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Sustainably on the move

Tampere City Region strives for development and growth – in a sustainable and human-centred manner. By 2030, Tampere will be a comfortable and lively city of approximately 300,000 inhabitants. The city ensures carbon neutrality and smart and sustainable mobility. At the same time, Tampere is a pioneer of urban development. As a city of sustainable growth, Tampere values nature, conserves natural resources and reduces emissions.

The sustainable urban mobility plan is strategic. It reviews people's mobility needs from the perspective of better quality of life. The European Commission recommends urban transport planning in line with the SUMP model for cities of EU member countries. Created for the first time in Tampere, the sustainable urban mobility plan reinforces and demonstrates the objectives set for mobility in the local master plan, the Carbon Neutral Tampere 2030 roadmap and other of the city's development plans.

In addition to the climate aspects of transport, the sustainable urban mobility plan reviews the perspectives of equality, efficient use of space, environmental health, activity and safety.

Lauri Lyly

Mayor, City of Tampere





SUSTAINABLE URBAN MOBILITY PLAN SUMP

Summary

Role and connection with other plans

In Tampere's city strategy, promoting sustainable urban mobility is one of the city's objectives for 2030.

When reconciling the city's growth and carbon neutrality objectives, key land use planning questions identified in the inner city's local master plan include low-emission transport that utilises space efficiently as well as the sufficiency and accessibility of green and recreational areas.

The sustainable urban mobility plan, SUMP, reinforces, prioritises and demonstrates the objectives set for mobility and transport in the local master plan, the Carbon Neutral Tampere 2030 roadmap and other of the city's development plans. The SUMP is a strategic plan that reviews people's mobility needs from the perspective of better quality of life.

The European Commission recommends urban transport planning in line with the SUMP model for cities of EU member countries. The SUMP provides a comprehensive perspective into transport and mobility.

Interaction

The plan has been drawn up together with the city's service areas and units. The preparations of the plan have included diverse interaction with residents, including a resident survey and a resident workshop, workshops at the university, visits to regional networks and discussing the plan in the Youth Council and Council on Disability.

Interaction has resulted in views on the actions required to realise the objectives on a general level and from the perspective of different groups of people.

From objectives to actions

The goal of the sustainable urban mobility plan is to influence mobility choices, feeling safe, equality and sustainability. The plan features six focus areas arising from the city's objectives, for which actions have been presented.

The key goal of the sustainable urban mobility plan is to instill the principles of sustainable urban mobility more prominently into mobility planning and decision-making.

Change in mobility

A denser urban structure and a modern public transport system increase the demand for sustainable means of transport.

The most significant part of journeys by Tampere residents (67%) are short, less than 5 kilometres, which means there is great potential for sustainable mobility. New mobility services complement the sustainable transport system, decrease the need for owning a private car, improve the smoothness of daily life and facilitate the use of public transport.

From the perspective of the carbon neutrality objective, modal split changes for longer journeys are essential. The selected modes of transport can be affected by expanding the high-quality public transport service and by making travel chains as fluent as possible by developing parkand-ride facilities, among other things.

Efficient transport system

An urban structure that is growing denser has only a limited amount of space, which means that the efficient use of the transport system is essential. Mobility management is a cost-effective way of influencing the mode of transport and timing of mobility. Mobility management

is based on so-called soft ways of management, such as guidance, marketing and different trial opportunities.

There is fierce competition over the use of space in the key growth areas of the inner city, which leads to prioritising the modes of transport that utilise space most efficiently.

Implementation and follow-up

The action plan includes around forty actions. The impact of each action on the plan's focus areas has been evaluated: efficient, carbon-neutral, equal, safe, active and environmentally responsible.

The sustainable urban mobility plan and actions have been drawn up for 2021–2024. The plan will be updated in connection with updates of the local master plan or earlier, if necessary, in case significant change needs arise. Future development directions can be predicted only so far, which means that mobility behaviour and changes in it are monitored regularly.

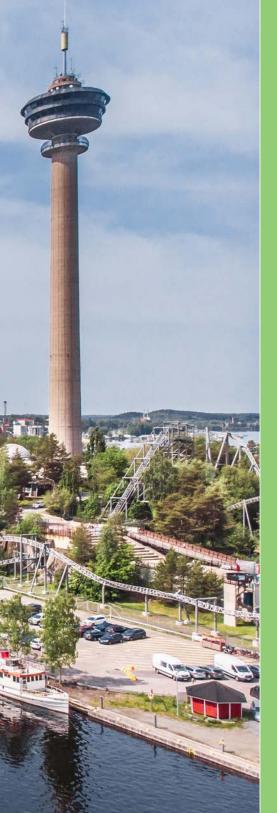
SUSTAINABLE URBAN MOBILITY PLAN SUMP

Accessibility	A way of thinking and acting that takes into account the needs and functional ability of all people, including those with mobility and sensory disabilities.	
Active mode of transport	A travel mode that requires physical effort, such as walking, cycling or scooting.	
Alternative motive powers	More environmentally friendly motive powers that replace petrol and diesel, for example electricity and biogas.	
Carbon-neutral	A situation/objective in which carbon dioxide emissions are produced only as much as can be sequestered from the atmosphere in carbon sinks.	
Carsharing	Using cars owned by a service provider or rented by a peer with agreed-upon terms and conditions.	
District centre	Hubs and development areas of living, leisure, services and entrepreneurship. Liela- hti-Hiedanranta, Linnainmaa-Koilliskeskus, Hervanta, Peltolammi-Lakalaiva and Tesoma in Tampere.	
Feeder traffic	Modes of transport used to reach public transport stops, for example cycling to a train stop.	
Intelligent Transport Systems (ITS)	Improving fluency and safety intelligently with information and communication technology.	
MaaS	Mobility as a Service. A service entity that comprises different mobility services and is based on purchasing services instead of owning.	
Micromobility	A collection of small, usually lightweight vehicles, such as electric scooters and city bicycles.	
Mixed-use urban structure	Housing, places of work, services and other city functions are located in a built environment amidst each other, which cuts distances and improves accessibility with sustainable modes of transport.	
Mobility hub	A physical place and/or a service cluster with flexible, linked transport and other services are located in a public transport hub, for example.	
Motor vehicle ownership rate	A figure depicting the number of households with and without a car in a residential area and the number of cars in the area in relation to the population. Can be indicated, for instance, as number of cars per 1,000 residents.	
Mobility management	Promoting sustainable modes of transport and smart mobility through marketing and mobility plans.	

Vocabulary

Park-and-ride	A parking facility for cars and/or bicycles organised close to or in connection with a public transport stop or station.	
Passenger performance	The number of kilometres travelled by an individual within a certain timeframe.	
Public transport zone	A zone in the community structure that can be divided into an intensive public transport zone with an excellent service level and a public transport zone with a good service level.	
Public transport trunk route	Public transport routes that have plenty of passengers, shorter headways and different solutions that expedite public transport.	
Service transport	A home pick-up delivery that takes a passenger to nearby services and is similar to public transport. Designed for those with difficulties travelling with regular public transport.	
Share of transport modes	The share of trips made with different modes of transport (walking, cycling, private car, public transport) either from the total number of trips (pcs) or the performance (km).	
Sharing economy	A way of sharing, borrowing or renting goods instead of owning, for instance, shared cars and rides.	
Smart Parking	Utilising information technology and real-time data transfer in alternate-side parking and the parking of autonomous vehicles, for example.	
Sustainable mode of transport	Modes of transport/mobility that are favourable for the environment, like public transport, cycling and walking.	
Traffic signal priority	A traffic signal function for public transport, for example, which gives priority to public transport in traffic lights before other traffic.	
Transport poverty	Not having the opportunity to travel with reasonable effort, costs or time to locations where daily needs can be satisfied.	
Transport system	A transport entity that compasses all modes of transport of extensive personal and freight transport, related services and means of transport.	
Travel chain, also trip chain	Combining different modes of transport into an entity in which changing from one mode to another is fluent.	
Urban logistics	The distribution and collection of different goods and materials for companies and households in an urban environment and the related mobility and services.	





1. OBJECTIVES OF THE PLAN





Urban and sustainably growing

Tampere's strategy, "Tampere - The Best for You", sets the direction for the city's development until 2030. By 2030, Tampere wants to be Finland's second metropolis: a carbon-neutral, comfortable and vibrant city of 300,000 residents. Tampere's strength is smooth daily life amidst a wide range of experiences.

VISION 2030: Tampere – The Best for You Desired results 2030:

URBAN AND SUSTAINABLY GROWING

The city's growth Vitality, distinctiveness and urban environment A smart and sustainable city

A comfortable and lively city of 300,000 people

Carbon-neutral

A pioneer in smart and sustainable transport and urban development

Tampere's objective is the strong increase of sustainable modes of transport and decreasing the number of journeys made by car: in 2030, 69% of trips will be covered with public transport, on foot or by bike. This is a challenging goal, which demands persistent and determined action.

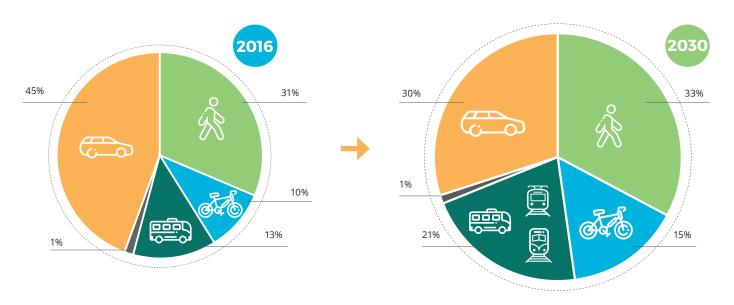
The local master plan merges together the city's strategic objectives and more general objectives regarding the development of the community structure. In particular, the theme of Tampere's strategy, "Urban and sustainably

growing", is key in steering the solutions of the inner city's local master plan.

The sustainable urban mobility plan reinforces, prioritises and demonstrates the objectives set for mobility and transport in the local master plan, the Carbon Neutral Tampere 2030 roadmap and other of the city's plans. The goal of the plan is also to implement the results of the development programmes and innovations into daily mobility planning.

How do we move ourselves now and in 2030?

The shares of transport modes used by Tampere residents on an autumn day





The city is growing 2030



Tampere is striving for an annual population growth of 1.4%, which means a little over 3,000 new residents every year. As the city grows, transport and mobility increase. Every Tampere resident makes a little over three journeys every day. When the population increases by 3,000 residents every year, it accumulates to more than 10,000 new journeys every workday. Nowadays, Tampere residents cover almost half of their trips by car but as the city

grows, we need changes in modal split into mobility with lower emissions and more efficient use of space. In the draft of the local master plan for the inner city, growth based on sustainable mobility has been enabled especially in the areas of city centre functions and in the separate growth and vitality zone specified in the city strategy. At their best, these areas with mixed-use structure and an efficient public transport system enable smooth daily life without a car.

Sustainable urban mobility plan

The sustainable urban mobility plan is a strategic plan that reviews people's mobility needs from the perspective of better quality of life.

The European Commission recommends urban transport planning in line with the SUMP concept for cities of EU member countries. Behind this recommendation are the challenges shared by European cities: climate change, unpleasant urban spaces, congestion, accessibility issues, uneven distribution of well-being, air quality, noise and traffic accidents.

The sustainable urban mobility plan provides a comprehensive perspective into transport and mobility. It describes how the objectives set in Tampere's strategy are implemented in urban mobility. The plan is connected to the Carbon Neutral Tampere 2030 roadmap, and the initiatives support each other. The sustainable urban mobility plan reviews mobility and the desired actions from a wider sustainability perspective: the perspectives of equality, efficiency of space utilisation, environmental health, activity and safety in addition to climate.



SUMP was created in cooperation

Tampere initiated the preparations for the sustainable urban mobility SUMP plan in 2017 as part of the CIVITAS SUMPs-Up project funded by the European Union.

The overall responsibility of the preparations of the sustainable urban mobility plan has been with the transport system planning unit, and the plan has been created in cooperation by different city units. The preparations of the plan have included diverse interaction with residents, including a resident survey and a resident workshop, workshops at the university, visits to regional networks together with the Sustainable Tampere 2030 programme and discussing the plan in the Youth Council and Council on Disability.

The objectives of the sustainable urban mobility plan arise from Tampere's strategy. The purpose of interaction has been to expand the views on the actions required by these objectives in general and from the viewpoint of different groups of people.



Tampere residents' wishes for future modes of transport in the public SUMP event in 2019.





2. THE FOCUS AREAS OF THE PLAN



From objectives to actions

The goal of the sustainable urban mobility plan is to influence mobility choices, the feeling of safety, equality and sustainability. The plan features six focus areas arising from the city's objectives for which actions have been presented.



Low-carbon mobility 2030

In a carbon-neutral city, public transport, travel chains and switching from one mode of transport to another are promoted determinedly. The goal of carbon-neutrality influences planning choices strongly.



A safe city for all

When a traffic environment is safe for children and senior citizens, it is safe for all. Lowering driving speed in residential areas affects the safety of everyone moving in the area as well as makes the residential area more comfortable. Safe school routes support children's opportunities for independent mobility.



More with less smart and creative

An efficient and sustainable transport system is reliable, safe and accessible. Mobility is possible without ownership. Each mode of transport has its own role in urban mobility.



Encouraging the use of active modes of transport

Everyday physical activity promotes well-being and health and decreases the costs caused by physical inactivity. Mobility management at workplaces is a way of increasing sustainable commuting.



Mobility opportunities for all

Tampere wants to provide all of its residents with the opportunity to move from one location to another and realise their full potential. Daily mobility, with an emphasis on sustainable modes of transport, must be possible with reasonable effort, in reasonable time and at reasonable cost.



Environmental responsibility and health go hand in hand

An ecologically sustainable transport system minimises the adverse impacts of traffic on the environment. Air quality is good, and fewer people are exposed to noise. Urban nature is easily accessible.



Carbon-neutral city

In a carbon-neutral city, greenhouse gas emissions to the atmosphere do not exceed the amount of carbon dioxide it can sequester from the atmosphere.

The climate target set by Tampere means that greenhouse gas emissions from traffic must be cut down by more than half (55%) from 1990 to 2030.

Traffic emissions that expedite climate change consist of carbon dioxide (CO₂) and other greenhouse gas emissions that are vented and accumulate in the atmosphere when fossil fuels are used. In Tampere, road traffic contributes approximately a quarter of all greenhouse gas emissions.

In a growing city, achieving traffic climate targets requires a transition into more sustainable modes of transport, allocating resources for improving the conditions of sustainable mobility and the increase in fossil-free motive powers.

The development of Tampere's emissions 2010–2019 8.0 4.0 0.0 90 0 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 total CO₂e CO₂e of traffic Emissions

per inhabitant

Urban structure creates the preconditions for sustainable mobility

A sufficiently dense and mixed-use urban structure and the locations of housing, workplaces and services within distances that can be covered on foot or by bicycle and along good public transport connections increase the use of sustainable modes of transport. Meanwhile, the need for owning your own car decreases.

In connection with the local master plan work for the inner city (City Council's term of office 2017–2021), the sustainability of the urban structure has been evaluated using six criteria based on research literature and an analysis conducted on the current structure of the city:

- Density enabling a public transport city, a minimum of 35 residents and workplaces per hectare,
- 2. density enabling a walking city, a minimum of 100 residents and workplaces per hectare,
- 3. urban structure with sufficiently mixed use,
- 4. decreasing motor vehicle ownership rate due to density: the share of households without cars surpasses those with two cars, the share of those with two cars below 30%,
- **5.** the share of households without cars surpasses those with one car, the share of those without a car above 40%,
- **6.** relatively low emissions from mobility and transport.

In Tampere, new homes and workplaces are allocated in city centre, district centres and key public transport zones. The city's master planning unit is developing a method for evaluating the climate impacts of community structure.

By bus, by tram, by train

Climate emissions are reduced when an increasing number of trips made by car is replaced with public transport, carpooling or using your own muscles to get around. Increasing the occupancy rate of private cars decreases emissions and the need for space. Also electric bicycles and other electric two- and three-wheel vehicles can be used to replace passenger cars.

To mitigate climate change, it is important to provide options for sustainable mobility especially on trips exceeding five kilometres since Tampere residents mostly use their own cars to cover these. Those trips create more than 90% of the performance of private car journeys and, correspondingly, of greenhouse gas emission generated by traffic (see image on pp. 22).

The tramway is Tampere's most significant individual project in developing the public transport system because it decreases the climate load by decreasing the energy consumed in traffic and uses electricity instead of oil. In addition, the tramway creates the preconditions for sustainable and more denser land use and promotes a smart transport system and new mobility services.

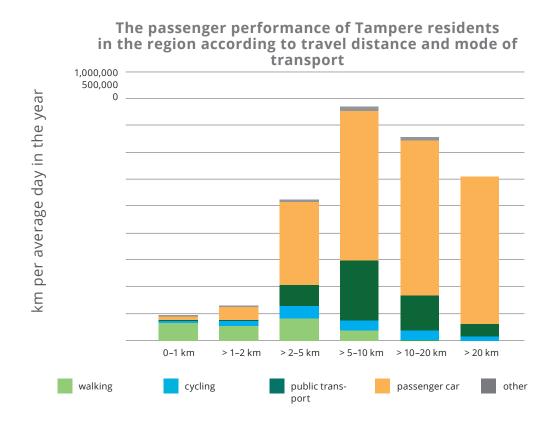
Developing regional public transport in Tampere to improve its quality and make it even smoother is a prerequisite for the growing city's vitality and competitiveness. Short headway of trunk routes, travel times that are competitive compared to private cars and comfortable travelling are key development targets for public transport in the future.

Pricing of traffic

Renewing the pricing of traffic has been estimated to be the most effective and the most cost-efficient way to curb car traffic volumes and fund investments in sustainable mobility. In the LHT agreement (MAL in Finnish)) on land use, housing and transport between the state and the Tampere City Region (2020–2023), we have committed to investigating the effects of implementing congestion charges in the region as part of the state's preparations for regulations. The decisions on the possible implementation of charges will be made separately.

Low-emission motive powers

In addition to increasing the share of trips covered with sustainable modes of transport, greenhouse gas



emissions can be cut by transferring from fossil fuels into biofuels, other renewing fuels and electric and hybrid cars. Decreasing the number of kilometres covered with petrol and diesel also decreases exhaust emissions that are detrimental to health.

In renewing the automobile stock and low-emission fuels and alternative motive powers becoming more common, state actions play the most central role.

The city aims to prefer alternative motive powers also in its own bus traffic, traffic procurement and vehicles and working machinery.

Feeder traffic enables sustainable travel chains

Public transport trunk routes and the market-based development of mobility services create sustainable travel chains. When feeder traffic and park-and-ride facilities function well, an increasing number of people can use public transport. Feeder traffic includes using your own car, bicycle, autonomous vehicles and call-a-ride service.



Examples of actions

- building the second stage of the tramway to Lentävänniemi
- expanding commuter train traffic and improving the service level of regional bus traffic
- developing park-and-ride facilities and travel chains
- investigating the options of financial direction of road traffic
- local master plan solutions that promote a sustainable urban structure.



Efficient and sustainable transport system

An efficient and sustainable transport system is the backbone of a growing city. A human-oriented transport system promotes health, safety and a feeling of social belonging.

Clear traffic network structure and distinctive roles for different modes of transport

Each mode of transport has its own role in urban mobility. The starting point for a more efficient transport system is a clear structure and distinctive roles for different modes. Developing urban mobility is strongly connected to the development and goals of the urban structure.

The draft of the inner city's local master plan has presented the roads for vehicular traffic (national thoroughfares, regional thoroughfares and key local distributor roads) on which the key objective is to develop the smoothness of vehicular traffic. Managing an increasing number of people requires sharing the space in a new way between modes of transport to ensure the efficiency and sustainability of the transport system.

How to influence the mobility need and choice of transport mode?



More with less

The challenge of a growing city is resource efficiency – the ability to move more people around in limited space. Growth increases traffic particularly on entry roads during the peak hours of weekday mornings and evenings when a significant share of commuting to work and places of study takes place.

Affecting the time of moving at the most congested times is significant because even a slight change in commute times can have a major effect. The numbers of journeys made by private cars can be influenced by combining journeys or by improving the travel time competitiveness of sustainable modes of transport. All actions leading to the voluntary decrease of journeys made by private cars or relocating them to a time outside the congestion peaks or replacing them with journeys made by sustainable modes of transport have a positive influence on the efficiency of the transport system.

Mobility management

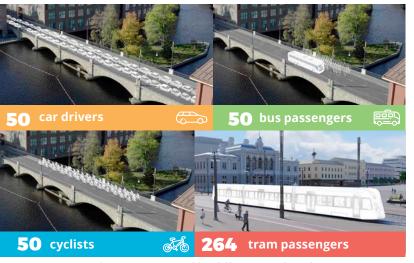
Mobility choices do not change by changing the traffic environment alone – the different opportunities of mobility require marketing to find their users. Successful mobility management is a cost-effective way of influencing traffic demand and people's mobility choices.

Mobility management is carried out in Tampere bearing in mind different target groups. Mobility management at workplaces, modes of transport on school routes and moving in events are development targets for mobility management. Theme weeks, such as the European Mobility Week and Cycling Week, are visible in the cityscape. Tampere develops the marketing of sustainable mobility and mobility management through the city's internal coordination group in cooperation with other operators.

Sharing space effectively

As Tampere's urban structure is growing increasingly denser, it is not often possible to expand street space. The current sharing of space must be re-evaluated. Ensuring the preconditions for sustainable mobility by using space more effectively is particularly critical in growth zones increasing in density, for example, along public transport paths where the competition between different modes of land use is the fiercest.

When mobility takes its space effectively, it also has a significant impact on how comfortable the urban space is. On the other hand, strongly renewing urban environments grant the



The space required by different modes of transport

opportunity to channel the benefits derived from the development into solutions that promote sustainable transport. City centre areas with an emphasis on walking are not only for moving from one place to another but also for spending time and enjoying urban culture. That is why it is important to pay attention to the quality of the urban environment by preferring active ground floors that open up to the public urban space and utilising effective parking solutions.

Objectives as the starting point for planning

When creating traffic plans, the functionality of vehicular traffic is typically evaluated as short-term congestion peaks taking into account the anticipated increase in traffic. This does not correspond to the target situation set for different modes of transport nor does it promote the efficient use of the transport system.

When assessing mobility needs and solutions, the starting point should be the set target situation instead of current trends. Assessing the impacts of plans affecting mobility should be expanded to include and evaluate impacts on all modes of transport and different user groups. When selecting a solution, actions that improve the preconditions for sustainable mobility and make the use of the transport system more effective are emphasised. This is especially critical in creating plans for the growth and vitality zone specified in the local master plan.

In connection with the local master plan work, the zone-specified nature of the urban structure has been identified. This indicates the locations where developmental actions regarding sustainable mobility should be

primarily targeted. A location in the community structure zone demonstrates the potential of sustainable mobility extensively by taking into account the distance from city centre, the service level of public transport and key figures such as population and workplace density. The zone division will be utilised in creating more detailed zone-specific objectives for modes of transport to be used as the starting points of mobility plans. For example, the potential for using sustainable modes of transport is greater in the pedestrian zones of centres and district centres and intensive public transport zones than outside them.

Modern public transport

A modern public transport system is the cornerstone of urban and sustainable city life. The objective for 2030 is that one in five journeys in Tampere will be travelled on public transport. Tampere is the first in Finland to implement a modern, European tramway system. To support the development of the rail traffic, the city strategy's growth and vitality zone has been created in the local master plan. It consists of the most efficiently built areas in the inner city served by intensive public transport. The local master plan strongly steers towards new mixed-use and diverse land use for the zone.

In the future, the public transport system will be reinforced by expanding the tramway and by developing commuter train traffic. Commuter trains are the most beneficial in journeys between Tampere and surrounding municipalities, and commuter trains can cut the travel times of these journeys significantly compared to the current public transport services.



Smart mobility services

In the future, mobility will be based more on sharing and buying services, not on ownership. The transition has already started with shared cars, city bicycles, peer-to-peer carsharing and rentable electric scooters in Tampere. When different mobility services are combined into one service, the term Mobility as a service, MaaS, is used.

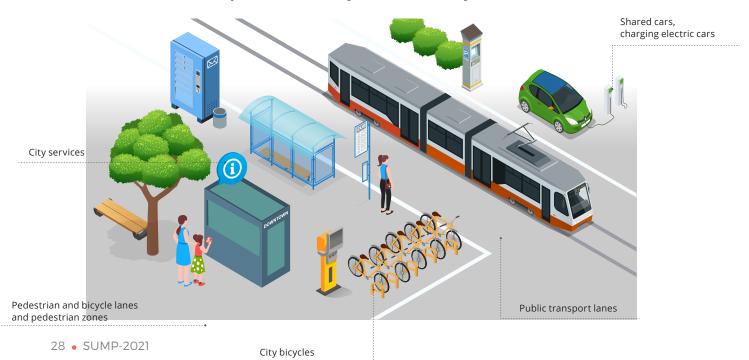
New mobility services complete the sustainable transport system, decrease the need for owning and using a private car as well as improve the smoothness of daily life and facilitate the use of public transport.

Tampere wants to promote and support the creation of new mobility business by sharing data for service providers to use through an open interface, for instance. Mobility transformation, denser urban structure and population growth create demand for the business opportunities of transport hubs and other transport services.

Smooth urban logistics

In this context, urban logistics refers to the transport of goods and products in an urban area, and it is a key aspect in the planning of sustainable urban traffic.

An example of a mobility hub in the city centre



Population growth increases the demand for services and goods. In addition, the fast growth of e-commerce has increased delivery needs in cities. The traffic volumes of delivery transport and society maintenance, such as waste transports, are significant. In a dense urban environment, urban logistics poses challenges related to use of space, traffic fluency and enjoying comfortable cityscape. For business life, ensuring functional deliveries is important and a significant cost issue.

The developmental actions of urban logistics aim at making deliveries more effective and decreasing the disadvantages caused by them. The development of urban logistics requires a clear future vision created by the city and private operators in cooperation. The urban logistics plan will present the actions to promote low-carbon urban logistics that uses space efficiently together with the fluency of deliveries.

In cooperation with private operators, we can evaluate the opportunities to promote the implementation of low-emission and noise-free vehicles, such as cargo bikes or electric small vehicles, the development of joint deliveries and promoting alternate-side parking through trials.

Examples of actions

- planning mobility solutions according to the target situation and developing the impact assessment of the plans
- promoting mobility management actions
- increasing space for active ways of mobility and public transport
- promoting smart parking and urban logistics solutions
- creating an urban logistics plan together with private operators
- promoting new mobility services, mobility hubs in residential areas and transport hubs.



Equal mobility

Successful urban planning strengthens equity and narrows well-being differences between residents and districts. An equal transport system is reasonably priced, safe and reliable.

Tampere wants to offer mobility opportunities for all regardless of age, residential area, gender, situation in life, income level or mobility limitations. Making this a reality requires more diverse impact assessments and the knowhow to identify solutions that decrease engagement. Everyone's right to move without fear and discrimination is part of a safe and equal traffic environment.

Sustainable modes of transport increase equality

In an urban environment, walking is the most equal mode of transport that is suitable for people of all ages despite their income level. Affordable and easy-to-use public transport enables daily journeys without a car and driver's licence. You don't have to be over eighteen to drive a bicycle, but you have to have a bike, skills and functional ability.

Equality of mobility



SUPPLY:

A suitable mode of transport option is available.



ACCESSIBILITY:

Important services and destinations can be reached with different modes of transport.



AFFORDABILITY:

Mobility is reasonably priced.



TIME:

The journey can be covered in a reasonable amount of time.



SUITABILITY:

The mobility environment is safe, accessible and pleasant. A sustainable transport system increases equality when working or children's hobbies are not dependent on having a car of your own. When children get used to sustainable modes of transport, it affects their mobility choices later in life.

Promoting sustainable mobility frees up space for necessary driving as congestion decreases, and it provides driving opportunities for those who have no other options. Service transport complements mobility opportunities equally.

Differences in mobility

The number, modes and purposes of trips vary according to age, residential area, housing type, gender, educational background, employment situation and possible mobility limitations. Gendered differences in modes of transport become visible right after youth turn eighteen.

Mobility needs, as do opportunities for mobility, vary. Difficulties in everyday mobility affect well-being and the opportunity to influence, take part and go to work. Also, the drawbacks of traffic fall upon certain groups of people in an unequal manner: for instance, children, senior citizens and those with primary diseases suffer the most from air quality issues.

Looking at traffic data through different background factors helps allocate the transport system's development resources in a way that promotes equality. In connection with traffic plans, the impacts of the plan on the mobility

In Tampere, 43% of households are carfree. Most car-free households live in the city centre and Hervanta. In the future, relying on sustainable modes of transport is possible on an expanding area thanks to dense urban structure.

of different groups should be assessed: is the solution favourable for some and unfavourable to others.

Smoothly without a car

Tampere wants to support smooth low-car daily life that relies on sustainable urban mobility. Getting around without a car must be possible with reasonable effort, in reasonable time and at a reasonable cost. Independence of a driver's licence, car ownership or rides offered by others decreases the risk of mobility poverty.

New mobility services provide solutions for occasional car needs. When developing them, taking into account different groups of people is also important.

Modes of transport



Women use more public transport and walk, men use more cars and accumulate longer distances.

Distance travelled on a private car km/person/day (Tampere)¹ women 22.8 km • men 26.4 km

Share of trips covered on foot (Tampere) 1 women 60% • men 40%



For residents with an immigrant background, language skills may pose difficulties in using mobility services.

Of the entire population of Tampere, 7.6% speak a foreign language as their first language.

They contribute 25% of population growth (2020)



Those who experience mobility obstacles, such as difficulties standing up and walking, move significantly less than others.

Distance travelled in Finland in the age group 18–34 (all of Finland)² **No obstacles** 44 km/person/day **One of more obstacles** 18 km/person/day



Among young adults, getting a driver's licence is experiencing a small decline, and licences are obtained later than before.

B driver's licences with Tampere residents over 18⁴ **2014** 52% • **2019** 43%





Children and youth cover a larger share of their trips on foot compared to other age groups.

The share of trips covered on foot of all trips (Tampere)¹ age group 6-17 38% • age group 35-54 23%



There are plenty of individual differences in the mobility of senior citizens. Immobility increases with age.

The share of those who are immobile of the entire population over 75 (all of Finland)²

women41% • men 33%

Difficulties standing up or walking 19% of those over 75 (all of Finland) $^{\rm 2}$

¹ Finnish National Travel Survey 2016, Tampere city publication

² Finnish National Travel Survey 2016

³ Real-time population of Tampere report 2020

⁴ The ownership rate of driver's licences in Tampere, Traficom

Accessible mobility

In an accessible environment, all people can operate equally and independently regardless of their mobility or functional ability. In mobility, accessibility refers to a physical mobility environment, such as streets, bus stops and public transport modes, but also the accessibility and ease of use of mobility services and communications related to mobility. The entire mobility transport chain must be accessible and its parts compatible.

Accessibility cannot be designed on a general level as solutions must take place the different, and at time contradictory, needs of users. Depending on the definition, 10,000–35,000 Tampere residents have permanent limitations that hinder their mobility. For them, an accessible environment is crucial to realise the journey in the first place.

In the future, the necessity of an accessible environment concerns more and more people: in 2030, approximately one in ten residents in Tampere will be over 75. An accessible environment makes independent mobility easier and enables living at home for longer, which increases quality of life and creates service cost savings for the city.

Mobility opportunities with linguistic accessibility make the city more attractive internationally. They as part of other ease of moving around promote the integration of Tampere residents with immigrant backgrounds.

Examples of actions

- allocating resources to sustainable mobility
- developing competence related to resident interaction and assessing impacts on equality
- developing the inner city and district centres as areas with an emphasis on walking
- developing an accessibly mobility environment, separating walking and bicycle traffic from one another
- developing maintenance to facilitate moving all year round.



Safe city

Every child should have the right to a safe and independent journey to school on foot, by bike or using public transport. In a safe city, the mobility needs and safety of children, senior citizens and other vulnerable people are central starting points in mobility planning.

Children's opportunities for independent mobility

Parents' conceptions and experiences on the safety of the traffic environment affect children's freedom to move. The feeling of experienced safety is decreased by driving speeds that are experienced to be high, crossing busy streets and discontinuing walking routes.

Safe school routes enable active journeys to school every day. According to research, physical activity on the way to school and back brings health benefits, improves concentration and has a positive effect on school success. For many children, an active school journey is a significant part of the day's physical activity and meeting recommended exercise amounts.

Safety in residential areas

Restricting driving speeds in residential areas affects the safety of everyone moving in the area as well as makes the residential area more comfortable. Traffic in residential areas is calmed down to enable children to cover the entire journey to school actively. A lower speed limit improves the safety of pedestrians when crossing a street, enables safe cycling on the driveway and decreases the risk of accidents.

Lowering speed limits in residential areas encourages to cover short distances by bike or on foot. Complying with speed limits in residential areas are supported with sufficient actions aimed at calming down the traffic, which also affect the attractiveness of driving through the area. In residential areas, actions improving the safety of pedestrian crossings and accessibility will be implemented.

The city actively calms down the immediate surroundings of schools to ensure safe arrival of children to school on foot or by bike. Car-free zones can be piloted in the proximity of schools on mornings.

Mobility management actions encourage to utilise the opportunities of walking and cycling on the way to school. For example, school mobility plans can be drawn up together with schools and parents' associations that present safe walking and cycling routes to school.

Examples of actions

- calming down the traffic in residential areas and steering through traffic to main streets
- trials on calming down car traffic in the immediate school environment
- prioritising and programming school's actions on improving traffic safety.





Active modes of transport increase well-being

In addition to equal mobility opportunities and safety, at best, the transport system creates movement. Active mobility benefits the mover and save our shared tax money.

Covering daily journeys or parts of them by walking, running, cycling, with a scooter or otherwise with your own effort promotes physical health as well as mental and social well-being. Incidental exercise has become a routine for many, and it also helps with busy schedules: we can be active without having to specifically exercise.

Activity requires many pieces

Physical activity does not only describe the person's own motivation or interest but is affected by urban structure, infrastructure and mobility management. Tampere is being developed so that the typical choices of ordinary people more often lead to choose active modes of transport. The promotion is done in cooperation with many city units, residents and the region.

High-quality main cycling routes and an attractive pedestrian environment, easy navigation on routes, winter maintenance and guidance encourage physical activity. Bike parking must meet the needs for space required for the parking of different bikes and lightweight vehicles, protection against thieves and against weather conditions and subzero temperatures.

In addition to the physical environment, the mobility change is promoted by culture and mobility practices at workplaces, for instance. Changes can be expedited with marketing, strengthening the brands of active mobility and other mobility management actions.

Immobility is expensive

Excessive immobility and too little incidental exercise are great challenges in all age groups even though the differences between individuals are significant. Of adult Finns, only one in four and of 15-year-olds, only one in ten get a recommended amount of physical activity.

A municipality resident who exercises regularly creates less costs for society. Increasing incidental exercise can affect the risk of many national diseases, functional ability and sick leaves.

The costs of immobility in Tampere per year

direct costs €24,300,000 indirect costs €166,900,000



source: Seutuliike, Tampere City Region, 2019.

Short distances with your own physical activity

Cycling has been on the rise in Tampere in recent years, but still its popularity decreases fast the longer the journeys are. Walking is popular with short distances below one kilometres and cycling on slightly longer distances of 1–2 kilometres. Of distances spanning 2–3 kilometres, more than half are covered by car.

The best opportunities for switching from a car to walking, an electric scooter or city bicycle are the best with short distances under a few kilometres. On longer journeys, the transfer from cars to cycling is facilitated by electric bikes becoming more common. In the future, there will be even more micromobility vehicles.





Trial opportunities encourage to mobility changes

Electric bikes and electric lightweight traffic are increasing rapidly in popularity. The tax benefit for company bikes and a wider selection of electric bikes on the market expedite the transition even further. Getting around by electric bike is fast, individual and effortless, which makes the bike attractive for many of those who typically drive.

The popularity of electric bikes promotes the modal share changes on distances that are longer than usual biking journeys. Electric bikes have a great potential to replace car journeys spanning 5–10 kilometres in commuting.

Electric assistance lowers the threshold for cycling all year around and makes it easier to transport children or goods. Storage spaces of lightweight electric vehicles with several wheels enable transport in lightweight delivery. A covered lightweight vehicle protects from rain or snow but it is low-emission and quiet and uses space efficiently.

Trials are one way of mobility management to promote sustainability. Pop-up events present new modes of transport to people. Long-term loaning opportunities enable using the vehicle and assessing its suitability for typical everyday journeys. In Tampere, electric bike trials have been offered for affordable commuting, and it has been possible to combine a journey on a folding bike with a commute by train.

Tampere is a bikeable city

Cycling is excellent health-enhancing physical activity. Cycling five kilometres in both directions meets the recommended daily amount of physical activity.

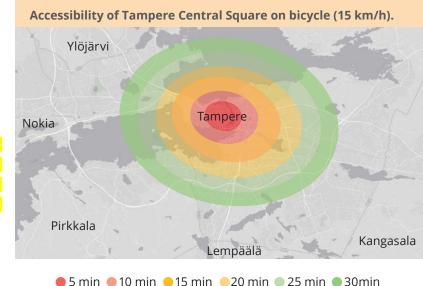
On average, Tampere residents' daily commute is 10 km. A total of 74,000 Tampere residents live within a 15-minute bike ride from Tampere Central Square. It would be possible to increase the share of active commutes significantly without increasing the time spent commuting unreasonably. The city centre, Kauppi area and Hervanta are Tampere's largest hubs of workplaces.

In analyses regarding the urban structure, it has been detected that the share of sustainable mobility is fairly modest in an accessible zone within a ring road located approximately 15–20-minute bike ride away from the inner city. In turn, this zone should invest in the competitiveness of sustainable modes of transport.

Mobility management at workplaces

Workplaces play a key role in promoting active commuting. Workplace mobility practices, such as mobility benefits, parking and incentives for commuter biking, are related to the modes of transport used when commuting.

As a major employer, the City of Tampere must be a pioneer in adopting mobility policies that favour sustainable mobility for personnel.



Examples of actions

- creating a denser urban structure and developing a service network that supports sustainable mobility
- mobility management at workplaces
- increasing the quality level of cycling main routes
- increasing the fluency and speed of bicycle traffic with traffic signal priority
- executing high-quality and sufficient bike parking, also for electric bikes.



Health and environment

Traffic has several kinds of impacts on environment and people's health. Climate change, (pp. 20, Carbon Neutral City), decreasing air quality and noise are the most significant of traffic's adverse environmental impacts. Traffic is the most significant factor that affects air quality in Tampere, and cutting the increase of car traffic is important for air quality.

Noise prevention support the growth of the city

Noise means undesired sounds that are unpleasant, disturbing or damaging to hearing. Tampere's objective is that an increasingly smaller share of Tampere residents is exposed to noise and that quiet areas are accessible for all residents. The city's growth in centres and

A total of 15% of Tampere residents are exposed to traffic noise that exceeds the guideline level of 55 dB.



along public transport connections requires decreasing traffic noise.

In the day time, most traffic noise takes place along main streets, main roads and along railways as well as in traffic junction areas, and these often have issues with air quality. By calculation, Tampere has quiet and almost quiet areas both on the outer edges of the city as well as inside

the denser urban structure, for instance, in park areas where car traffic is banned and inside enclosed blocks.

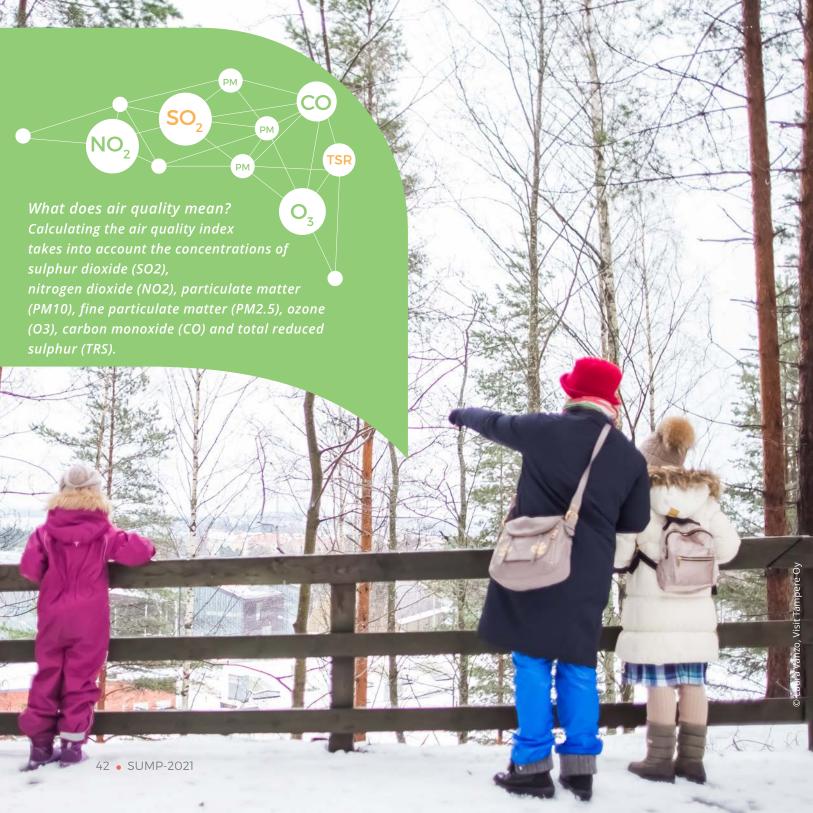
A harmonious community structure decreases the growth pressure on the street network. Making the urban structure denser creates better conditions for functional public transport as well as cycling and walking. Noise emissions from traffic depend significantly upon driving speed.

Urban green areas create well-being

In addition to being a transport and workplace hub, the city centre is also a significant residential area, that can be made more comfortable. The quality of the urban environment and the healthiness of the area can be affected through improving air quality, noise prevention and increasing urban green areas. Despite infill development, Tampere's goal is to maintain the lush green city-scape and even reinforce it.

The city centre should have urban but quiet areas with calm auditive landscapes. This promotes the comfort and well-being of not only the residents but also those who run errands, visit and spend time in the city centre. Local recreational areas and the easy accessibility of nature destinations in addition to quiet paths in green areas merge nature with the daily life of city dwellers.





Easy to breath

In Finland, we can enjoy a fairly good air quality in comparison to the rest of Europe. In Tampere, air quality is primarily good or satisfactory. Even though the annual limits set for air quality are not exceeded in Tampere, air quality decreases in spring during the street dust season and on windless days with subzero temperatures. In those circumstances, the daily guideline levels of inhalable particulate matter and fine particulate matter in environment with busy traffic are exceeded.

Traffic emissions are released exactly where people move. The particle emissions of car exhaust gases contain different harmful compounds, the most harmful being nitrogen oxides. They penetrate deep into the respiratory tract. In addition to particles, nitrogen dioxide is a critical impurity in Tampere when it comes to guideline levels and limits. Of all the Tampere residents, approximately 20% live in areas where the daily nitrogen dioxide level can be over 85% of the guideline level at times.

In addition, traffic lifts street dust in the air: sand, little rocks sanded by tyres, metal, rubber and toxic compounds from car exhaust gases. Approximately 12% of Tampere resident are exposed to relatively high concentrations of street dust.

Air quality issues affect the most sensitive groups of people, such as children, senior citizens and those with respiratory or heart diseases. During the worst air quality episodes, the air quality in the city centre's parks is fair and poor in areas along busy streets and roads.

Examples of actions

- strengthening the emphasis on walking in the city centre and district centres
- investigating the implementation models of an environmental zone and impact assessment (e.g. restrictions for heavy traffic, restrictions for studded tyres)
- enhancing maintenance, selection of gritting material and timing of spring cleaning
- planning and execution of quiet walking and cycling routes suitable for recreational use.





3. IMPACTS

Impacts of the sustainable urban mobility plan

The principles of sustainable urban mobility incorporated strongly into planning and decision-making

The key goal of the sustainable urban mobility plan is to instill the principles of sustainable urban mobility more strongly into mobility planning and decision-making.

Growth enables modal share changes

Specified in the local master plan, the city strategy's growth and vitality zone consists of the most efficiently built areas in the inner city served by intensive public transport. In the zone, the objective is to create a "15-minute city", and development actions of sustainable mobility are targeted towards it.

The most significant number of journeys by Tampere residents (67%) are short, less than five kilometres. In 15 minutes, you can walk a little over a kilometre, cycle almost all journeys under five kilometres and go even further with public transport.

New mobility services complement the sustainable transport system, decrease the need for owning a private car, improve the smoothness of daily life and facilitate the use of public transport. For instance, transport hubs in areas that are growing intensively denser reinforce the sharing economy that is part of urban living, in which it is possible to buy and use mobility services instead of owning.

To reach the carbon neutrality goal, changes in modes of transport on trips exceeding five kilometres are essential. We can affect the selected mode of transport by expanding the high-quality public transport service: bus service trunk routes, expanding the tramway and developing commuter train traffic.

Developing fluent transport chains, by providing parkand-ride facilities, will strengthen the demand for public transport. Electric bikes have increased in popularity, and they encourage cycling journeys over five kilometres.

Efficient transport system

An urban structure that is growing denser has only a limited amount of space, which means that the efficient use is essential. Mobility management is a cost-effective way of influencing the selected mode of transport and timing of mobility. The management is based on guidance, marketing and different trial opportunities, or so-called soft ways of management.

All actions leading to the voluntary decrease of journeys made by private cars or relocating them to a time outside the congestion peaks or replacing them with journeys made by sustainable modes of transport have a positive influence on the efficiency of the transport system.

There is fierce competition over the use of space in the key growth areas of the inner city – the goals of making land use more efficient are fierce, and the sufficiency of recreational areas must be ensured. In zones served by the most efficient public transport and in the surrounding areas of city centre and district centres, mobility will prioritise modes of transport that are the most efficient in their use of space.

The impact assessment for the land use and mobility plans of the growth and vitality zone will strengthen the efficient use of the transport system.

Tampere residents' journeys in the region (2016)



Trips made by Tampere residents in the region according to distances, Source Finnish National Traffic Survey 2016

Follow-up and implementation

The steering group of environment and land use will steer the implementation of the SUMP. If necessary, the steering group will appoint a separate project team for the implementation and follow-up of the actions.

Duties of the steering group include:

- steering the implementation of the plan
- integrating the plan and the proposed actions into action plans and budgets
- bringing the actions to political processing, if necessary
- steering and monitoring annual reporting.

The goal is to fund the action plan presented in the plan from the normal budget framework. It may be possible to apply for funding for some actions from state's development programmes or EU programmes targeted at promoting sustainable mobility. The steering group makes the decision on possibly applying for external funding.

The plan's reporting section has highlighted key actions and action entities to be promoted. In full, the action plan includes around forty actions that are specified in the section Actions. For each action, its impact has been evaluated on the plan's six focus areas: efficient, carbon-neutral, equal, safe, active and environmentally responsible.

The sustainable urban mobility plan and action plan have been drawn up for 2021–2024.

It is natural that the plan is updated in connection with the updates of the local master plan or earlier, if necessary, in case significant change needs arise. The development directions of the future can be predicted only so far, which means that mobility behaviour and changes in it have to be monitored regularly. The aim has been to select the follow-up indicators so that

- they describe how the actions have promoted sustainable urban mobility
- the follow-up can be conducted with information that is normally available in the planning process.

The follow-up indicators and their connections to the focus areas are presented in the table on pp. 54.

Cooperation

Cooperation with stakeholders has plenty of potential: for example, private companies play a key role in the creation of new mobility services and business life operators in the development of urban logistics.

In the promotion of sustainable urban mobility, cooperation with municipalities in the Tampere Central Region is essential. Most challenges related to mobility are regional, and the impact of actions is greater when they are executed in cooperation, for instance, the promotion of commuter trains traffic or a regional tramway. In addition to the city's actions, executing emission reduction requires strong support from the state and actions in the development of the public transport system, for example.









Efficient in use of space and financially



Mobility opportunities of different population groups, accessibility



Traffic accidents, experienced safety of residential areas



Mobility that promotes activity



Environmental health, air quality, noise

affects to be assessed affects the objective significantly / great impact affects the objective somewhat / average impact small or indirect impact or no impact	Carbon-neutral 60	Efficient ∰	Equal	Safe H	Active	Enviromentally responsible
1. Resources and planning principles						
Increasing the resources of sustainable mobility and mobility management: developing the evaluation of the current situation and ensuring the promotion opportunities of sustainable mobility actions with sufficient funding.						
The development and implementation of cross-administrative impact assessment of plans: impacts of mobility solutions on the efficiency of use of space, environment, different user groups, modal share and safety.						
Creating more detailed zone-specific objectives for mobility to be used as the starting points for mobility plans. For example, the objective for sustainable modes of transport should be higher in the pedestrian zones and the intensive public transport zone. Zone-specific objectives for modes of transport guide mobility planning.						
Developing resident interaction and methods of co-planning to include the perspectives of different groups in mobility planning.						
2. Mobility management and marketing						
Encouraging sustainable mobility with mobility management actions: communications, marketing and campaigns.						
Promoting different pilot and trial opportunities for residents and workplaces in cooperation with the service providers, electric bike, cargo bike and micromobility trials.						
Promoting the sustainable mobility in commuting by developing an employee-specific mobility budget. Providing options for getting around during workdays with city bicycles or shared cars, for instance.						
Mobility management at workplaces by encouraging 5–10 large employers to take part in a mobility budget trial.						

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	Carbon-neutral	Efficient	Equal	Safe	Active	Enviromentally responsible
3. Sharing economy, new mobility services and urban logistics						
Promoting transport hubs in the planning of developing district centres.						
Executing a mini hub trial that promotes the use of smart services supporting micromobility and urban logistics in dense urban structure.						
Promoting car-pooling and shared rides with smart digital solutions.						
Developing mobility solutions (e.g. rental and shared use services) in connection with housing in cooperation with housing companies and service providers.						
Creating an urban logistics plan in cooperation with business life and industry stakeholders: key actions to develop sustainable urban logistics and promoting service production opportunities.						
Making the use of parking spaces more efficient with Smart Parking and other smart solutions.						
4. Public transport and travel chains						
The project planning of the second stage of the tramway to Lentävänniemi and Pirkkala-Koilliskeskus						
Promoting commuter train traffic in regional cooperation and creating a report as the future vision of commuter train traffic.						
Improving the service level of bus trunk routes.						
Creating a development programme for park-and-ride facilities and executing the most significant (2) park-and-ride areas.						
Developing traffic signal priorities for public transport to improve the competitiveness of travel times. For example, lanes for only public transport during peak hours.						
The implementation of the city bicycle system in the city centre and expanding the system to cover the inner city as part of the public transport chain.						
In line with the public transport motive power report, promoting the change of bus traffic into low-emission by 2030 (including TKL's own fleet and private buses).						

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	Carbon-neutral	Efficient	Equal	Safe	Active	Enviromentally responsible
5. Safe city						
Calming down the traffic in residential areas and steering through traffic to main streets. Executing actions to calm down traffic in residential areas.						
Creating a traffic safety programme for Tampere: reviewing the improvement needs in areas surrounding schools and safe school routes.						
Improving safety through trials in the vicinity of schools, for instance by limiting vehicular traffic in the proximity of schools during certain hours.						
Improving the safety and accessibility of pedestrian crossings.						
Improving the safe accessibility of key services and the green network.						
6. Developing an active mobility environment						
Bicycle traffic						
Preparing a development plan for cycle traffic in Tampere and developing cycle traffic accordingly.						
Developing the regional and district main routes for cycling specified in the inner city's local master plan to increase commuter biking and other cycle traffic.						
Increasing the speed and fluency of cycling by, for instance, cutting waiting times at traffic lights, by executing two-way bicycle lanes on one-way streets.						
Walking						
Preparing a walking and urban life action plan and follow-up plan and developing walking conditions accordingly.						
Developing the inner city and district centres with an emphasis on walking in line with the local master plan. Granting more space for walking and urban green areas in connection with street renovations.						
Improving the walking connections of public transport stops and routes with a special level of accessibility.						

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	Carbon-neutral	Efficient	Equal	Safe	Active	Enviromentally responsible
6. Developing an active mobile environment						
Winter maintenance and care						
Defining the quality criteria for the winter maintenance of bicycle lanes, sidewalks and walking environments and taking the criteria into account in contract agreements. Developing follow-up methods for the quality level of winter maintenance. A report on the effects of winter maintenance on the mobility opportunities of different user groups.						
A higher prioritising of sustainable modes of transport in arrangements during renovations and initiating the follow-up of the functionality of these arrangements. Increasing cross-administrative cooperation in planning and approving traffic arrangements during renovations.						
7. Healthy and comfortable environment						
Investigating access regulations, for instance, a studded tyre ban and low-emission vehicle zone in Tampere.						
Implementing noise prevention of noise protection destination according to the action plan and promoting the implementation of protected destinations from railway noise in cooperation with the Finnish Transport Infrastructure Agency.						
Quiet walking and cycling routes suitable for recreational use along lake shores, for example.						
8. Organising parking						
Updating the parking policy and norm every City Council term and developing them to meet the climate targets for mobility. Reviewing parking price level.						
Creating a bike parking development plan for the city centre and district centres.						
Implementing centralised bike park facilities presented in the strategic component master plan for the city centre. Increasing high-quality public bike parking spaces in centres, along bike paths and by public transport stops as well as in connection with schools, sports venues and other public premises to meet the standards of the bike parking norm.						
Taking into account the parking needs of electric bikes, cargo bikes and other lightweight vehicles in parking development and urban planning.						
Experiments of sharing space in certain targets and at certain times (time of the year, day of the week, certain hours of the day): piloting temporary walking and playing areas, or parklet use of parking spaces.						

FOLLOW-UP INDICATORS	Carbon-neutral	Efficient	Equal	Safe	Active	Environmentally responsible
URBAN STRUCTURE DEVELOPMENT						
Sustainable mobility zones (SYKE's Urban Zone) – pedestrian, public transport and car zone	Х	Х	Х	Х	Х	Х
Placing new land use in the public transport zone		Х	Х			Х
Density of the sustainable mobility network(the "mesh" of the network)			Х		Х	
Scope of traffic areas (area in local master plan)		Х				
Internal division of areas in traffic zones (driveways and walking and bike lanes)		Х	Х		Х	
SELECTED MODE OF TRANSPORT						
Modal split %	Х	Х	Х		Х	Х
Share of school trips made by sustainable modes of transport				Х	Х	
The development of journey performance by mode of transport, trips under 5 km		Х	Х		Х	Х
The development of journey performance by mode of transport, trips over 5 km	Х	Х				
Stop-specific number of passenger getting on public transport (bus, tramway, commuter train)	Х	Х	Х			
Development of number of pedestrians and cyclists at measuring points	Х	Х	Х		Х	Х
The share of households with no car, one car and two cars in different zones	Х		Х			Х
Number of private cars per inhabitant	Х	Х	Х			Х
Number of city bikes per number of residents		Х			Х	
The number of park-and-ride parking spaces, private car	Х	Х				
The number of park-and-ride parking spaces, bicycle			Х		Х	
OTHER FOLLOW-UP INDICATORS		,				
Accidents in the street network			Х	Х		
The development of driving speeds in residential areas - district speed limit of 30 km/h follow-up Number of residents exposed to traffic noise exceeding the daily guideline limit of				Х		
55 dB						Х
Air quality: nitrogen oxides and MP10		Х				Х
Number of low-emission vehicles in related to population and number of vehicles	Х					Х

