CITY CENTER TRANSPORT NETWORK PLAN



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### **1.Introduction**

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The fundamentals of transportation in the city center of Helsinki cannot be separated from those of the area's land use. The city center's land use is dense and the value of land is high, which means there is little space available for different land use functions. Transportation is a form of land use just like housing, commercial activity, services, parks etc. It has been planned and adapted to the limited space of the city center. As the city grows, the pressure to adapt to this small space increases even further, as more people want to move to and travel within the area. In this city center transport network plan, the fundamentals of land use and transportation are combined.

The transport network plan for the city center is a general outline that focuses on reconciling the needs and goals of different modes of transport within the traffic network. The plan sets the objectives for the city center's transportation system and establishes principles for developing the street network and various modes of transport in the downtown area. It provides a comprehensive overview of the current state of traffic in the city center, the development needs, and upcoming projects. The transport network plan provides the basis for more detailed planning projects, through which planning solutions become concrete and impact assessments are refined. At this stage, citizens also have a broader opportunity to influence the emerging solutions. The more detailed planning level following the network plan is the general planning phase, in which traffic solutions are defined for each street. The network plan determines the area boundaries as well as the preliminary content and schedule for the general planning projects. Finally, based on the traffic and other plans presented in the general planning phase, street plans are drawn up, through which the measures are concretely implemented in the urban space.

The preparation of the transport network plan began with defining the starting points and objectives in 2022, and was finally approved at the end of 2024. The planning process included several sub-phases and subprojects, interactions, and interim decisions, which are illustrated in the accompanying image.



### PART I

### THE CITY CENTER TRANSPORT NETWORK PLAN



### **2.1 Starting Points**

Helsinki's City Strategy, along with various strategic plans, guides the planning of the city center. In addition, the planning is steered by the city's master plan and the region's joint Land Use, Housing and Transport Plan.

According to Helsinki's city strategy, we are making the city center more attractive, accessible, and functional. The strategy requires planning the development of the pedestrian center based on the previous preparatory work from the 2017–2021 council term and bringing a proposal to decisionmaking. On January 25, 2021, Helsinki's City Board set a course for an ambitious expansion of the pedestrian center and walkable city center, and required a plan to be prepared outlining the phased development of the walkable city center.

The purpose of the transportation system is to enable the movement of people and goods from one place to another. In enhancing the attractiveness, accessibility, and functionality of the city center, the transportation system plays an important role as part of the overall development of the entire downtown area.

Therefore, the preparation of this transport network plan is one of the development measures in the Helsinki City Center Land Use Development Plan 2032 (City Board, 22 May 2023). The City Center Land Use Development Plan consolidates the major urban development, transportation, and construction projects underway in the area, as well as other identified development needs. It addresses the functional and structural future of the city center and the surrounding walkable downtown, as well as measures to enhance its attractiveness and experiential quality. The City Center Transport Network Plan further refines and phases the development of the transportation system as part of the overall effort to strengthen the experiential character and vitality of the city center.

Together with the economic policy goals for land use, Helsinki's Master Plan and the City Center Development Plan guide the planning of the city center. In addition, the Transport Network Plan takes into account mode-specific development programs.

### **Guiding Strategies**

#### MAL Plan 2023

The Helsinki Region Land Use, Housing, and Transport (MAL) 2023 Plan outlines a shared vision for regional development through 2040 and provides long-term perspectives extending to 2060.

#### Helsinki Master Plan (2016)

The Master Plan sets the framework for land use and transportation development. In the Master Plan, the city center is classified as a commercial and service hub, surrounded by the dense urban structure of the inner city.

#### Helsinki City Strategy 2021–2025

The City Strategy emphasizes integrating land use and transportation planning in a financially, socially, and environmentally sustainable manner.

#### Helsinki Mobility Development Program (2015)

The Mobility Development Program sets the objectives for the city's transportation system.

#### **Carbon-Neutral Helsinki 2035**

Helsinki's strategic goal is to achieve carbon neutrality by 2035. The Action Program guides emission reductions and the development of a sustainable transportation system.

#### **City Center Vision (2021)**

The City Center Vision refines the Master Plan and provides a future outlook for land use and transportation planning in the commercial center and inner city areas.

#### **City Center Land Use Development Plan (2022)**

The Land Use Development Plan is designed for the next 10 years and serves as a basis for detailed planning of land use, public spaces, and traffic arrangements.

#### **Economic Policy Objectives for Land Use (2022)**

The objectives include 39 guidelines, which, when implemented, will most effectively support business conditions through the city's land use planning in the coming years.

# **City Center Transport** Network Plan 2024

The City Center Transport Network Plan outlines the transportation network for different modes of travel within the city.

### General Plans and Street Plans



The City Center Transport Network Plan guides detailed area and street planning.

### **2.2 City Center Development**

The use of urban space in downtown Helsinki, the ways of conducting business, and its regional role and significance as a marketplace are undergoing change. The general adoption to remote work, inflation, declining purchasing power, and online shopping are often cited as factors behind changes in city centers. Other influential factors, though slower and more subtle, include the increasing importance of sustainability issues, the emphasis on intangible services in consumption, and the changes in urban culture and ideals.

On a global scale, changes in city centers have been somewhat faster in recent years than usual, and these changes are intertwined with similar trends in Helsinki as well as elsewhere. Taking into account the spatial requirements of sustainable modes of transportation, improving the quality of street spaces, and developing pedestrian city centers are clearly global megatrends.

The creation of a vibrant city center is being implemented in accordance with the City Center Land Use Development Plan (City Board 22 May 2023). Measures include development of the pedestrian center, providing more greenery to the downtown area, improving the comfort of urban spaces, enhancing various functionalities - such as events, cultural institutions, and terraces - supporting tourism services, and developing marketplaces and squares. One aspect of the development of an experiential city center is the improvement of transport connections and street spaces. In addition, special attention is paid to logistics issues.

Several projects are being prepared to enhance the vitality of the city center. The development of the areas around Elielinaukio and the railway stations is in the works. The entire South Harbour area will be renewed from the slopes of Kaivopuisto to the tip of Katajanokka, and the architecture competition for the Architecture and Design Museum is underway. The redevelopment of Hakaniemi quay is ongoing, and the Kruunusillat project is progressing as planned. The major renovation of Kaisaniemi Park will be completed in 2025, and temporary development measures will be implemented in the Töölönlahti Park area during 2024 before a permanent, comprehensive renewal takes place.The summer terraces at Senate Square and Kasarmitori are an important addition to the vitality of the city center. Measures in line with the Maritime Helsinki strategy are being implemented with new resources. The conditions for logistics and distribution traffic are being improved with new solutions, and in addition, a private project to develop the city center's service tunnel is an essential step from the perspective of maintenance and accessibility.

The development of Helsinki's city center is being structurally enhanced by increasing housing, jobs, and, for example, improving transportation connections and distribution capabilities. In addition, it is becoming easier to organize events, establish terraces, and utilize urban spaces. An important goal in enhancing the center's attractiveness and vitality is also to increase and facilitate activities in the downtown area, as well as to shape the urban space from a livability perspective alongside logistical requirements. The purpose of this transport network plan is to support other ongoing changes in the downtown area and to develop the center's role, as well as the experience of lingering and enjoying the city center.

# 2.3 Objectives of the City Center Transportation System Plan

The objectives set for the city center transportation system adhere to the guidelines of the overarching strategies and programs. The objectives were approved by the City Environment Board on September 19, 2023. They describe a shared commitment to developing the transportation system and have guided the preparation of the plan. The objectives are divided into four areas: a vibrant city center, conditions for walking and lingering, access to and mobility within the center, and delivery and service traffic.

Vibrant City Center A sustainable transportation system enhances a vibrant city center Arriving in and Mobility Within the City Center

People can easily arrive in and move within the city center

Walking and Public Space Conditions The conditions for walking, leisure, and urban experience in Helsinki's city center are of high international quality and will significantly improve from the current state

Delivery and Service Traffic Delivery and service traffic efficiently support the needs of businesses and services in the city center

### **Vibrant City Center**

### A sustainable transportation system strengthens a vibrant city center

An immersive and vibrant city center attracts people to visit, and in such a center, people tend to stay longer. Making the transportation system more sustainable enables an increasing number of people to reach the city center, improves walkability, reduces the negative impacts of traffic, and ensures the functionality of the area. This, in turn, helps to enhance the vitality, attractiveness and competitiveness of Helsinki's city center in a sustainable way.

### Sustainable urban growth relies on a sustainable transportation system

The basis of a sustainable transportation system is that a sustainable mode of transport is the easiest way to get from one place to another.

The more sustainably and space-efficiently people and goods move, the better the conditions are to develop a vibrant public space and an experiential city bustling with people. More people in the city translate into improved opportunities for businesses to thrive as well as enhanced prospects for the city to succeed in international urban competition.

A sustainable transportation system creates and supports communities by enabling abundant, high-quality public spaces where people can meet one another. It also creates and supports health and well-being by enabling active mobility.

A sustainable transportation system does not produce greenhouse gas emissions and generates as few local emissions as possible, such as noise, exhaust gases, respirable particles, or other pollutants.

### Walking and Public Space Conditions

### OBJECTIVE

Walking and public space conditions in Helsinki's city center are internationally high-quality and will significantly improve

The city center is, above all, a place for being, where encounters between people create urban life. In order for transportation not to excessively hinder local mobility and the experience of being there, the planning of car traffic should focus more on improving access to the city center and internal circulation rather than facilitating smooth through-traffic. In the city center, the needs of transportation especially car traffic - must be reconciled with the requirements for high-quality urban space.

### A city is built on human connections

Good conditions for pedestrians are essential for health, the environment, the economy, and community.

A high-quality, walkable city center is a place where visitors form their impression of the city. A pleasant and experience-rich environment shapes the image of Helsinki for visitors arriving from abroad and from across Finland.

The more people walk in the city and the longer they linger there, the more the area's services are used.

Encounters in public spaces enhance the sense of belonging to the community.

### Arriving in and Mobility Within the City Center

#### OBJECTIVE

### People can easily access and move within the city center

Arriving in the city center and moving around within it must be as easy and barrier-free as possible for as many people as possible. Good accessibility ensures that one can reach a desired destination with reasonable effort, time, and cost. Based on these factors, people choose the most suitable mode of transport at a given time to reach their destinations. Helsinki's city center competes with other centers in terms of location, with competitive advantages such as excellent public transport and a walkable, pleasant environment. Cars will also continue to play an important role on many trips into the city center. However, in order to ensure the functionality of car traffic in a city as large as Helsinki, an increasing number of people must choose an alternative mode of transport instead of the car.

### A well-functioning city balances vibrant public spaces and efficient transportation

The development of the transportation system is all about striking a balance between public spaces that invite people to linger and smooth mobility connecting different neighborhoods. Together, a vibrant public space, a diverse range of services, and a functional transportation system make a city truly a city.

Smooth mobility with modes of transport that take up as little space as possible is a prerequisite for a functioning transportation system in the city center. Public transportation is the superior mode of travel when the goal is to transport as many people as possible into the city center within the smallest possible space.

The development of cycling supports the operation and convenience of public transportation, as during peak hours, people can also choose another space-efficient mode of travel for their journey.

It is important to differentiate between the various needs for car usage. For some, switching to alternative modes of transport is easier and more realistic than for others. Examples of indispensable car traffic include emergency services, freight transport, mobility for people with disabilities, taxi, and other professional transportation, whose conditions must continue to be prioritized.

### Delivery and Service Traffic

#### OBJECTIVE

### Delivery and service traffic efficiently meet the city center's needs

The efficient functioning of distribution and service traffic is a prerequisite for the availability of services and other operations in the city center. Goods must be delivered to stores, waste must be collected, and food couriers must be able to pick up their orders. Additionally, goods and services must be transported reliably to customers in the city center without causing excessive inconvenience to other road users.

### Efficient goods movement is essential for a functional city

Businesses and residents require effective distribution and service systems. Goods must be able to move smoothly from one place to another.

All properties must be accessible for distribution and service in such a way that travel times are predictable and reasonable.

Service traffic is evolving to better adapt to its operating environment. Distribution operations are undergoing changes, for example in terms of vehicle size and the development of distribution centers.

Property maintenance is carried out using the properties' service yards or loading zones designated on street areas. The city is improving the accessibility of these by for instance parking policy measures. In key pedestrian areas, maintenance activities are, when necessary, limited in time so that the loading of goods can occur more smoothly and with fewer disruptions outside of pedestrian peak hours.

### 3. The City Center Transport Network Plan provides the overall picture

## 3.1 The Street Network Supports the Needs of a Walkable City Center

The city center's transport network plan outlines the target state of the transportation network as well as the development principles for each mode of transport. Through this plan, the most significant development directions for downtown transportation become apparent, and the role of different modes of transport as part of the transportation system is clarified. The presented principles and solutions aim to serve the needs of the pedestrian center.

The overarching principle of the plan is to more clearly structure the transportation network into local network streets and main network streets. This segmentation is intended to enable the development of street spaces in a manner appropriate for each street. Where the street space is designed to support efficient transport from one place to another, different methods are used to improve walkability compared to streets whose primary role is to serve as a destination. In those cases, the street can be more freely developed as a place for lingering and spending time. The most significant change in the street network concerns the Kaivokatu axis, which will be fully closed to through traffic by cars. This paves the way for developing Kaivokatu and Kaisaniemenkatu into a dedicated public transport corridor, while ambitiously enhancing the pedestrian environment to support an internationally competitive, walkable city center.



### Summary Image of the City Center **Transport Network** plan



Ship terminal

Cruise port

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### Urban Space as a Transport Corridor and a Place for Stay

Due to the limited urban space, optimal utilization requires striking the right balance between transportation and livability. An attractive city center needs efficient transportation, but its appeal and vitality are also significantly influenced by a high-quality urban space that encourages people to linger.

The traffic-based structuring of the street network is a prerequisite for ensuring both a functioning transportation system and creating the framework for a pleasant and beautiful urban environment. A street space that prioritizes fast and efficient vehicular traffic creates barriers, noise, and other impacts that detract from the quality of the urban space. In such cases, compromises on the qualitative goals for the urban space are inevitable.

Therefore, it is especially important to define what type of traffic use each street or urban space serves. Roughly speaking, the street network is structured into a main network and a local network based on the vehicular usage purpose of the streets.

The streets of the main network serve car traffic for transitions between areas and for longer journeys. On these streets, the functionality of car traffic is important, which usually results in limitations for other functions and spatial usage. In terms of street space, the streets of the main network essentially represent either segregated transport space or combined transport space.

The streets of the local network serve the internal traffic needs of local areas. These streets are designed for low speeds and low traffic volumes, and they function as connections between the main network and local destinations, covering the first and last few hundred meters of a car journey. In terms of street space, the local streets essentially represent soft transport space, integrated free space, or free space.



The division of the street network into the main network and local network, and further into different types of street spaces

### **3.2 Towards an International-Standard Pedestrian Center**

Walking is an integral part of urban life and social interaction. A walkable city center is, above all, a place where people want to linger and engage in activities beyond mere everyday errands. In order for people to choose walking and to spend time in the city, the environment's appeal must be prioritized. This appeal can be enhanced through urban greenery, seating, high quality surface materials, water features, or by reducing ambient noise. Land use plays a significant role in creating an enjoyable urban environment. Building facades are intentionally designed to create an interesting streetscape, and functions that extend from buildings into the street - such as restaurant terraces - help bring urban life to the area.

As a mode of transportation, walking is part of every journey, and thus it is also an important component of a functioning transportation system. It is a space-efficient, environmentally friendly, equitable, and healthy way to move. Research has demonstrated that walking and walkable urban environments offer numerous benefits, and there is strong evidence of walking's positive impacts on people's health, the competitiveness of businesses and cities, urban livability, and the advancement of climate goals.

According to the city's Walking Promotion Program and the Mobility Development Program, walking is the primary mode of transportation in Helsinki, prioritized in planning, implementation, and maintenance. In the General Plan, Helsinki's city center is designated as a C1 area, which is to be developed with a focus on walking - paying particular attention to the pedestrian scale and the functionality of pedestrian arrangements.



### Improvements in walking infrastructure

In terms of walking, the most significant development area is the environment around the main railway station, which is being developed based on the public transport street option planned for Kaivokatu. The principle of the city center transportation system plan - to reduce car traffic on the main network along the Kaivokatu axis - offers an opportunity to significantly improve the pedestrian environment both in the immediate vicinity of the main railway station and more broadly in the area, where Kaivokatu, Asemanaukio, and Postikatu, as well as Simonkatu and Kansakoulukatu in Kamppi, are designated as local streets.

The pedestrian environment will be improved in conjunction with the land use development projects outlined in the city center's land use development vision. Among the most significant of these are the developments of Makasiiniranta and Kataja-nokka quay, the Kamppi Health and Wellbeing Center, Hakaniemenranta, Hietalahdenranta, Kasarmitori, and Elielinaukio. In addition, the Kaisaniemi Park and Töölönlahti Park projects, as well as the street design project at the Design Museum - initiated based on summer street trials - are among the known and partly already underway projects that will improve the pedestrian environment.



Strengthening pedestrian connections between the central railway station and key urban destinations is a central goal.



The view from Keskuskatu toward the central railway station—current state.



An illustration of the view from Keskuskatu toward the central railway station – public transit street option.



View from in front of Ateneum toward the central railway station – current state.



Illustration of the view from in front of Ateneum toward the central railway station – public transit street option.

### Principles for improving walkability

The areas surrounding rail transport stations—Central Railway Station, Kamppi, and Helsinki University metro stations—as well as the busiest routes connecting from these stations, are key focus areas for pedestrian development in the ongoing planning of the area.

The area surrounding the Central Railway Station is the most significant for pedestrian movement in the city center, as the majority of people arriving downtown enter through this hub. The key pedestrian connections to Be strengthened from the Central Railway Station (as outlined in the City Center Land Use Development Vision, City Board Decision 16/336 §) include routes from the railway station to Töölönlahti, from the railway station to Kamppi, from the railway station toward Aleksanterinkatu and the Esplanades, from the railway station to the South Harbour, and from the railway station along Kaisaniemenkatu to Hakaniemi.

By developing the pedestrian environment around the Central Railway Station based on the Kaivokatu public transport street option, all these pedestrian connections will be strengthened, public transport transfer connections will be improved, and ground-level commercial activities in the area will be reinforced. Adequate conditions will also be en ured for service, taxi, drop-off, and

### **STRENGTHENED PEDESTRIAN CONNECTION**

emergency traffic to operate efficiently in the new pedestrian-oriented environment.

Strengthening the network of places that reinforce local identity also improves walking conditions. Helsinki's city center already features several lively urban spaces where people enjoy spending time, but some areas need further investment, particularly in enhancing opportunities for lingering and comfort. The surroundings of Kauppatori and Kasarmitori, for example, have not yet fully realized their potential for urban life. At the same time, the most vibrant urban spaces need the support of smaller gathering spots to prevent disruptions in the walkable urban fabric. Moving forward, elements such as local network street corners or small squares should be developed as guiding spaces that lead pedestrians toward the most active urban areas.



### DENSIFYING THE NETWORK OF URBAN LIFE PLACES

Urban life places refer to locations that invite for stopping and lingering. These places create a pleasant urban environment where people can pause to observe their surroundings or spend extended periods of time. They structure the walking experience, help pedestrians navigate the city environment, and encourage them to continue their journey by providing continuous points of interest along the route.

The pedestrian center and the surrounding walkable city center are being developed as a dense network of urban life places in collaboration with residents, property owners, and other stakeholders. In the area-specific traffic plans to be prepared later, different levels of urban life places will be identified. Through these plans, the quality of both small, local, and major urban life places will be improved, and where necessary, the network will be expanded by creating new places, for example, in connection with new land use developments or as smaller gathering spots at street corners. These assessments will be based on pedestrian planning guidelines and the city center land use development vision. Station areas, marketplaces, squares, parks, and

waterfronts will be considered both as independent urban life places and as integral parts of the pedestrian network. Accessibility will be a key consideration at every stage of planning.

Examples of significant urban life places in the city center include the area around the Central Railway Station, Esplanadi Park, and Kauppatori. Local urban life places include locations such as Kampintori and Kolmikulma. Small urban life places can be found at local street intersections, where street furniture, trees, and terraces create inviting spots. Each of these spaces is designed to strengthen its unique identity.

In the so-called local traffic cells - defined as the areas in between the streets of the main network - the focus is on enhancing the appeal of pedestrian routes and urban life places, ensuring that vehicular traffic is adapted to the needs of pedestrians. All properties will remain easily accessible by car. The guiding principle is that vehicular traffic within these traffic cells is limited to local traffic, maintaining low speeds. This allows cyclists and e-scooter users to safely use the roadway, while pedestrians can cross the street freely at any point. In addition, ensuring safe and smooth street crossings for individuals with mobility impairments will remain a priority on local streets.

In the development of street spaces, priority is given to streets with a high concentration of ground-level commercial activity, in accordance with the land use development vision. Traffic cells are clearly delineated from the main network by using extended sidewalks or other structural solutions at local street intersections. signaling the transition into the local network. Where possible, these intersections are further enhanced with street furniture and urban greenery, integrating them into the network of urban life places. Additionally, intersections within the local network will be further developed in future planning -particularly in areas with a significant presence of ground-level commercial spaces - to strengthen their role as part of the network of urban life places.

To identify key locations for walking and especially for lingering, principles have been established for different levels of urban life places. This assessment is based on research literature on networks of engaging places that attract pedestrians to the area, encourage them to continue their journey, and sometimes invite them to stop. Urban life places encompass both everyday and leisure environments. A place does not need to meet all listed criteria to be classified within a specific category. Often, larger and more significant urban life spaces also include smaller spaces within them. These spaces are categorized into three levels: small, local, and significant urban life places.



Different-sized city-life spaces help structure the walking experience.

An extended sidewalk with terraces and trees as a gateway element for a local street is an example of a small urban activity space.

### Small urban life locations

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- The place is primarily known and used by local residents, workers, or those passing through in their daily routines. It is not typically a destination on its own and has a casual, everyday character.
- These locations appear repeatedly in the environment and do not need to be particularly striking, but they help structure the walking experience. They are evenly distributed throughout the city and appear in the environment at a high density.
- The location alone does not increase the number of pedestrians in the area.
- Examples of small urban life places include street corners with groundfloor retail, greenery, and seating. On the most detailed level, even a change in a building's facade can create a sense of place, or a single terrace can serve as a small gathering spot for city dwellers.

#### Local urban life locations

- In addition to local residents, these locations also attract people from other parts of the city and visitors, but they are usually not the primary reason for coming to the city center.
- These locations stand out as distinct spatial entities within their surroundings. They are intentionally spaced approximately 1–5 minutes apart by walking distance.
- The location moderately increases the number of pedestrians in the area.
- Examples of local urban life places in the city center include small squares and green spaces. Some intersections of pedestrian streets or streets with active ground-floor businesses, as well as areas around tram stops, can also serve as local urban life places.

#### Significant urban life locations

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- The location captures attention and serves as a landmark. People often stop to observe and explore their surroundings. These locations are unique on a citywide or even international scale. They are either attractions in themselves, drawing visitors, or play a significant role in daily mobility and errands. Major urban spaces have multiple functions and are either busy throughout the day or experience distinct peak times.
- These locations are intentionally spaced about 5–15 minutes apart by walking distance in the city center. In the walkable core of the city, major urban life places appear most frequently.
- The location significantly increases the number of pedestrians in the area (e.g., public transport hubs, landmarks, and commercial centers).
- Examples of significant urban life locations include areas surrounding major rail transit stations, squares, and marketplaces with attractions, market or terrace activities, as well as the city's historic parks and developing waterfront areas.

### DEVELOPING SERVICE TRAFFIC IN PEDESTRIAN-ORIENTED URBAN SPACES

The attractiveness of underground parking facilities in the city center will be enhanced by implementing new access routes and improving pedestrian conditions at street level.

In further planning, it will be ensured that service traffic operates throughout the city center in accordance with established regulations. In the pedestrianized core of the city center, including pedestrian streets and Aleksanterinkatu, service traffic will be reduced by redirecting it to property service yards or the central service tunnel. On Aleksanterinkatu, this transition will be implemented gradually by tightening the existing time window for service traffic and eventually eliminating service vehicle access to sidewalks entirely. For other pedestrian streets in the city center, the use of retractable bollards and time restrictions for service traffic will be reinforced.

The number of loading zones will be gradually increased as part of area-specific traffic plans. Managing service traffic in pedestrian areas remains a clear challenge in the walkable city center. The pedestrian environment in the core of the city center is characterized by a high number of pedestrian streets, squares, marketplaces, and parks. According to the principles of the plan, these urban spaces should genuinely allow pedestrians to move and linger freely without concern for vehicle traffic. Additionally, increasing the number of loading zones will positively impact walking conditions by keeping sidewalks clear of disruptive service traffic.

### MORE WALKABLE STREET SPACE ON THE MAIN ROAD NETWORK

The streets of the main network follow a design where pedestrian, bicycle, and vehicular traffic are separated, and road crossings primarily occur at designated crosswalks at intersections. The development of the pedestrian environment focuses on the zone extending from the building facades to the edge of the sidewalk, where the needs of smooth pedestrian movement and spaces for lingering are integrated, while enhancing the street's appeal with greenery. Well-planned and safe crosswalk arrangements help reduce the barrier effect of the roadway. Where traffic conditions allow, the number of lanes on district collector streets will be limited to one lane in each direction. This prevents district collector streets from attracting through-traffic in the inner city and keeps the barrier effect of the street at a reasonable level in areas with a high volume of pedestrians.

The principle of structuring the street network into main and local network streets is essential for improving pedestrian conditions in the city center. This approach allows different parts of the street network to be developed in a way that enhances walkability while ensuring that methods align with space allocation, barrier effects, and traffic-related emissions such as noise. For example, streets in the main network, which typically have higher traffic volumes and speeds, are not the most inviting places for lingering. In contrast, local network streets can be developed more comprehensively to support walking and places for staying.

However, most of the main network streets in the city center are also busy pedestrian environments, meaning they too must be made more walkable. Limiting district collector streets to one lane per direction creates more space for pedestrians on sidewalks and makes crossing the street easier.

### What is the goal of improving the pedestrian environment?



#### The vitality of the city center increases when people linger and enjoy their time there

Possible indicators: Development of dwell times in different areas of the city center, studies on vitality and urban space usage conducted in connection with changes to the walking environment.



#### Improving and increasing public spaces make urban areas more accessible for all population groups

Possible indicators: Studies on vitality and urban space usage from the perspective of different demographic groups conducted in connection with changes to the walking environment.



The popularity of public transport increases when walking conditions around stops improve and transfers between transport modes become easier

Possible indicators: Development of public transport passenger numbers and studies on the perceived quality of transfer connections.



Päärautatieaseman ympäristö toimii käyntikorttina Helsingin käveltävään keskustaan. Ympäristö houkuttelee ihmisiä laajemmalle keskustaan sekä lisää keskustan kävijämääriä.

Possible indicators: Changes in the number of stays in different downtown areas, studies on urban space usage around the central railway station, and the development of pedestrian volumes in the city center.

### **3.3 Car Traffic**

Car traffic is a fast and schedule-independent mode of transportation that provides a convenient option for many people traveling to the city center, particularly from areas with limited public transport services. Driving also plays an essential role in the mobility of people with disabilities. Emergency services, freight transport, taxis, and other professional transportation are examples of necessary car trips, for which conditions must be prioritized.

Space in the city center is highly limited, yet the number of people traveling there is significant. As a result, only a limited number of people and goods can move efficiently by car. Fluent car traffic in the city center relies on as many people as possible choosing alternative modes of transport, ensuring that cars are primarily used by those who genuinely need them. However, not everyone has the option to switch to another mode of transportation. It is especially important to maintain the functionality of car trips where the origin or destination is within the city center. In developing conditions for car traffic, emphasis is placed on trips arriving at and departing from the city center rather than on through-traffic.



### Targeted State of the Main Road Network

Helsinki's city center street network is structured primarily to meet the needs of the pedestrian-oriented core, taking into account evolving transportation trends and the development outlook of increasingly dense land use.

The traffic structuring of the street network aims to balance the transportation needs of the city center with the qualitative goals of public urban space in the best possible way. A key principle is to reduce through-traffic in the core of the city center, making inbound and outbound car travel smoother while minimizing disruptions to the overall urban experience.

The main road network for car traffic in the city center will be streamlined to enable extensive, continuous pedestrian areas while minimizing barrier effects. At the same time, the main network will remain sufficiently dense to accommodate the demand and direction of car traffic. This ensures smooth transitions between different areas and maintains accessibility to the city center by car.



The target state for the central area's car traffic main network.

In the city center, the main road network for car traffic consists of primary streets and district collector streets.

The main streets manly serve regional and intra-city car traffic between different areas of the city. In the city center, main streets accommodate the primary traffic flows entering and exiting the downtown area, as well as through-traffic passing through the center. Traffic flow and safety are maintained through appropriately spaced intersections and by keeping traffic separate from adjacent land use. In addition to car traffic, main streets also serve other modes of transport, each requiring special attention to their specific conditions. The speed limit on main streets in the city center is 40 km/h.

**District collector streets** serve internal connectivity needs within the city center and primarily accommodate car traffic with an origin and/or destination in the downtown area. Ensuring smooth car traffic focuses on predictability and reliability, which are carefully balanced with the other functional needs of the street. The speed limit on these streets in the city center ranges from 30 to 40 km/h. Currently, most district collector streets in the city center have more than one lane in each direction. These include Pohjoisesplanadi, Eteläesplanadi, Mannerheimintie, uudenmaankatu, Lönnrotinkatu, Albertinkatu, Fredrikinkatu, Laivasillankatu, Eteläranta and Unioninkatu. With their wide roadways, these streets create barriers within the city center, which is designated as a pedestrian-prioritized area in the city's master plan.

The number of lanes on district collector streets will be reviewed based on more detailed plans and assessments. Where traffic conditions allow, the goal is to reduce the number of lanes to one per direction, thereby minimizing the barrier effect of roadways in areas with a high volume of pedestrians. At the same time, the development of the city center's street network will focus on serving internal mobility needs and reducing the attractiveness of through-traffic in the southern inner city. However, on some district collector streets, maintaining sufficient traffic capacity remains essential to ensure reliability, emergency vehicle access, and the fluent operation of port traffic. For example, in the case of the Esplanadi streets, the starting point for further planning is to maintain the current lane arrangements.

### Traffic calming on local streets

All streets that are not part of the main network are classified as local streets. They serve local, low-speed car traffic at the beginning and end of a journey. Currently, many local street environments in the city center suffer from excess traffic caused by through-traffic.

Local streets are being developed as calm traffic environments that support both the vibrancy of ground-level businesses and the continuity of pedestrian routes. The speed limit on these streets is a maximum of 30 km/ h. The traffic environment and street design ensure that low speeds are maintained.

Calming traffic on local streets improves pedestrian conditions by reducing the barrier effects, safety concerns, and environmental disturbances caused by traffic. A calmer traffic environment is also important for cyclists, who typically share the road space with cars on local streets. Additionally, slowing down car traffic helps keep sidewalks clear by discouraging cyclists and e-scooter users from using pedestrian spaces.

Traffic calming primarily involves limiting through-traffic. In this context, through-traffic refers to vehicles that neither originate nor have a destination within the local traffic cell. Methods for traffic calming on local streets include speed bumps, traffic control measures, and, if necessary, street closures for car traffic. These measures are defined case by case in area-specific traffic plans to specifically target through-traffic while maintaining accessibility and continuity within the local street network as effectively as possible.

In Helsinki's street classification system, local streets are further divided into two subcategories: local collector streets and residential streets. Due to their role in collecting traffic, local collector streets are busier than other local streets and often serve as bus routes. The precise classification of local streets is determined as part of the detailed planning of the area's street network.

### Proposed Changes and Further Assessments for the Main Road Network

Kaivokatu will be converted into a public transport street between Keskuskatu and Asemanaukio. Simultaneously, the cross-town main traffic route through Kaivokatu between Pitkäsilta and Kamppi will be developed with a public transport focus. Consequently, Kaivokatu, Asemanaukio, Postikatu, Simonkatu, and Kansakoulukatu, as well as parts of Mikonkatu and Kaisaniemenkatu, currently classified as district collector streets, will be reclassified as local streets. This transformation is planned to be implemented in phases following the Kaivokatu deck renovation in 2027 and the resulting traffic disruption. As part of Kaivokatu's target state as a public transport street, an alternative development plan will be explored, redirecting departing bus traffic from Rautatientori via Vilhonkatu to the north instead of Kaivokatu.

The target roles of **Eteläranta and Pohjoisesplanadi** will be reviewed as part of the Kaartinkaupunki and Eteläsatama area traffic plan, set to begin in 2025. Alongside other options, the plan will examine whether previously proposed pedestrian street visions remain relevant in connection with the development of Makasiiniranta and the transformation of the Olympiaterminaali into a cruise port. The role of **Fredrikinkatu** in the main road network for motor traffic will be reviewed as part of the Kamppi area traffic plan, set to begin in 2026. A key consideration is the new tram connection on Fredrikinkatu, which will reduce it to a single lane. Alternatives include maintaining Fredrikinkatu as a one-way pair with Albertinkatu or converting it into a local street, for example, by concentrating northsouth motor traffic in Kamppi onto Albertinkatu.

A need has been identified to establish a regional collector road connection from **Telakkakatu to Laivasillankatu**, linking the southern parts of the city center to Pohjoisranta at the main road net-work level and structuring the area's street network efficiently. This connection will be implemented by developing the existing street network where necessary. Alternative assessments and detailed planning will commence as part of the regional traffic plan covering the southern city districts.

### Parking solutions enhance city center accessibility and attractiveness

The city center is primarily a destination. The goal is to reduce street traffic while simultaneously improving accessibility to the city center by car. This objective is supported by directing inbound car traffic toward underground parking facilities located at the edges of the city center. Other parking policy measures aim to improve the availability of free parking spaces, reduce unnecessary driving caused by searching for parking, and encourage the use of environmentally friendly vehicles. At the same time, it is essential to anticipate increasing competition for street space among various functions in the future, which will impact the availability of on-street parking.

### Improving the accessibility of underground parking facilities

Improving the accessibility and attractiveness of underground parking facilities is one of the most important ways to enhance car access to the city center. In addition to accessibility benefits, directing inbound car traffic to underground parking facilities at the edges of the city center helps reduce traffic on the surface street network and minimizes its associated negative impacts.

The attractiveness of underground parking facilities in the city center will be enhanced by improving access routes to the central service tunnel and enhancing pedestrian conditions in urban spaces. The central service tunnel runs beneath the city center from Ruoholahdenkatu to Kluuvi, serving the maintenance needs of downtown blocks. Additionally, the service tunnel provides vehicle access to underground parking facilities, which currently accommodate over 2,700 parking spaces.

The service tunnel consists of a newer western section and an older eastern section, between which parking traffic is currently not permitted due to insufficient emergency evacuation arrangements in the older tunnel. This restriction limits access to western parking facilities from the east and, similarly, access to the Kluuvi parking facility from the west. In the initial phase, the central service tunnel will be developed to allow access from all entry points to all parking facilities connected to the tunnel. At the same time, the feasibility of a new entrance in Hakaniemi will be explored. In the long term, efforts will be made to improve access routes to the western side of the tunnel. The development of the central service tunnel and its connected parking facilities will be guided by property development needs. Due to structural constraints, the tunnel's use will remain limited to service and parking traffic.



Current state and development plans for the central area's service tunnel.

### Developing city-private collaboration in residential and special parking

Making private parking facilities more attractive for resident parking is a way to free up onstreet parking spaces for purposes such as short-term parking and logistics. The goal is to enhance the competitiveness and appeal of parking facilities compared to resident and business parking permits, in collaboration with parking facility operators.

Additionally, a framework will be developed to facilitate the use of private parking facilities in special situations, such as during winter maintenance. Efforts will also be made to promote real-time availability data sharing for private parking facilities.

### **Real-time parking status**

In car parking, key measures include implementing identification technology for all parkand-ride facilities, providing real-time capacity data from private parking facilities, and transitioning resident and business parking permits to a mobile service. Collected data can be shared anonymously via an open interface. In the target scenario, parking events will be transmitted to an open interface, allowing application developers to access the data and create apps based on it. Through mobile applications, users will receive real-time parking information for different locations. These apps can provide details on available spaces and pricing, guide users to free parking spots, and facilitate payments. A realtime parking overview benefits many user groups, including private motorists, home care services, shared mobility users, people with disabilities, food delivery drivers, visitor parking users, and courier services.

### Transition to tiered pricing

The concept of service-level pricing aims to better align parking demand with supply. The goal is to make it easier to find available parking spaces and reduce unnecessary driving caused by searching for a spot.

### Encouraging the use of low-emission vehicles

Strengthening the electric vehicle infrastructure supports the reduction of internal combustion engine cars in the city center. Sufficient charging opportunities for electric vehicles contribute to the functionality of the city center and help achieve climate targets. The action plan for enhancing electric vehicle infrastructure (City Environment Committee 4.6.2024) outlines the installation of charging points on streets and public areas by 2030. The city is also exploring the applicability of a new procurement model to enable the implementation of new charging stations more easily, quickly, and flexibly.

### Low-emission discounts

Helsinki has applied a low-emission parking discount since 2011. This discount encourages the use of low-emission vehicles by offering reduced parking rates. As vehicle technology advances and becomes more environmentally friendly, the criteria for the discount are periodically tightened to maintain its effectiveness as an incentive.

### **3.4 Public Transport**

While walking is the primary mode of movement within the city center, public transportation is by far the most commonly used way to reach it. Improving public transportation conditions and maintaining competitive pricing is the most effective way to enable an increasing number of people to access the city center.

It is important to increase peak-hour capacity by developing infrastructure, such as metro traffic control systems and network solutions, including new tram connections.

The regional public transport system is particularly well-suited for trips to Helsinki's city center, as the center has traditionally been the largest transit hub. Today, the development of cross-city connections is a key focus, playing an important role in securing sufficient public transport capacity to the city center. As the region's population grows, maintaining adequate capacity for trips to the center will depend on reducing the reliance on transfers within the city center by strengthening cross-city routes. Public transportation also plays an important role in internal trips within the city center, especially for residents of areas south of the center.

The rise of remote work following the COVID-19 pandemic has also impacted public transportation. The most significant change has been a reduction in weekday peak-hour demand due to fewer office visits. There is now greater variation in peak demand across the week, with Monday and Friday being the most popular remote workdays. At the same time, the number of leisure trips on public transport has increased, helping to balance demand across different days. From an operational perspective, this is beneficial for public transportation, as fleet capacity is typically planned based on peak-hour demand. The evening out of peak demand may reduce overall fleet requirements, while the broader distribution of demand across different hours increases the utilization of available vehicles. Public transportation currently has room for growth in passenger numbers.


# On the Target State of Public Transport

The map illustrates the target state of the city center's public transport network. The most significant transport hub is the Central Railway Station, where incoming train, metro, and bus traffic connects with the tram network serving the inner city. Other metro stations serving the city center include Kamppi and Helsinki University, where a new northern entrance is being considered to expand the service area.

The map also depicts the extensive tram network in the southern inner city, which will be supplemented with a new connection between Kamppi and Punavuori via Fredrikinkatu. The tram network will also expand to Hernesaari as the area develops. Tram services will be further improved by integrating the mapped routes with the Vihdintie light rail line entering the city via Mannerheimintie and the West Harbour light rail line running between Hakaniemi and Jätkäsaari.

Additionally, the map shows the primary routes for local and long-distance bus traffic leading to terminals, as well as ferry ports at Kauppatori and Katajanokka, passenger terminals at West Harbour and Katajanokka, and cruise ship ports at Hernesaari and the Olympia Terminal.



The target state of the downtown public transport network

#### **Development Outlook by Public Transport Mode**

#### **Rail transport**

Helsinki Central Railway Station serves as the hub for both the Helsinki region's commuter rail network and Finland's long-distance train services. As a result, rail transport plays a crucial role in connecting the city center with areas beyond. The role of rail traffic in accessing the city center is expected to grow further. Ongoing development projects, including the Kaupunkirata urban railway and the enhancement of the main rail line, will increase the availability and capacity of commuter train services.

The planned Lentorata rail link would increase train capacity toward the north, freeing up capacity on the main rail line by shifting long-distance trains away from it, allowing for more commuter train services. In the long term, provisions have also been made for a HelsinkiTallinn rail connection, with a reserved station location beneath the Central Railway Station. Although Pisararata has completed plans, the project is not expected to progress in the short term.



#### **Metro Transport**

There are no immediate expansion plans for the metro network following the completion of the Länsimetro extension. However, metro ridership is expected to exceed current capacity in the near future due to regional growth and ongoing development within the metro service area in both Helsinki and Espoo. Ensuring sufficient metro capacity will be achieved by improving the broader public transportation system and enhancing the metro's own capacity.

Upgrading the metro's signaling system will enable shorter headways, which is expected to increase maximum capacity by approximately 50% compared to the current level. To improve metro accessibility, a new entrance for the Helsinki University metro station is planned near the intersection of Unioninkatu and Liisankatu.

In the long term, the general plan includes an underground reservation for a metro line from Kamppi to Pasila. This reservation could be utilized for expanding the metro network, serving Jätkäsaari and Hernesaari, connecting them to the city center and further extending via Pasila to Postipuisto and Käpylä. An alternative option is to consider the Kamppi–Pasila metro reservation as part of a broaderunderground light rail network.



#### **Tram Transport**

The role of tram transport is both to connect the inner city and nearby suburbs to the city center and to serve internal public transport within the downtown area. In the southern

inner city, trams are the dominant mode of public transport, and this role is expected to grow further. With the introduction of light rail lines, tram services will extend further from the city center, increasing overall tram capacity.

Direct tram lines from Laajasalo and Kalasatama to the city center will not only increase the number of passengers arriving by tram but also free up space on the metro for new commuters. With increased tram service supply and demand, the number of tram passengers at Kaivokatu stop is expected to double, reaching over 50,000 boardings and alightings per day. Light rail services will arrive in the city center in the early 2030s. The first routes will be the Vihdintie light rail, entering from Mannerheimintie, and the West Harbour light rail, arriving from Hakaniemi. The West Harbour light rail will also improve public transport in Jätkäsaari, supporting both the growing residential area and the increasing passenger traffic at West Terminal.

The West Trams project includes the Vihdintie light rail, the construction of the Fredrikinkatu tram line between Bulevardi and Urho Kekkosen katu, and the Topeliuksenkatu tram line between Runeberginkatu and Tukholmankatu. These additions will enable a new north-south tram route in the western city center, enhancing tram connectivity. The new tram line will also replace articulated bus routes 20 and 30, improving public transport efficiency. The future tram lines serving the new Hernesaari district are planned to run via Bulevardi to Mannerheimintie. Ensuring the reliability of tram traffic on Bulevardi is essential for maintaining the efficiency of the entire South Helsinki tram network.

The Tram Development Program defines objectives for improving the city centertram network. Implementing the related measures will speed up and enhance the efficiency of tram operations in the city center.



#### **Bus transport**

The long-distance bus terminal in Kamppi will remain a key hub for national bus traffic, and connections to it will be ensured.

The local bus network serving the city center will focus primarily on trunk lines. Kamppi and Rautatientori will remain key local bus terminals, with connections to them continuing as important bus routes. However, the role of buses in accessing the city center will decrease, as public transport services are increasingly shifted to railbased modes, including the expansion of light rail and the improvement of park-and-ride and transfer connections further from the city center.

The comfort and livability of urban spaceare becoming increasingly important, especially at Rautatientori. As part of the Kaivokatu public transport street plan, an alternative is being explored where departing bus traffic from Rautatientori would be routed north via Vilhonkatu instead of Kaivokatu. Additionally, as part of the Uusi Eliel real estate development project, provisions are being made to relocate terminating bus routes from Elielinaukio primarily to Kamppi Terminal.

Once the West Helsinki tram lines are completed, the role of bus transport in the southern inner city will be significantly reduced.



#### Water transport

Water-based public transport ensures the accessibility of the islands off the coast of Helsinki. Traffic to Suomenlinna will continue as before, with year-round passenger service from Kauppatori via the HSL ferry and additional market-based water bus services in the summer. The service connection to Suomenlinna will continue from Katajanokka. The city remains open to the introduction of new market-based water transport routes and collaborates on dock space availability.

Public transport connections to passenger ports are served by trams to West Terminal, Katajanokka Terminal, and Olympia Terminal. Plans aim to centralize port operations in the city center, with Tallinn-bound traffic relocated to West Harbour and Stockholmbound traffic to Katajanokka. In the future, cruise ship operations will be concentrated in Hernesaari and Olympia Terminal.

#### Tram network development

As the network city model outlined in the general plan is implemented, the city center tram network will be complemented by light rail lines. The goal is to ensure smooth, reliable, and uninterrupted tram operations, where trams only stop at designated stops, and other traffic and parking do not interfere with tram movement.

In the pedestrian center, tram traffic is integrated with pedestrian-friendly conditions. Street crossings in areas with only tram traffic can also function as designated pedestrian crossing points. A long-established example of this safe and effective solution is in front of Stockmann.

The uninterrupted flow and operational reliability of light rail lines will be ensured through dedicated tram lanes and station arrangements that accommodate larger vehicles. The new light rail corridors will be established along the Kaisaniemenkatu–Kaivokatu–Simonkatu axis and Mannerheimintie, extending to Kolmikulma and West Harbour. As tram services expand, they will gradually replace existing bus routes.

## Public transport accessibility and travel chains

As part of public transport development, special attention is given to improving service accessibility. Key aspects include minimizing transfer resistance by ensuring smooth connections between different modes of public transport and efficient feeder connections for pedestrians, cyclists, and drivers. On key pedestrian routes leading to the Central Railway Station, metro stations, bus terminals, and major tram stops, both at street level and underground, the focus is on seamless pedestrian connections and a pleasant urban environment.

The development of public transport transfer connections focuses on the areas around the Central Railway Station and Kamppi Terminal, ensuring smooth and high-quality pedestrian connections between different modes of transport. To improve metro accessibility, a new entrance to Helsinki University metro station is being considered near the Unioninkatu and Liisankatu intersection. High-quality drop-off and taxi arrangements, along with bicycle parking facilities, will ensure efficient park-and-ride access at key hubs, particularly at the Central Railway Station and Kamppi Terminal.

# **3.5 Improving Cycling Conditions**

Cycling plays a significant role in a balanced and sustainable transportation system. As an individual mode of transport, cycling provides a flexible, schedule-free way to travel while also serving as a convenient feeder mode for public transport. Increasing everyday cycling enhances the overall efficiency of the transport system, as expanding capacity for other transport modes is challenging in limited urban space. Beyond transportation benefits, cycling also positively impacts public health and the livability of the urban environment.

The City of Helsinki aims to increase the modal share of cycling from the current 11% to 20% by 2030, based on weekday counts in autumn. While cycling in the city center has grown significantly since the early 2000s, further improvements to cycling conditions are necessary to make cycling a more everyday choice and to increase its popularity. Enhancements are needed not only to enable growth but also to manage it effectively, ensuring that the rising number of cyclists does not lead to increased safety concerns for cyclists and other street users.

The development of cycling infrastructure is guided in more detail by the Cycling Development Program, with the next update scheduled for decision-making in autumn 2025.

In the city center, key areas for cycling development include completing the main cycling network, improving existing cycling infrastructure, and enhancing bicycle parking and related services.



#### Completing the Primary Cycling Network

The main cycling network forms the backbone of the cycling infrastructure, serving major cycling flows and enabling direct, smooth, and safe connections between different areas of the city. Currently, the main network in the city center is fragmented, which reduces accessibility and the attractiveness of cycling as a mode of transport.

The fundamental principle is that main cycling routes should primarily align with the main road network, as these streets typically offer the most direct and logical connections between different areas. Regardless of traffic volume, all key destinations along busy streets should be accessible by bicycle, which generally requires dedicated cycling infrastructure. In addition to cyclists, cycling infrastructure is increasingly used by escooters and other micromobility devices, which require similar facilities. Currently, essential cycling infrastructure is missing along several major roads, including Kaisaniemenkatu, Runeberginkatu, and Unioninkatu, despite their high traffic volumes.



The core bicycle network in the downtown area.

In the southern districts of the city center, the main cycling network needs to be expanded to include local streets to ensure that the network's coverage and density align with cycling demand and connectivity needs. On local streets, primary cycling routes will generally be implemented with solutions that improve cycling conditions on the roadway.

The long-distance cycling network, known as the baana network, is being implemented as planned to improve city center accessibility for cyclists traveling from greater distances. Within the city center, baana routes primarily run separately from the street network, utilizing green corridors and other off-street connections.

#### Improving Existing Cycling Infrastructure

Older cycling infrastructure in the city center, built to outdated standards, no longer meets the needs of growing cycling traffic. Most existing bike lanes are too narrow for current usage levels, reducing both traffic safety and flow. The need for space is further increasing due to the rising popularity of cargo bikes, e-scooters, and other micromobility devices. A key focus in improving existing cycling infrastructure is intersection design. Currently, continuity through intersections is often unclear, leading to potential conflicts between cyclists and pedestrians. To enhance both pedestrian comfort and safety, better separation between cycling and walking is needed.

New cycling infrastructure and existing older arrangements often create discontinuities at transition points, reducing the clarity of cycling routes. Until the final target network is fully implemented, temporary solutions are needed to ensure continuity and consistency in cycling infrastructure, particularly at these transition areas during new construction.

On most streets, cycling takes place in mixed traffic with cars. In these conditions, vehicle volume and speed must be low enough to ensure that people of all ages and abilities feel safe and comfortable cycling alongside motor traffic.

# Developing Bicycle Parking and Cycling Services

Insufficient bicycle parking is one of the key reasons people avoid cycling for daily trips, according to surveys. Improving bicycle parking facilities is a crucial way to increase cycling demand and support the city's goal of raising the cycling modal share. Bicycles also serve as an important extension of public transport, and enhancing bike-and-ride parking can boost public transport use and overall increase the appeal of sustainable travel options.

The development of bicycle parking is guided by a Bicycle Parking Master Plan and Implementation Program, which is updated every five years. This plan focuses on public street areas and bike-andride parking facilities managed by the city. The next bicycle parking plan and implementation program will be prepared in 2025.

Helsinki's city bike system has established itself as a popular and essential cycling service. Its development will continue by strengthening its role in daily mobility, public transport connections, and leisure travel.

## **3.6 Efficient Logistics**

The city center is a key area for logistics, as its dense urban structure includes a high concentration of customers and diverse delivery needs. At the same time, it presents a challenging operating environment, where limited street space is shared by many competing demands.

Efficient logistics is essential for the competitiveness of businesses in the city center. Goods must be delivered cost-effectively while minimizing disruptions to the environment.

The key goals for developing logistics in the city center are cost efficiency, environmental sustainability, and minimizing disruptions to surrounding urban activities. Logistics development focuses on city center infrastructure, the needs of diverse user groups within a limited space, environmental considerations, and the variety of logistical operations. For logistics operators, predictable travel times and adequate availability of loading zones are critical for operational efficiency. Furthermore, loading and unloading areas must be reasonablyclose to recipient businesses to ensure efficient workflows, ergonomic working conditions, safety compliance, and smooth operations in winter conditions.



#### Increasing loading zones

Searching for an available loading and unloading space currently significantly slows down goods distribution. Additionally, the lack of designated loading zones often forces operators to use inappropriate locations, such as sidewalks, bike lanes, or accessible parking spaces.

A key objective is to increase the number of loading zones in strategic locations while improving their maintenance and enforcement. In the city center, loading and unloading areas must be planned as a cohesive system, ensuring efficient and safe operations for both delivery traffic and other road users. To achieve this, acomprehensive loading and unloading plan will be developed for the city center. The number of loading zones will be gradually increased as part of area-specific traffic plans.

## Improving the use and accessibility of the central service tunnel

Expanding underground delivery networks is an important development strategy to reduce streetlevel disruptions, improve delivery efficiency, and enhance working conditions. The logistical capacity of the service tunnel between Kamppi and Kluuvi is currently significantly underutilized, as only a small portion of eligible city center properties have connected to the underground service network.

To increase the utilization of the service tunnel, the city will promote property connections to the network. Incentives may include reduced connection fees or other financial support for constructing service facilities and access points, considering the overall economic viability for the city. In addition to incentives, obligations, restrictions, or additional fees may be introduced to encourage property owners to join the tunnel network and relocate service traffic away from street level.

As part of improving access to the service tunnel, a new entrance in Hakaniemi is being considered, aligned with property development goals.

## Adapting delivery vehicles to the needs of the city center

Compared to many peer cities abroad, Helsinki's city center operates with relatively large delivery vehicles. While larger vehicles enable efficient transport, they also pose challenges for infrastructure design, urban livability, and traffic safety.

The goal is to ensure that the last-mile delivery in the dense city center is carried out using the most appropriate and space-efficient vehicles, whenever the transported goods allow. This requires the establishment of urban consolidation centers, for which suitable locations and long-term solutions will be sought through collaboration, incentives, and regulatory measures.

## Promoting environmentally friendly delivery solutions

The adoption of environmentally friendly delivery solutions will be promoted through incentives, procurement criteria, and regulations. As technology and conditions evolve, these incentives and regulations will be regularly updated to ensure a balanced approach between encouragement and enforcement.

Delivery access to pedestrian areas can be regulated using retractable bollards, allowing access to be granted based on environmental criteria or other considerations. Similarly, bicycle-based deliveries can be promoted by improving infrastructure to better accommodate cargo bikes and facilitate their movement.

As part of Carbon-Neutral Helsinki, traffic measures will likely include emission-based restrictions on vehicle use in the city center.

## Enhancing the enforcement of improperly parked vehicles

In the city center, the misuse of loading and unloading zones has been identified as a significant issue, preventing delivery vehicles from accessing the spaces they need. This misuse increases the risk of delivery vehicles stopping in inappropriate locations, such as sidewalks, causing unnecessary disruption, safety hazards for pedestrians, and obstacles for other road users and the urban environment.

Enforcement of loading zone usage will be enhanced, and automated monitoring systems will be developed to oversee their utilization. These monitoring methods will be tested through pilot projects before full implementation.

## Developing opportunities to expand nighttime delivery operations

Expanding nighttime deliveries can generate cost savings by reducing delays caused by congestion. The city will explore ways to eliminate barriers to nighttime distribution and encourage logistics and recipient businesses to increase overnight deliveries.

## Developing an information system for delivery traffic

To optimize the use of loading zones, an information system will be developed in collaboration with businesses. This system will provide realtime data on loading zone availability and key delivery location details, such as entrance points and clearance heights for access routes.

#### **Delivery traffic parking permit**

In the city center and inner city, the goal is to introduce a delivery traffic parking permit to streamline loading zone usage and clarify parking enforcement, ultimately improving delivery efficiency. However, implementation has been delayed due to strict data security requirements, which are still being addressed.

# 4. Projects on the Map

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The City Center Transport Network Plan outlines the most significant traffic and street projects for the development of the city center in the coming years. The Action Program presents projects that are in the general or detailed planning phase as well as those awaiting implementation. Information on all projects that have reached the detailed planning phase or beyond is based on the Public Areas Investment Program in accordance with the 2025 draft budget.

All new projects based on the transport network plan (area-specific traffic plans) are general planning phase projects, in which broader concepts are fundamentally planned through a process that includes the necessary alternative assessments, impact evaluations, and interaction with residents and other stakeholders. The figure on the right illustrates the process for advancing transport and street projects.



#### Major Ongoing Implementation Projects

The backbone of the Action Program is formed by the major, timely projects for the city center that have already been programmed, as shown in the accompanying illustration. Among the projects that strengthen the transportation system arealso renovation projects for underground structures and municipal technology, whose impacts on the transportation system are limited to the construction phase.

(2)

3

(5)

8

The Kruunusillat light rail, the West Harbour light rail operating as an extension of the Kruunusillat tram, and the West Helsinki tram improve public transport connections and more strongly link the city center to the surrounding nearby areas. The northern entrance of the Helsinki University metro station enhances metro accessibility and shortens the walking distance to the metro. Meanwhile, developing vehicle access to the city center service tunnel makes it easier to arrive by car and conduct business in the city center. The harbour tunnel notably improves the flow of freight traffic to to West Harbour and eases the burden that harbor traffic places on the area's street network. Water supply and street work projects in the Esplanadi area, along with the comprehensive renovation of Kaivokatu, are projects whose construction-phase impacts on traffic arrangements are significant, yet these projects are essential for maintaining the infrastructure. Decisions regarding any potential changes to traffic arrangements in connection with these projects have not yet been made.



#### Area-specific traffic plans

In area-specific traffic plans, local solutions—covering at most entire neighborhoods—are devised. The plans present design solutions related to the development of the area's streets and other closely connected public spaces, so that sub-area-specific implementation projects, along with preliminary cost estimates and schedules, can be defined. During traffic planning, the necessary assessments of the connectivity needs of various modes of transport and alternative traffic arrangements are carried out. The planning phase includes dialogue with local residents and stakeholders. Areas and routes with specialized accessibility requirements are taken into account in the development of streets in the area-specific traffic plans.

#### Initially prioritized planning projects:

#### 1. Kluuvi

#### Starting 2025

The plan aims to develop street connections between Hakaniemi and the Central Railway Station to make them suitable for light rail, while also aligning the area's traffic arrangements with the Eliel development project and the target state for Kaivokatu. In the current pedestrian-oriented area, measures are being planned to improve the quality of the pedestrian environment.

#### 2. Kaartinkaupunki and South Harbour Starting 2025

Traffic arrangements in the area are being planned for the post-street renovation scenario, taking into account changes in harbor traffic affecting vehicle flows.

#### 3. Kamppi

#### Starting 2026

Traffic calming measures are being planned in the area to enhance the pedestrian environment, and the structuring of the street network will be refined.

#### 4. Mannerheimintie, South End Starting 2027

The plan examines consolidating lane arrangements on Mannerheimintie to increase street greenery, reduce the barrier effect of traffic, and expand loading space along the street frontage.

#### 5. Southern Inner City

## Starting 2028

Traffic calming measures will be planned for the area to enhance the pedestrian environment, and the structuring of the street network will be refined.



## PART II

# BACKGROUND MATERIAL

5. Mobility in Helsinki - An overview of the current and future situation

# Land Use and Urban Fabrics



A dense urban structure and short distances between functions contribute to a pedestrian-oriented character in the center of Helsinki



As the city grows, more and more people move through urban space using different modes of transport. Traffic spaces are a form of land use, just like housing, services, and parks. In the center of Helsinki, land use is dense and land value is high, which means there is limited space to allocate to different urban functions.

Distances between functions in the city center are short. Housing, services, and workplaces are often located in the same building or within the same block, in close proximity to one another. Only in the very core of the city is there currently little to no housing, but even there, services and workplaces are located close together. These short distances between functions have fostered a pedestrian-oriented character in central Helsinki. The strategic MAL (Land Use, Housing and Transport) planning for the Helsinki region defines sustainable long-term solutions and prioritizes key measures for the short term. The MAL 2023 plan includes land use allocation, housing production, and the development of a transport system that encompasses all modes of transport.

As part of the planning process, an extensive land use dataset was collected from the municipalities in the Helsinki region. In this dataset, municipalities assessed the volume and spatial allocation of future housing and job construction far into the future. Based on this data, an urban fabric analysis was created, consisting of pedestrian-oriented, public transport-oriented, and car-oriented urban structures.

The aim of the analysis is to identify areas of pedestrian, public transport, and car-oriented urban fabric using spatial data, and to track their development towards the years 2030 and 2050. These urban fabric areas serve as a foundation for future transport planning. *(Helsingin seudun kaupunkikudokset – final report, 27.08.2018)* 

The criteria for pedestrian-oriented urban fabric include the location of daily grocery stores within walking distance (< 500 meters) from residential areas, urban density, as well as a high level of public transport service and accessibility. Cycling and car use are also typical modes of transport within pedestrian-oriented areas.

The pedestrian-oriented urban fabric in central Helsinki is surrounded by an inner public transportoriented urban area, located approximately 2–8 kilometers from the city center. The criteria for density, retail accessibility, and public transport services in this area are the same as in pedestrianoriented areas, but the distance from the city center is greater.

By 2030, approximately 67% of residents in the Helsinki region will live within areas classified as pedestrian- or public transport-oriented urban fabrics. The remaining 33% will reside in inner or outer caroriented areas, or outside the urbanized zone altogether. By 2050, the share of people living within pedestrian- and public transport-oriented areas is expected to increase by about 1–2%. This means that the vast majority of residents in the Helsinki region will continue to have excellent access to the city center via public transport both now and in the future



#### Walking



Helsinki's city center has the highest pedestrian volumes in Finland. The busiest pedestrian area is around the Central Railway Station.



Walking accounts for 53% of all trips made within Helsinki. The Central Railway Station stands out as a key hub, most often reached by public transport, from where people continue on foot toward other parts of the city center. The highest pedestrian volumes in the center are found in the area between the Central Railway Station, Mannerheimintie, and Pohjoisesplanadi.

There are also high numbers of pedestrians in the vicinity of Kamppi and Helsinki University metro stations. After the Central Railway Station, these are the most important entry points into the city center. Walking related to public transport journeys constitutes a significant portion of all walking in the city center. Pedestrians are also drawn to some of Helsinki's most iconic attractions, such as Senate Square, Esplanadi Park, and the waterfront areas like the Market Square (Kauppatori).

Pedestrian volumes are highest during the summer months and in December, but seasonal variation depends on the specific street. On some streets, there is little difference between winter and summer foot traffic, while on others, pedestrian numbers increase significantly during the summer season. When Helsinki residents (n=1250) were asked generally about improving walkability in the city center, the results show that the majority believe the pedestrian environment and overall comfort of central Helsinki should be improved. However, when respondents were asked whether through-traffic or on-street parking



Pedestrian Volumes in August 2023.

should be restricted in order to enhance the walking environment, opinions became much more divided: around 40% were in favor, 40% opposed, and the rest remained neutral (figure on the left below).

Opinions on traffic and the development of a pedestrian-focused city center vary particularly by age, gender, and mobility habits. Younger residents and those living in car-free households are more supportive of expanding pedestrian zones than older individuals or those living in households with a car. Helsinki residents have also been asked in several open public surveys to identify locations in the city center where the walking environment should be improved. For example, according to the "On Foot in the City" (2018) and "On Foot in City Districts" (2019) surveys, the area around the Central Railway Station was considered the most unpleasant pedestrian environment in the city center. At the same time, this area has the highest pedestrian volumes and was also the most frequently mentioned location for desired improvements to the pedestrian environment (figure on the right below).



Residents' views on the development of the pedestrian city center (Residents' experiences of the Esplanades and summer streets experiment, 2023)

Desired pedestrian environment development areas on the map (Walking Survey, 2018)

#### **Public Transport**



Most people arrive in the city center by public transport. 73–75% of errands are done using public transport.



Public transport is by far the most popular way to access the city center, and its popularity is expected to continue growing in the future. According to the regional traffic model forecast, the number of public transport trips to the Helsinki Peninsula is expected to increase by over 30,000 daily trips by 2040, making up 49% of all trips to the peninsula.

Of all trips made within Helsinki by Helsinki residents, public transport accounts for 24%—a share that is consistent both in the inner city and in other parts of Helsinki.

According to the City Center Travel Survey (2019), public transport plays a significant role in accessing the city center, particularly for trips related to errands and shopping. Depending on the destination, 73–74% of these trips to the city center were made by public transport When arriving in the city center from a wider area, train and metro connections play a central role, whereas movement within the city center and the inner city is primarily served by tram lines. Trams also function as connecting services from Kamppi and the Central Railway Station to other parts of the city center. Large numbers of tram passengers travel especially along Mannerheimintie, Aleksanterinkatu, and Kaivokatu.



Changes in trips to the city center (Helsinki Peninsula) between 2018 and 2040 in the baseline traffic forecast.



🔳 Joukkoliikenteellä 🛛 🗏 Kävellen 📕 Polkupyörällä 🖉 Autolla

Most common mode of transport by destination (Helsinki City Center Travel Survey, 2019).

#### **Car Traffic**



Kaivokatu and the Esplanadi streets serve as the main routes for cross-town motor vehicle traffic, where traffic volumes have decreased by nearly half over the past 30 years.

#### $\sim\sim\sim\sim$

In 2023, the combined share of Helsinki residents traveling as car drivers or passengers accounted for 11% of all internal trips among those living in the inner city and 20% among all Helsinki residents.

The volume of cross-town motor vehicle traffic in the city center has shown a clear decline between 1990 and 2019. This trend has been influenced by changes in the street network of the inner city and ring roads, as well as improvements in the public transport system.

Through traffic across the city center was studied based on a license plate recognition survey conducted in January 2018. Through traffic was defined as traffic between the Lauttasaari and Hakaniemi bridges. On weekdays, approximately 7,000 vehicles per day (both directions combined) passed through the city center. Of this observed through traffic, 87% consisted of passenger cars, 8% of vans, and 5% of heavy vehicles. Lauttasaari stood out as the most common registration location for through-driving vehicles.

Hourly variations in traffic volumes on Kaivokatu and the Esplanadi streets between morning and early evening are exceptionally small compared to the rest of the region. In autumn 2019, total daily traffic volumes were nearly the same on both the Esplanadis and Kaivokatu. Traffic on Kaivokatu is slightly heavier eastbound, while on the Esplanadis it is heavier westbound. On both streets, the peak hourly traffic volumes were relatively moderate in relation to the capacity of a typical 2+2 lane street. However, the heavy cross-flow of pedestrian traffic on Kaivokatu and the Esplanadi Streets limits the throughput capacity for cars.



The combined volume of car and tram traffic between 1971 and 2021 at various counting points

#### Cycling



Bicycle traffic volumes at the boundary of the Helsinki peninsula have increased over the past two decades from around 20,000 cyclists per day to over 30,000 cyclists per day.

In 2023, cycling accounted for 11% of all trips made by Helsinki residents, amounting to approximately 220,000 bicycle trips per day. The city aims to significantly increase the share of cycling. According to the 2022 Cycling Barometer, 94% of Helsinki residents support this goal. The potential is considerable, as 76% of residents have at least one functioning bicycle, and 59% say they would cycle more if the cycling network were more comprehensive and better connected. In the city center, the need to expand and unify the cycling network is especially pronounced. The dense urban structure offers the greatest potential for cycling, but surveys indicate that cycling conditions in the inner city still generate the most dissatisfaction. The cycling network in the center is particularly lacking around Kaisaniemenkatu and the Market Square (Kauppatori). Moreover, many

existing cycling facilities have become too narrow and unclear due to the increased number of cyclists.

At the same time, the rapid rise in the use of electric scooters and other micro-mobility devices comparable to bicycles is placing growing demands on cycling infrastructure. Currently, the busiest cycling routes in the city center are along Kaivokatu, Mikonkatu, Eteläesplanadi, and Mannerheimintie, as well as along the new Kaisantunneli cross-route.

Cycling is characterized by seasonal variation. Only about one in ten summer cyclists ride year-round. One of the main challenges for year-round cycling is inadequate winter maintenance - only 25% of cyclists report being satisfied with winter maintenance of bike lanes in Helsinki. Of all Helsinki residents, 45% believe they would cycle more if the quality of winter maintenance were improved.



Bicycle traffic volume at the boundary of the Helsinki peninsula from 1997 to 2023, based on manual weekday counts conducted in June.

# 6. Perspectives raised by Citizens

The interaction process for the City Center Transport Network Plan has consisted of the work of a citizen panel as well as cooperation with stakeholders. In addition, the plan was presented in an open online public event titled 'New Central Helsinki' on April 24, 2024

#### **Stakeholder Engagement**

A selected group of central area stake holders those deemed most affected by the proposed solutions in the plan - were involved in the stakeholder collaboration process. The selection of stakeholders was carried out in cooperation with the project's steering group.

A total of 12 events were organized for stakeholders. During these events, the contents of the plan were presented, and discussions were held both about the plan itself and about mobility in the city center more generally.

After the events, stakeholders were given the opportunity to submit statements on the plan. A wide range of different stakeholder groups participated in preparing these statements, and each group was responsible for involving their member organizations or other represented parties in the manner they saw fit. In total, 34 different parties were involved in preparing the statements. The transport network plan for the central city area is strategic in nature, and the proposed solutions are primarily conceptual.

At this planning stage, it makes more sense to involve representatives of central area stakeholders who are more familiar with urban planning, rather than individual entrepreneurs or residents, who, on the other hand, have the best understanding of concrete solutions in their immediate surroundings.

The most concrete proposal in the plan relates to transforming Kaivokatu into a street dedicated

to public transport. A separate zoning plan for Kaivokatu is currently underway, and interaction events have been organized for local businesses, residents, and property owners in connection with it.

This plan will initiate the preparation of more detailed local traffic plans. These plans will be specific enough to allow for the hearing and participation of individual city residents.

In the stakeholder statements, key concerns included the transformation of Kaivokatu into a

Date	Occasion
25.1.2024	Citizen Panel, 1. meeting
30.1.2024	Disability Council
30.1.2024	Youth Council
31.1.2024	Elderly Council
1.2.2024	Chamber of Commerce, Helsinki Entrepreneurs, Property owners
5.2.2024	Resident associations
8.2.2024	Taxi, Logistics and Tour Bus Operators
12.2.2024	Port of Helsinki, ELY, Shipping Companies
27.2.2024	Citizen Panel, 2. meeting
5.3.2024	Jalankulkijat ry
20.3.2024	Citizen Panel, 3. meeting
5.4.2024	Police and Rescue Services

public transport street, the calming of local streets, limiting the number of lanes on district collector streets to one lane per direction, and the functionality of service and taxi traffic.

On the positive side, the development of the city center into a more pleasant and walkable area was appreciated.

The proposed public transport street on Kaivokatu was mostly met with reservations. Especially the deterioration of conditions for drop-off, bus, service, and taxi traffic was frequently raised in the statements. Based on stakeholder feedback, the preliminary traffic plan for Kaivokatu was adjusted to allow service, drop-off, and taxi traffic to circulate in both directions via Postikatu. In exceptional cases, bus traffic is allowed access to Kaivokatu, and a designated drop-off area has been arranged in front of the hotel. On the eastern side of the railway station, a drop-off point is also planned on Puutarhakuja, north of the National Theatre, offering barrier-free access to the station and trains.

The concerns and questions raised by the stakeholders largely aligned with the views of the Citizens' Panel. These are addressed in more detail in the section Concerns and Questions from Citizens.

#### **Citizen Panel**

A 18-member citizen panel was assembled for the preparation of the plan. Over 400 applicants applied to the panel. The panelists were selected to represent the residents of Helsinki as diversely as possible in terms of age, gender, residential areas, mobility habits, and car ownership.

The panel met three times during the spring of 2024. During the work, the panel familiarized themselves with the information provided by the experts in traffic planning from the City of Helsinki, observed the current state of Kaivokatu, discussed the area's significance for the residents, envisioned the surroundings of the Main Railway Station, evaluated the preliminary traffic plans for the Kaivokatu area and their alignment with the city's strategic goals, and considered the long-term impacts of the plans on the daily lives of residents. The panel also wrote a public statement expressing their views. The views represented in the statement included users of all forms of transportation, with both supporters and opponents of the changes. However, those who signed the public statement are somewhat over-represented by supporters of the Kaivokatu public transport street.



#### **Concerns and Questions of the Citizens**

The majority of citizens support the development of conditions for comfort and walking in the city center. At the same time, concerns are raised regarding the accessibility of the city center, its vitality, and the smoothness of emergency and service traffic. These concerns sparked lively discussions both during the citizen panel work and in stakeholder meetings. The following section summarizes the most common concerns and questions of the citizens based on the views of both the citizen panel and the stakeholders.

#### Accessibility of the City Center

Kaivokatu is seen as a nationally important junction, where the functionality of traffic is key. It is important for citizens that the Kaivokatu area is accessible to everyone, but according to the citizen panel's statement, it does not need to be equally accessible for all modes of transportation. However, concerns are raised regarding the safety of passenger traffic and the needs of people with mobility limitations.

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## Will the accessibility of the Kaivokatu area become more

difficult for those who have, for unavoidable reasons, been traveling in the area by car? Will passenger traffic to the Main Railway Station become more difficult?



#### The area around the Main Railway Station will become an even more significant hub for public transport

exchanges and passenger volumes in the future. It will also remain important to ensure the functioning of passenger traffic by car, both by taxi and private car. The removal of through traffic on Kaivokatu means that the passenger functions at the railway station will be divided between the eastern and western sides of the station. The eastern side will serve eastbound traffic, while the western side will cater to westbound passenger traffic. Space will be allocated for taxis and private passenger traffic on both sides, taking accessibility needs into account.

The closure of Kaivokatu to through traffic will result in additional detours for car trips with destinations located on the opposite side of the station from the direction of arrival. Instead of Kaivokatu, the new route will most commonly pass through the Esplanades, adding up to a detour of over a kilometer. These trips will experience a clear increase in travel time. However, the trips affected by the increase in distance and time form a much smaller group compared to the trips made on foot, by public transport, by bicycle, and by car, all of which will benefit from Kaivokatu's transformation into a public transport street.

#### **Bottleneck at the Esplanades**

The Esplanades are seen as a prominent tourist destination and an important meeting and leisure space. Locals want the plan to be one that does not burden or reduce the comfort of the Esplanades. There are concerns about North and South Esplanade turning into bottlenecks for car traffic, as well as the emissions caused by cars queuing.



Will a bottleneck for car traffic emerge on the Esplanades, where cars will stand still for longer than they do now?

According to the traffic modeling done as part of the impact assessment, car traffic on the Esplanades will rise

to approximately the level of 2010 if Kaivokatu is converted into a public transport-only street. The increase in traffic volume will worsen the flow of car traffic on the Esplanades. Car traffic on the Esplanades is already slow-moving, and its flow is further hindered by several pedestrian crossings. From a pedestrian's perspective, the environment on the Esplanades will hardly change compared to the current situation. Noise levels, emissions, the street's barrier effect, and the street's livability will remain virtually the same, as the increase in traffic on the Esplanades is modest.

#### Vibrancy of the City Center

For city residents, it is important to maintain the operational conditions for businesses and residents in the city center. The businesses in the city center were identified as a key factor in the area's attractiveness. Concerns are raised about the potential difficulties in service traffic and the possibility of customers shifting to shopping centers outside the city center, which could impact the vibrancy of the area.

Will the vitality of the city center suffer if residents can no longer access the city center as smoothly by car? Will the smoothness of service traffic and deliveries for businesses worsen?

Residents will also be able to drive to the city center in the planned situation. Access to the city center by car is aimed to be improved by developing the entry to the city's service tunnel and thus to the underground parking facilities. The attractiveness of the city's underground parking facilities will be improved by implementing new access routes there. In the future, all entrances to the city's service tunnel will provide access to all parking facilities connected to the tunnel. Additionally, a new entry to the service tunnel is planned from the north side of the long bridge to Hakaniemi. In the long term, smoother access routes will also be developed to the west side of the tunnel.

The plan aims to improve service traffic conditions, and all properties will continue to be accessible by car. Access routes to all properties in the city center will be maintained, taking into account the needs for developing the pedestrian city center, prioritizing public transport, and calming local streets. From the perspective of logistics, passenger traffic, service and taxi traffic, and other transportation, particular attention will be paid to the availability of loading spaces and passenger drop-off areas, which will be supported by parking policies and choices that affect the street's cross-section. The number of loading spaces will be gradually increased with the regional traffic plans.

According to the vitality impact assessment of the plan, the positive impacts of the plan outweigh the negative ones. The change is small but positive. Negative impacts identified include a moderate increase in logistics costs for businesses and an increase in the sensitivity of the city's street network to disruptions. Positive impacts included an increase in total travel volume and spending in the city center, a reduction in local emissions, improved comfort, and a decrease in travel times to the city center for all modes of transportation.

#### **Emergency vehicles**

A highly emotional concern among the residents is the fear of the slowing down of emergency vehicle operations in and around the city center.



Vaikuttaako liikennejärjestelmäsuunnitelma heikentävästi hälytysajoneuvojen kulkuun?

The smoothness and speed of emergency vehicles' access is most affected by street congestion and the ability of other traffic to yield to emergency vehicles. Therefore, the key traffic planning elements that challenge the operational conditions of emergency vehicles are primarily the conversion of Kaivokatu into a public transport street and the general aim to limit the number of lanes on district collector streets to one per direction.

On Kaivokatu, smooth emergency vehicle access will be ensured in the public transport street option by primarily allowing functioning access routes along the tram tracks. If necessary, emergency vehicles can use any part of the street to proceed. In emergency vehicle operations, the need for smooth traffic on the Esplanades is emphasized. The closure of Kaivokatu increases congestion on Esplanadi and Pohjoisranta, which may slow down emergency vehicles. However, the traffic volume increase is expected to remain moderate, returning to roughly the 2010 levels by 2030. The functionality of South Esplanade as a route for emergency services has been enhanced with signal prioritization in the Esplanade survey between 2023 and 2024. These solutions will be further developed in future planning stages.

The reduction of key cross connections in the city center increases the sensitivity of the central street network to disruptions and creates special needs to ensure the reliability of the street network, especially for emergency vehicle operations. This will be particularly taken into account in the future planning solutions for the Esplanades.

# **Development Needs from the Perspective of the Citizens' Panel**

The plan responds to the desires and needs of citizens to improve the conditions for walking and cycling in the city center in terms of accessibility and safety, as well as the development of the attractiveness and comfort of the city center. The Citizens' Panel considered the development of the pedestrian environment and comfort in both Kaivokatu and Esplanadi areas as important. According to the Panel's view, Kaivokatu should prioritize the users of public transport, those changing modes of transport, and pedestrians, taking into account the number of users of these transport modes in the area.

Currently, Kaivokatu is considered noisy, busy, frightening, and unpleasant. A smooth transition from one mode of transport to another and good guidance in the area are considered by the Panel as of primary importance. The Panel believes that Kaivokatu should also be developed as a place for enjoyment. Aspects contributing to comfort include greenery, accessibility, safety, pleasant soundscapes, weather protection for different seasons, and cleanliness. The area should offer both commercial and public spaces for relaxation, such as terrace areas, benches, and cultural spaces in the square. It is hoped that children and families with children will be better considered. The area also needs more bicycle parking spaces.

Esplanadi should be developed by reducing the negative impacts of car traffic, making street crossings safer and smoother, increasing the greenery and park-like atmosphere, improving connections to the Market Square, and revitalizing the ground-floor spaces of buildings.

The Panel believes that the smoothness of car traffic through the city center should be addressed with clear signage. For arriving drivers, access to parking garages should be improved. The parking garages should also have uniform and attractive pricing.



#### User personas derived from the needs of citizens support the design

In support of the plan and development work, personas were created based on the views of the citizens. Personas are archetypes; generalizations of different perspectives that have been condensed into fictional personas. These personas represent the divided attitudes of the citizens towards the development of walking and comfort in the city center, as can be inferred from the work of the citizen panel and the survey research.

The foundation for creating the personas was based on the data generated during the work of the citizen panel for the City Center Transport Network Plan; observations, tasks from workshops, and results, as well as interim results from the research on Helsinki residents' experiences with Esplanades and summer street trials (published 11/2023, 1250 respondents).

From this data, a profiling of the citizens' attitudes towards development was first carried out. The citizen panel's attitudes were examined based on the task related to different traffic scenario options, in which the panel was divided into three groups: just under a third (27%) supported very moderate development, where car conditions would not be worsened; a little over a third (37%) supported balanced development across all modes of transport; and about a third (30%) were "all-in" for development measures and wanted to see bold actions for walking and comfort. A small portion (6%) of the panel opposed all scenario options and did not participate in their evaluation.

The division of the panel's attitudes mirrors the results of the survey, which shows that just over half (54%) want the city center's walking environment and comfort to be developed, while only 19% disagree. However, there is more moderation when it comes to restricting car traffic, with a split of 40% in favor and 40% against.

After profiling, the survey research identified the most typical demographic character to represent the various attitudes. Following this, the profiles were supplemented with the views of the citizen panel, including concerns, wishes, and visions. The personas combine answers from different individuals and do not represent any one person in particular. These personas represent adult residents of Helsinki, taking into account their demographic factors such as age, gender, and preferred modes of transport. The profiles do not include respondents who were passive (such as "I don't know" responses or those who dropped out during the panel discussions), immigrants who do not speak Finnish, as well as children and young people. These groups would require additional understanding and participation.

#### Six Personas



Saku drives daily back and forth in the city center for his business deliveries. Saku opposes development measures that come at the expense of driving. He wants to maintain through traffic in the city center for work, service traffic, and smooth logistics. A significant portion of Saku's business comes from customers who drive, so he is also concerned about the reduction of parking spaces. In Saku's vision, the city center is a vibrant place to live and do business

Sauli, who is retired, often visits the city center for services and social interactions. For Sauli, having his own car is a necessity, as using public transportation is too challenging and exhausting for him due to his mobility issues. Sauli is critical of the development of the city center, questioning whose interests the changes serve. In Sauli's vision. the city center is accessible by car, barrier-free, and takes into account the needs of the growing elderly population.

Munkkiniemi, 85 y.





**Pirre Bike** Guide Vuosaari. 74 v.

Ukko

Urbanist Kallio, 41y.

Pirre, who is retired, works part-time as a bicycle guide. She travels long distances by bike, sometimes taking the bike part of the way by metro. For Pirre, equality is the most important thing, and she believes that all modes of transportation should have equal conditions. Pirre thinks that there is still room for improvement in cycling conditions in terms of smoothness, safety, and the number of parking spaces. In Pirre's vision, the city center is a smooth and safe environment for cycling, as well as a pleasant place to stop.



Jarno, like the majority, arrives in the city center by public transportation. He supports progressive measures for developing the city center. Jarno especially hopes for improvements in the public transportation user experience: smooth and seamless connections, well-thought-out transfers, efficiency, clear routes, and covered waiting areas. According to Jarno. public transportation should be prioritized over other modes of transportation due to its large number of users. In Jarno's vision, Helsinki is the most functional city in the world.



researcher by profession. He uses various modes of transportation but prefers walking. He rents a car when necessary. Ukko supports the development of walking and pleasantness in the city center. He believes that plans and decisions should be based on data and researched information. He hopes for cozy, familv-friendly terrace areas, more benches, and culture in the city center. Ukko's vision of the city center is green, both serene and lively at the same



Katja Töölö, 22 y.



Personas formed from different perspectives of city residents.

# 7. Impact Assessment

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In the transport network plan for the city center, the impacts of the proposed measures and development principles have been assessed in a traffic system scenario review conducted prior to the plan's preparation, as well as through more detailed impact assessments focusing on the effects of converting Kaivokatu into a public transport street from the perspectives of traffic and vitality impacts. In the basic alternative examined alongside the public transport street option for Kaivokatu, a traffic solution adapted to the street's light rail plans has been used, where there is one lane in each direction in front of the main railway station, unlike the current situation. The current lane arrangement, with two lanes in each direction in front of the station, will not technically fit into the street's cross-section as tram traffic increases.

Traffic impacts have been assessed for the year 2030, based on the Helsinki region's personal traffic forecast model, traffic simulations for the Kaivokatu axis, and supplementary expert assessments. The results of the traffic impact assessments have also been used as baseline data for assessing vitality and environmental impacts.



## 7.1 Impacts on Transportation Modes and User Groups

The development direction indicated by the transport network plan emphasizes improving walkability in the city center and its surrounding areas. The development of walkability and pleasantness is supported by a strong investment in sustainable modes of transportation, particularly the prioritization of the planned light rail transit in the city center.

The further development of Kaivokatu as a public transport street is the most significant policy in the plan in terms of impact. The removal of through traffic will reduce traffic load on the Kaivokatu axis, extending from Hakaniemi to Kamppi, allowing for the replacement of some car lanes with tram lanes needed for light rail transit, as well as appropriate bicycle traffic arrangements. The reduction of the barrier effect of the busy streets surrounding the railway station will significantly decrease delays for pedestrians, strengthening the busiest walking connections in the city center

Converting Kaivokatu into a public transport street offers significantly better operating conditions for the growing tram traffic on the Kaivokatu axis and allows for the improvement of several sensitive points. At the same time, the smoothness of bus traffic on Kaivokatu can be maintained, even though buses will be directed to the same lane as car traffic on the connection between Hakaniemi and Rautatientori. The plan also enables essential improvements to the fragmented bicycle path network in the city center, which, in addition to bicycle traffic, serves the evergrowing number of road users comparable to cyclists.

The measures and development principles included in the plan have an overall negative impact on car traffic, particularly affecting cross-city traffic and peak hours. On the other hand, the reduction of cross-city through traffic will lighten the traffic load on the east-west entry routes and speed up access to the city center from these directions. Additionally, the development measures for the service tunnel, which improve the accessibility of underground parking facilities, support better car accessibility to the city center.

#### Car Traffic Volumes on Pohjoisesplanadi During Afternoon Rush Hour (4-5 pm)




Regarding car traffic, the prevention of through traffic on Kaivokatu will lead to changes in driving routes and street network congestion. The removal of the through route on Kaivokatu will cause detours and increased travel time for trips that would have taken the most direct route via Kaivokatu. The most significant impact will be on trips whose starting or ending point is located in the immediate vicinity of the railway station and on the "wrong" side relative to the direction of departure or arrival. However, the detour impact affects only a small portion of all car trips in the city center. Congestion related to changes in street network load will be most noticeable on Esplanadi and Pohjoisranta. However, the increase in traffic volume on these streets is expected to remain moderate, rising to approximately the level of 2010 by the year 2030.

Converting Kaivokatu into a public transport street will lengthen taxi routes from the railway station taxi stands to the main street network. Routes that previously used Kaivokatu will shift to Esplanadi, where the simultaneous increase in congestion due to traffic shifting from Kaivokatu will emphasize the impact of the lengthened routes. The effects are similar for delivery and service traffic as well as tourist traffic around the railway station. In rescue traffic, the need for sufficiently smooth traffic on Eteläesplanadi is emphasized. The closure of Kaivokatu increases traffic congestion on Esplanadi, which may slow down emergency vehicles. However, it is assessed that the smoothness required for rescue traffic can be ensured with a customized traffic light program that provides smooth passage for emergency vehicles when needed.

The reduction of cross-city main connections in the city center increases the sensitivity of the street network to disruptions and creates specific needs to ensure the operational reliability of the street network in exceptional situations. This must be particularly considered in future planning solutions for Esplanadi.

The impacts related to calming local streets and reducing the number of lanes on district collector streets in the city center can be more accurately assessed once concrete measures are specified during the preparation of local traffic plans. Generally, these measures have significant potential to improve conditions for both walking and cycling by reducing the barrier effect of traffic and enhancing traffic safety and pleasantness. In further planning, special attention must be paid to the accessibility of the environment, ensuring the mobility conditions for people with mobility and functional impairments.

Based on traffic model analyses for car traffic, in the theoretical situation of 2040, where Kaivokatu has been converted into a public transport street, all district collector streets in the city center have been changed to 1+1 lanes, and local streets have been extensively calmed from through traffic, the accessibility of individual areas decreases by a maximum of less than 10% compared to the basic alternative based on the current situation. Since the share of car trips to the city center is about 15%, the weakening of car traffic connections affects the overall accessibility of individual areas in the city center by a maximum of about 1.5%, and on average less than one percent for the entire city center. When considering changes in overall accessibility and attractiveness, it can be assessed that the positive changes in walking, cycling, and public transport are more significant than the decrease in accessibility caused by changes in the car traffic network.

## 7.2 Impacts on Economic Vitality

Vitality refers to liveliness, the activity of social interaction, the diversity and mixing of functions, and economic well-being. According to studies, the vitality of downtown areas primarily depends on the number of people there. The number of people in the area is most influenced by the area's pleasantness and accessibility. Accessibility and pleasantness together further affect the attractiveness of the city center to businesses, residents, and other users.

The measure examined in the study was the conversion of Kaivokatu from a 1+1 lane district collector street (Alt. 0) to a public transport street (Alt.1) between Postikatu and Keskuskatu. As a sensitivity analysis, Esplanadi was examined with both 2+2 and 1+1 lane options. The impacts of converting Kaivokatu have been assessed using the HELMET 4.1 traffic forecast model. The consumption amount has been estimated based on the results of the city center service survey (2019).

The vitality indicators used in the impact assessment include the number of trips to the city center per year, the amount of money spent in the city center per year, changes in travel times to the city center area, and local emissions, which reflect the development of the area's pleasantness. The indicators were selected based on a review of research literature and the vitality impacts of similar traffic system changes in comparable cities.

Overall, the impact of converting Kaivokatu into a public transport street on the vitality of the city center, according to the selected indicators, is small but positive.

In total, trips to the city center increase by about half a percent. This increase is due to the growth in the number of public transport, bicycle, and walking trips. Car trips to the city center decrease. Assuming mode-specific consumption according to the service survey, the amount of money spent in the city center increases by roughly the same amount. The assessment takes into account both the decrease in car trips and the increase in trips by other modes. Car traffic performance (driving km) in the city center decreases by about 9% in the scenario where Esplanadi has 2+2 lanes, and by about 13% in the scenario where Esplanadi has 1+1 lanes. However, the costs of delivery and service traffic increase regionally by about one million euros per year, which can be considered a very small change relative to the turnover and logistical costs of city center businesses overall.

Based on the impact assessment, it is important in further planning to ensure the sufficiency and accessibility of places for delivery and drop-off traffic, which, for example, the development of the city center service tunnel serves. Another recommendation is to reduce sensitivity to disruptions and plan more precisely. The third recommendation is to invest in the pleasantness of the Kaivokatu environment to strengthen positive impacts. The fourth recommendation is to invest in communication and cooperation between city center stakeholders to fully utilize the opportunities for developing vitality.

## 7.3 Impacts on the Environment

The environmental impacts of the city center transport network plan have been examined from the perspectives of climate and local emissions.

## Climate

The City of Helsinki is committed to carbon neutrality by 2030, which requires a 69% reduction in traffic emissions from 2005 levels by 2030. The city's goal is to eliminate emissions by 2040, after which the city should be carbon negative. The vehicle fleet is rapidly electrifying, which will significantly reduce traffic emissions in the coming years. Traffic speed and congestion also affect unit emissions. These factors impact traffic emissions much more than the solutions presented in the plan. The impacts of the plan on traffic carbon dioxide emissions have not been assessed in tonnage, but estimates of traffic climate emissions have been presented based on changes in traffic performance caused by the plan.

The most significant change proposed in the plan that affects car traffic performance is the reduction of the main car traffic network on the Kaivokatu axis. If Kaivokatu were converted into a public transport street instead of a 1+1 lane regional collector street, the annual car traffic performance would decrease by approximately 2.2–3 million vehicle kilometers per year, which corresponds to 9–13% of the vehicle performance in the city center.

In the scenario review phase of the plan, the impacts of calming the local network on traffic performance were also examined. Based on traffic modeling, calming local streets results in a 2.0% decrease in car traffic crossing the peninsula boundary away from the city center during the evening peak hour. At the same time, the kilometer performance in the Helsinki area decreases by 0.2%. Thus, calming measures not only have a calming effect on local street traffic but also a broader effect on reducing traffic performance in the city center and car use in Helsinki as a whole, although the effect is very slight.

The changes proposed in the plan are not very significant for achieving climate goals, but they are in the right direction. The goal is also to ensure that vehicle traffic performance in the city

center does not increase. The plan supports this goal.

## **Local Emissions**

Local emissions from traffic include air pollutants such as exhaust gases and street dust, and noise. As electric cars become more common, the significance of exhaust emissions decreases, but street dust and noise remain harmful emissions to human health.

The development of local emissions has been assessed through changes in car traffic performance. The amount of car traffic performance has been estimated for the entire city center area. Local emissions in the city center decrease when Kaivokatu is converted into a public transport street due to the reduction in vehicle performance. Performance decreases on streets leading to Keskuskatu, while traffic volumes increase on other streets in the area. Overall, the plan can be assessed to have a slight positive impact on the reduction of local emissions. During the scenario phase of the plan, a noise modeling covering the key parts of the city center was created based on traffic forecasts produced by the traffic model. The noise modeling has taken into account car traffic and tram traffic. The new tram connections have been described according to the current planning situation. The noise modeling has examined outdoor noise levels using daytime average sound levels (LAeq7-22). Noise is measured in decibels (dB), which is a logarithmic unit of sound intensity. Humans can perceive a change of 2-3 dB, and a change of 5-6 dB is perceived as significant. An increase of 10 dB means a doubling of the perceived sound level. Doubling or halving car traffic generally results in a change of 3 dB in noise levels.

Converting Kaivokatu into a public transport street lowers noise levels significantly from Kaisaniemenkatu to Kamppi. On Kaivokatu, noise levels decrease by 3–7 dB depending on the location, by 3–4 dB on Postikatu and Asema-aukio, by 5 dB on Vilhonkatu, by 3–5 dB on Kaisaniemenkatu, and by 2–4 dB along Simonkatu. Positive effects continue outside the modeling area to Kansakoulukatu and the northern parts of Kaisaniemenkatu. Especially on Kaivokatu, the change in noise levels can be considered significant.



The noise modeling results from the scenario phase of the plan compare the impact of converting Kaivokatu into a public transport street with the Business-As-Usual (BAU) scenario, where Kaivokatu remains a 1+1 lane collector street.



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