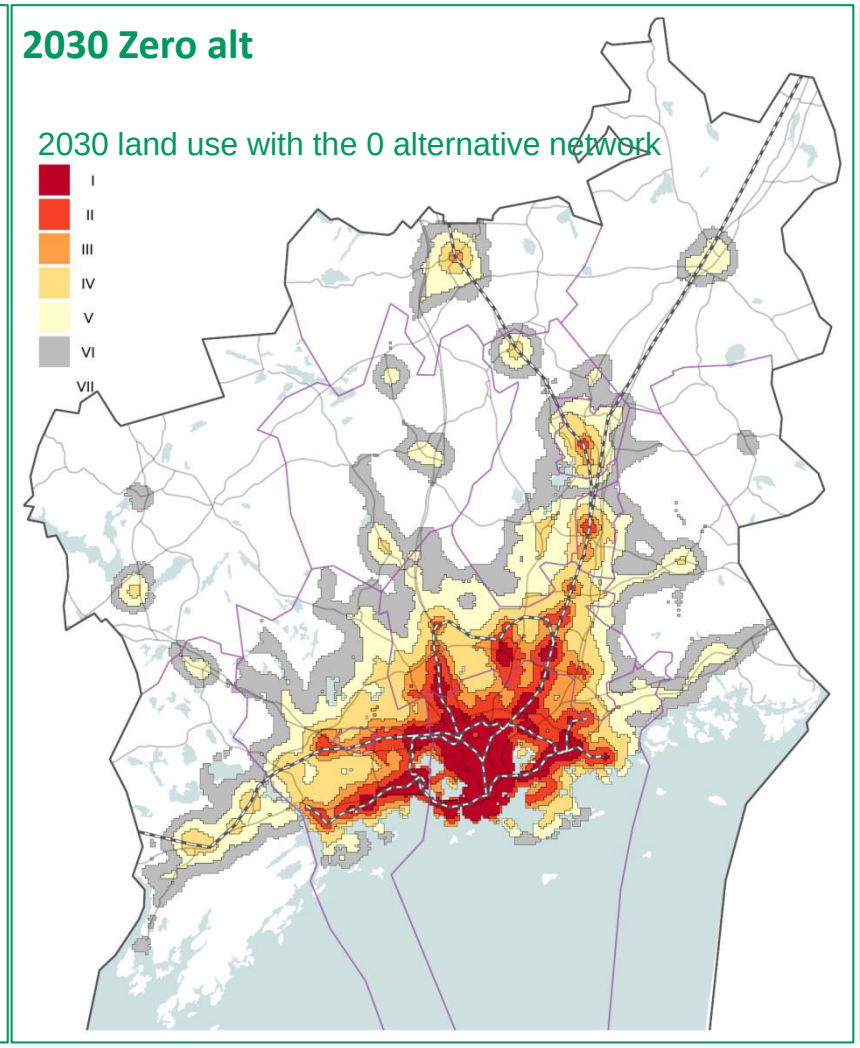
- As a whole, the transport project program in the draft plan is socio-economically efficient.
- The socio-economic efficiency of the draft plan is 2.9 when described as a benefit-to-cost ratio.
  - The computational time and costs savings as well as the revenues of public finances are markedly higher than the investment costs.
  - This is especially due to road pricing and parking fees, but also to the choice of efficient investments.
  - Relying on the current infrastructure is also cost-effective.
- The computational time and costs savings as well as the revenues of public finances are markedly higher than the investment costs.

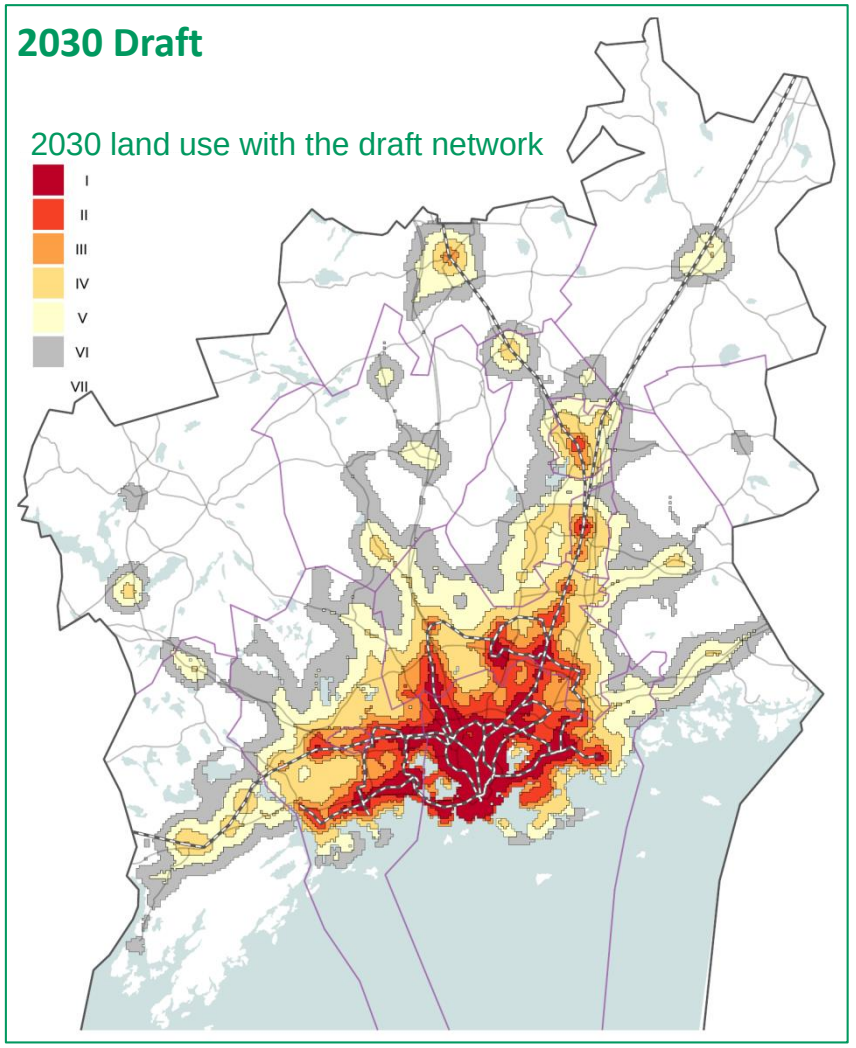
Target>1

Socio-economic efficiency describes the relationship between the benefits of the transport projects produced by the draft and the resources used for them, i.e. overall profitability.

The measures presented in the draft will improve regional accessibility by public transport, walking and cycling.







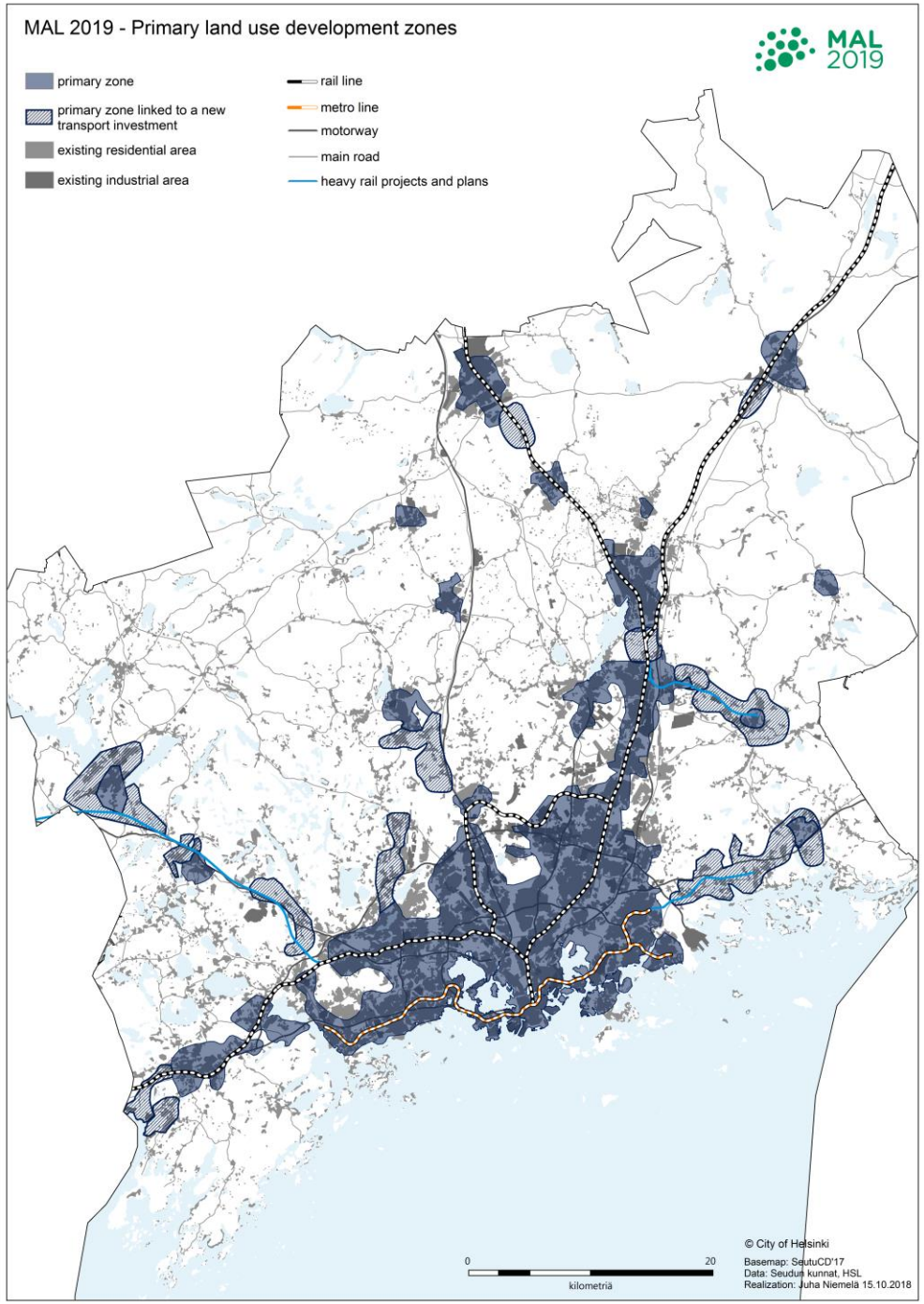
The most important thing is the infill development of the existing structure and making it more compact

→ The proposed zones are justified, considering that the aim is to locate regionally important housing construction in them during the entire planning period.

→ Land use within the zones must be directed to areas that are highly accessible by sustainable modes of transport and where land use potential has not yet been fully utilized.

→ Attention must be paid to less densely built-up centers and areas around stations.

→ Land use development in the expansion zones must be closely connected to developing public transport.

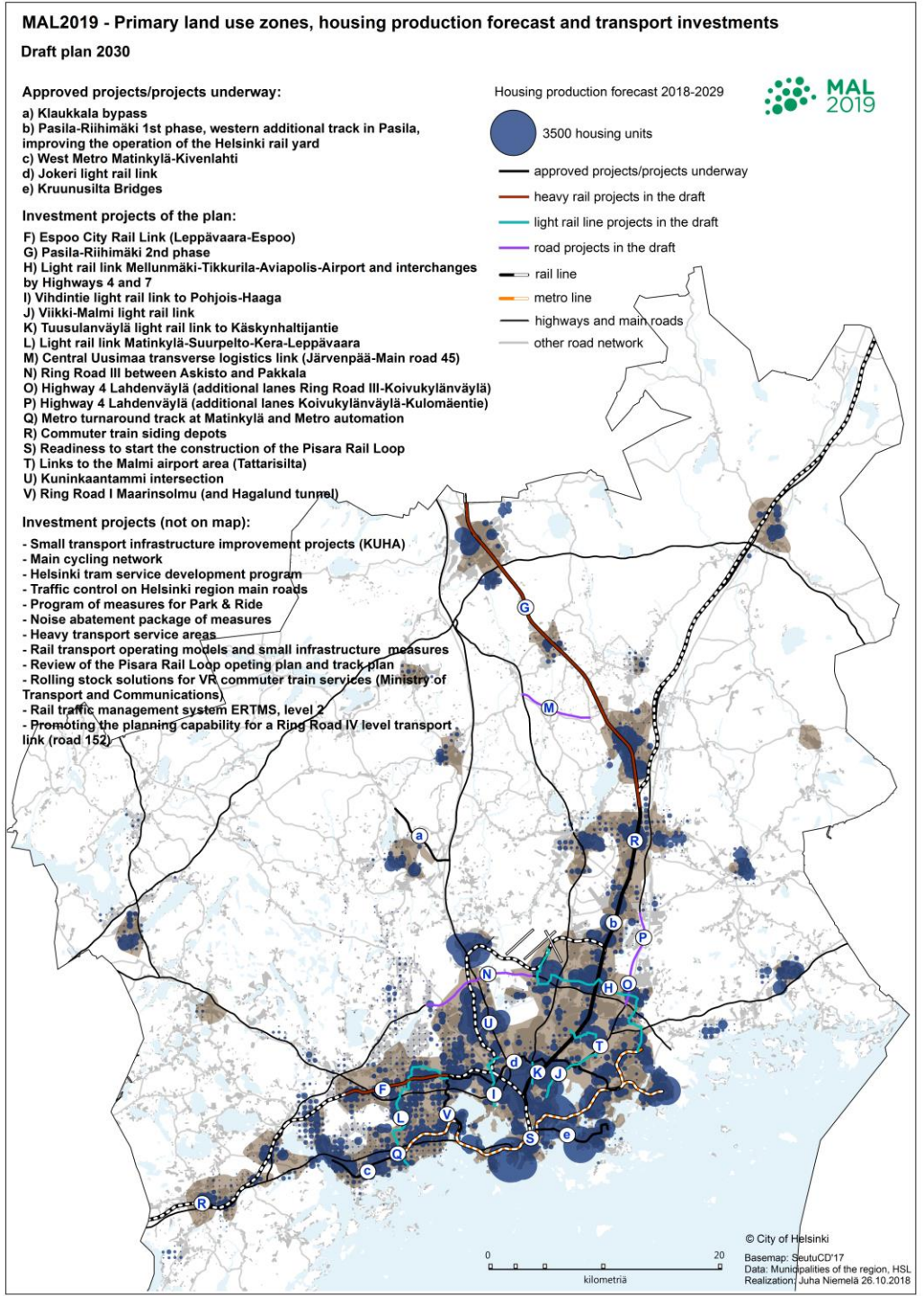


The measures have many interdependencies.

- → The successful implementation of the measures set out in the plan and the scope of its benefits depend on several interconnected aspects that can impair viability.
- → An increase in transport project costs impairs efficiency and delays to them reduce benefits, thereby further impairing viability and public finances.
- → The socio-economic efficiency of the plan only accounts for cost/benefit ratio of the transport project program and not the efficiency of the entire MAL plan.

A high standard of housing production and regionally correctly targeted housing production ensure moderate pricing and responding to different housing needs.

- → The draft estimates that the need for sufficient housing will be 16,500 housing units a year, which will mean almost 200,000 housing units by 2030.
- → More compact land use will allow the provision of a variety of local services for more people.
- → The measures set out in the draft will help to mitigate the segregation trend in the Helsinki region.
- → The draft identifiess infill development, new construction, and demolition and additional construction as instruments for mitigating segregation.

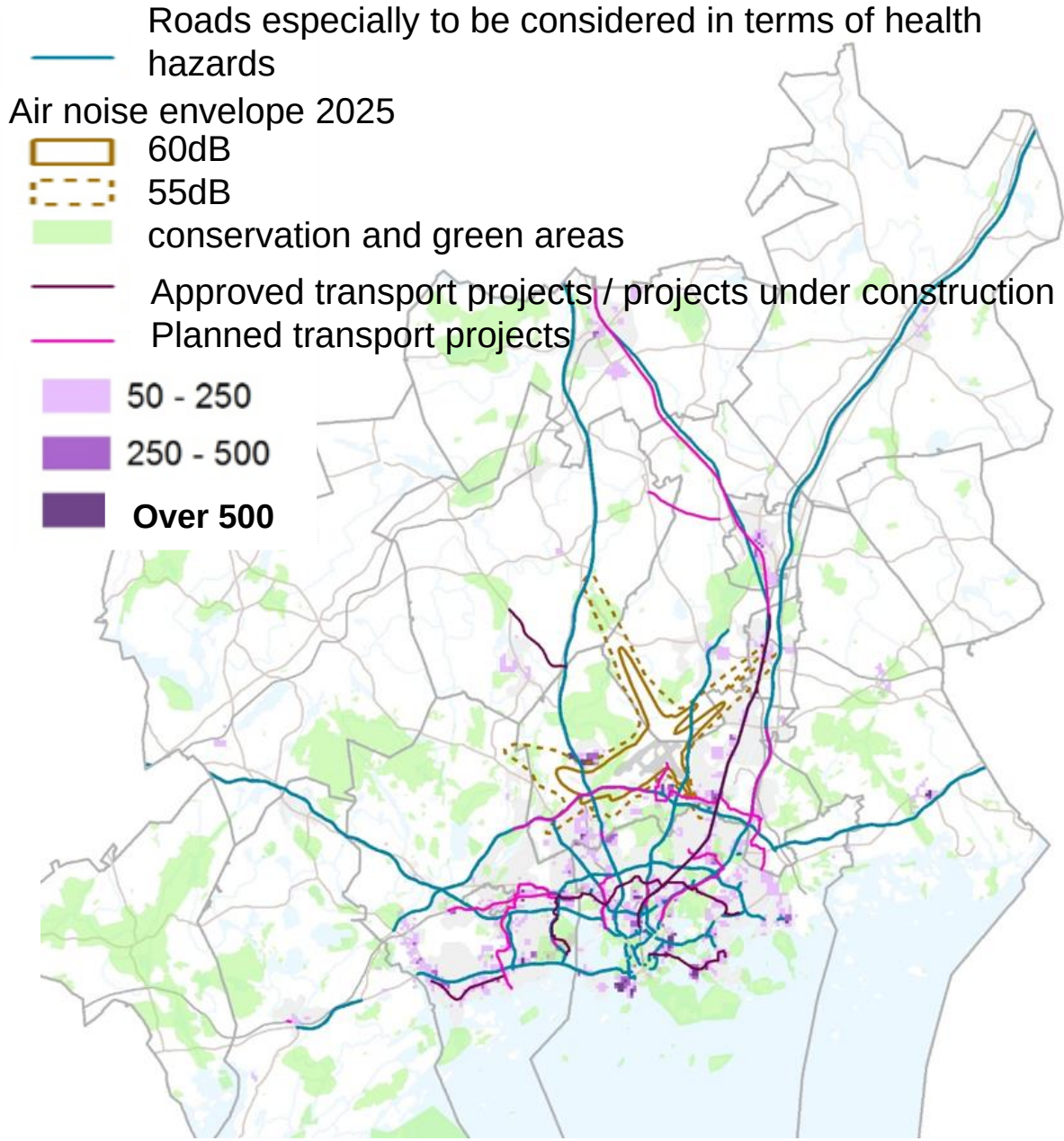


Housing and jobs will be located in areas with good accessibility by public transport, walking and cycling.

- → The preconditions for a car-free lifestyle improve with compact housing in centers, improved conditions for walking and cycling and improved public transport links.
- → Cutting public transport ticket prices will remove financial obstacles to mobility.
- → Decreased road traffic translates into a more healthy and pleasant living environment. In addition, the draft proposes various measures for improving well-being and the pleasantness of the living environment.
- → Personal injuries in road traffic will decrease.

The volume of road traffic must be reduced according to plans in order to deliver positive health effects.

- → Dependence on private cars will continue high in the area outside of rail centers.
- → Compact construction beside busy roads poses a challenge to providing a healthy environment. On the other hand, infill development also offers opportunities for combating the current adverse health impacts of traffic.
- → In further planning, it is possible to effectively control the intensity of the impacts through area borders and planning solutions.



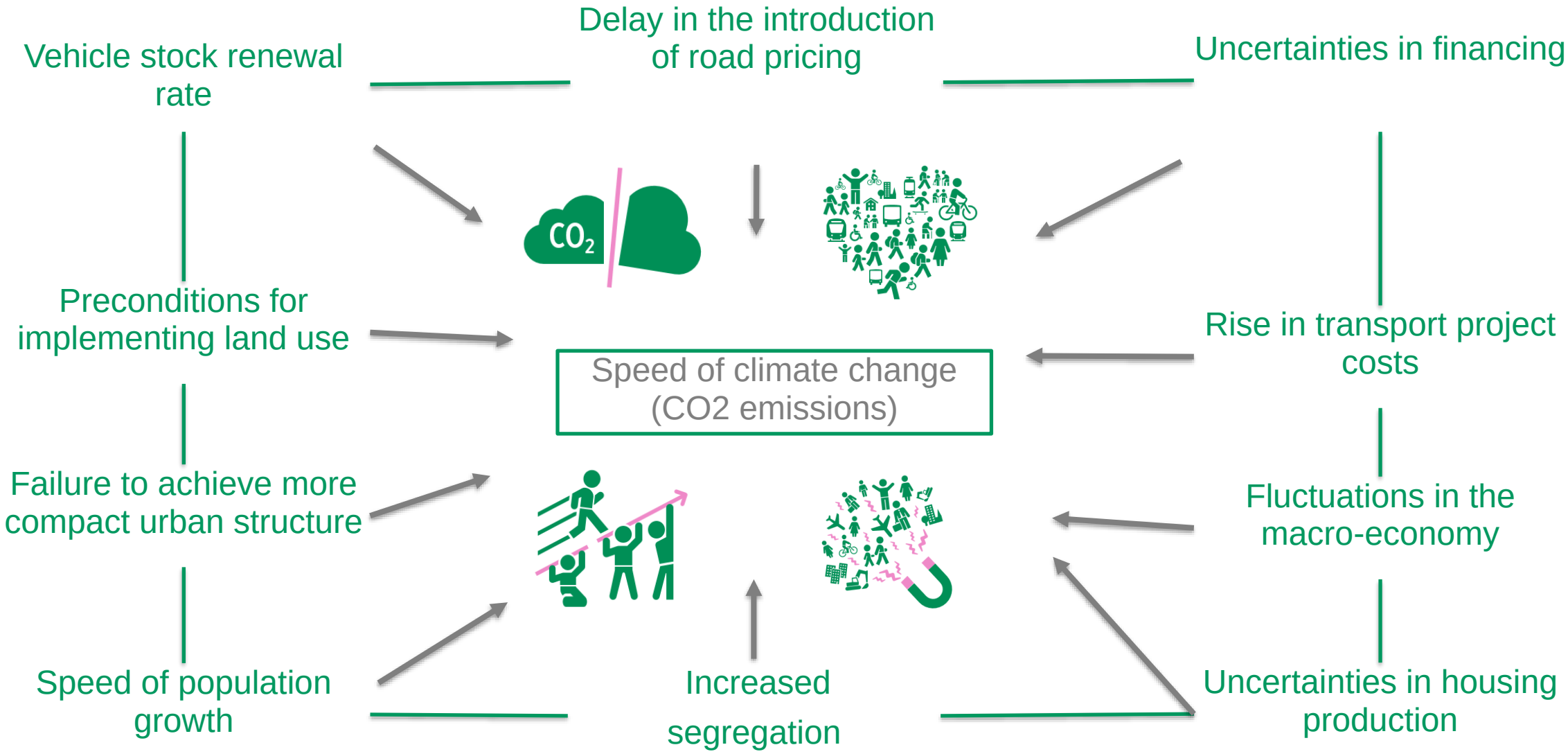
The measures in the 2050 plan support the achievement of the MAL 2019 goals

- → The measures identified are strategically important in view of regional developments.
- → Reducing greenhouse gas emissions and achieving the carbon neutrality goal by 2050 require the use of strong mitigation measures, which must begin immediately.
- → The preparation of the rail vision and the related implementation path provide a good starting point for developing the region and for prioritizing transport projects after 2030.
- → Improving regional, national and international accessibility must also be taken into consideration in the long term.

Critical issues after 2030 that must be already be prepared for and anticipated through planning:

→ Mitigating climate change and implementing carbon neutrality in all fields of urban planning
→ Adapting to extreme weather conditions
→ Enabling population growth beyond predicted levels
→ Controlling social changes
→ Technological and service development

Identifying risk factors in the plan



The 2030 operating environment prepared for through MAL planning

The city becomes more compact and shifts to rail

- Urbanization continues and the urban structure becomes more compact.
- An increasing number of journeys are made by foot or bicycle.
- There is more demand for rail links.
- The population is more aged and multicultural.
- Ways of working are diversified.

Effects of climate change materialize

- Environmentally efficient solutions are utilized.
- Extreme weather conditions become more common.
- Incident management and preparedness are strengthened.
- Prices of fossil fuels rise.

New financing methods and modes of transport

- Public sector financing opportunities decrease.
- New ways of financing are found for investments and maintenance.
- New transport services are developed.
- Barriers between passenger transport and logistics change.

Digitalization is part of the everyday life

- Telecommunication connections replace some of the need to travel.
- Services are based on up-to-date information.
- Different modes of transport are combined seamlessly.
- Automation of transport has proceeded to the road and street network.