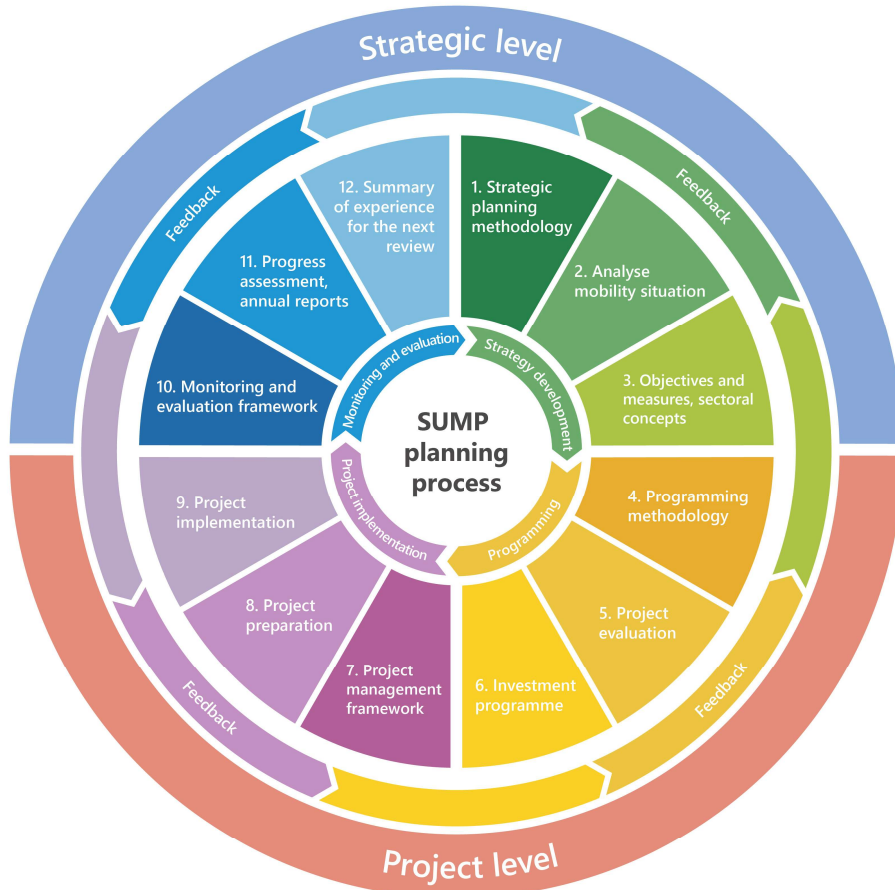


# Sustainable Urban Mobility Planning in Budapest

András Vágány

27th November 2025

## Mobility policy and spatial planning serve the city's strategic goals. What can we do to make Budapest a more attractive city to live in or visit?



We need to attain the following goals with the help of mobility planning while balancing the cost of each measure:

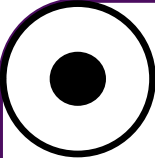
- Economic competitiveness – city logistics, tourism
- Healthy environment – reducing local emissions, increasing traffic safety and promoting active mobility
- Sustainability – power the shift towards climate neutrality via financially sustainable means
- Social improvement – increasing accessibility, promoting a vibrant culture

# Annual Reports Cover Core and Key Complementary Indicators; Comprehensive Monitoring Every 3–5 Years

Group of indicators:

Type:


Role:



**Core indicator**

Impact indicator

SUMP overall objective, monitoring of strategic objectives (25)



**Complementary indicator**

Impact indicator

Monitoring of SUMP overall objective, strategic and operational targets (16)



**Index of progress**

Outcome indicator

Monitoring the implementation of BMT measures (44)

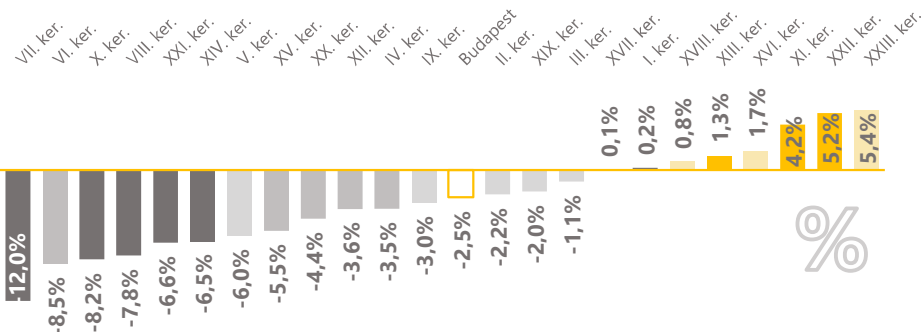
The BMT's new indicator framework is a set of indicators adapted to the target structure, which has been developed in the framework of an EU R&D project SUMI (Sustainable Urban Mobility Indicators) set of indicators, based on a European research project.

**Initial City-Level Data and the 20 Indicators Presented in the 2023 Annual Report, which was published in 2025. 2024 Annual Report will be published in the next months with 29 indicators**

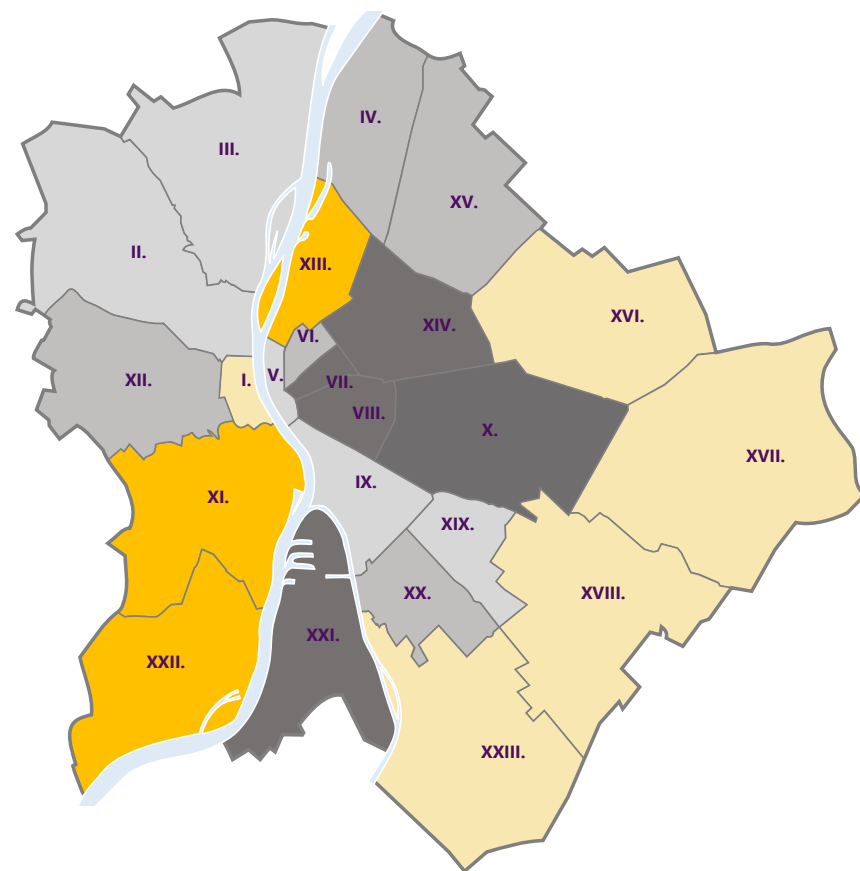
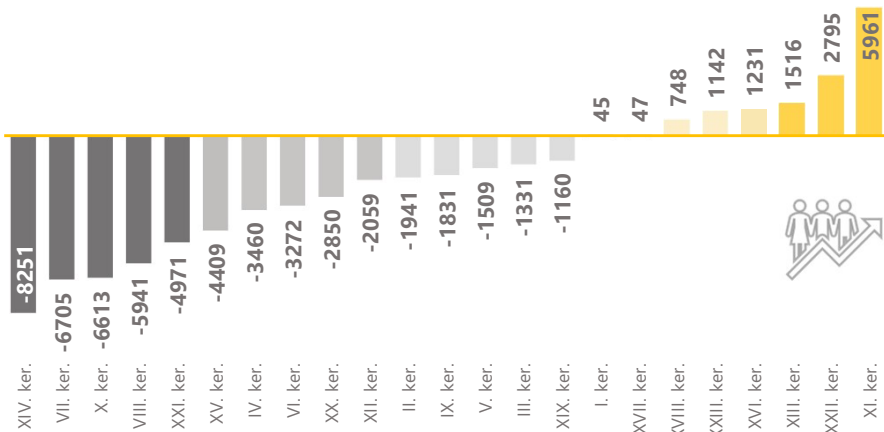
<b>CORE INDICATORS</b>	<b>MODAL SPLIT</b>	A1.1 Modal split: distribution of trips in Budapest by trip number A1.2 <i>Modal split: distribution of trips that start and end within Budapest, based on number of trips</i> A1.3 Transport division of labour: distribution of trips to Budapest based on passenger-kilometres A1.4 <i>Transport division of labour: distribution of trips that start and end within Budapest, based on passenger-kilometres</i>
	<b>CLIMATE INDICATORS</b>	A2.1 Greenhouse gas (GHG) emissions from transport A2.2 Transport energy use A2.3 Transport-related air pollution indicator (PM2.5)
	<b>SAFETY</b>	A3.1 Road safety index - serious injuries A3.2 Road safety index – fatalities A3.3 <i>Risk level of active modes</i>
	<b>ACCESS TO SERVICES</b>	A4.1 <i>Temporal and spatial accessibility of public transport</i> A4.2 <i>Affordability of public transport services for the poorest</i> A4.3 Physical and audiovisual accessibility in public transport A4.4 Infocommunications accessibility in public transport
	<b>TRAFFIC</b>	A5.1 Road congestion indicator A5.2 Percentage of disruption to basic public transport services A5.3 Availability of Bubi public bicycles and shared micromobility tools
	<b>CUSTOMER EXPERIENCE</b>	A6.1 Customer satisfaction indicator
	<b>MULTIMODALITY AND ACCESSIBILITY</b>	A7.1 <i>Degree of mobility integration in 28 sub-centres</i> A7.2 <i>Accessibility of the public transport core network</i> A7.3 <i>Accessibility of continuous main cycling network elements</i> A7.4 Proportion of people travelling to or from the suburbs by public transport
<b>COMPLEMENTARY INDICATORS</b>	K1.1.5 <i>Share of fully accessible PT stops</i> K1.2.1 Percentage of main cycling network with adequate service comfort K2.1.1 Ratio of pure electric cars and trucks registered in Budapest K2.2.1 Ratio of public transport services provided by modern, accessible vehicles K3.1.1 Passenger safety-perception indicator K3.2.2 Level of satisfaction with passenger information services K3.3.1 Rate of fare integration	
<b>INDEX OF PROGRESS</b>	The index shows the progress made in implementing the 44 actions set out in the BMT Objectives	

# Different Trends Across Districts – Changes in the Residential Population of Budapest's Districts Between 2011 and 2023

Population Change in Budapest Districts as a Percentage of Each District's Population (%)

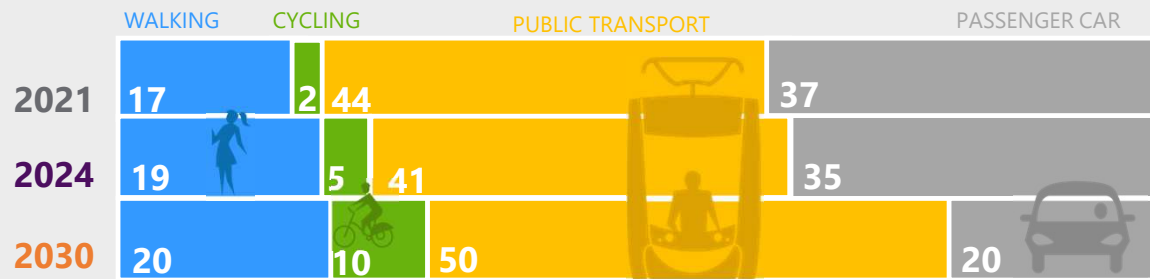


Population Change in Budapest Districts, 2011–2023 (number of people)



# A1.1 | MODAL SPLIT: DISTRIBUTION OF TRIPS IN BUDAPEST ON A TRIP-COUNT BASIS

## 2024 results



The 2021 and 2024 figure includes preliminary figures of the EFM household survey corrected for seasonal effects. The methodology for the calculation of the seasonality of traffic and the modal split values derived from it is detailed on page 30.

### Unit of measurement:

% on a per trip basis

### Baseline 2021

walking 16%,  
cycling 2%, public transport 47%,  
car transport 35%

### Actual value 2024

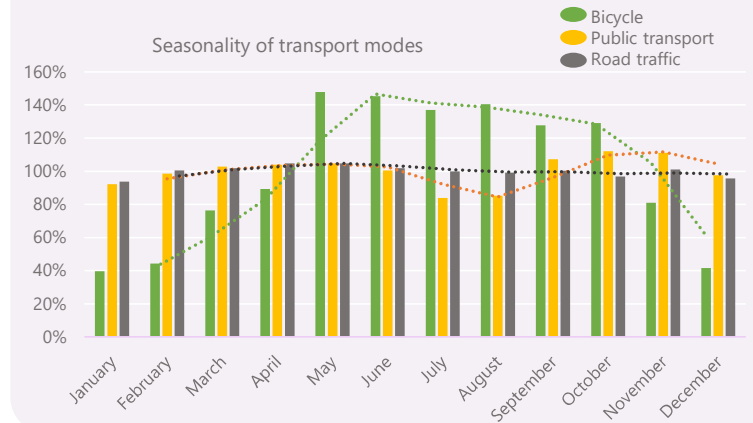
walking 19%,  
cycling 5%, public transport 41%,  
car transport 34%

### Target 2030

walking 20%,  
cycling 10%, public transport 50%,  
car transport 20%

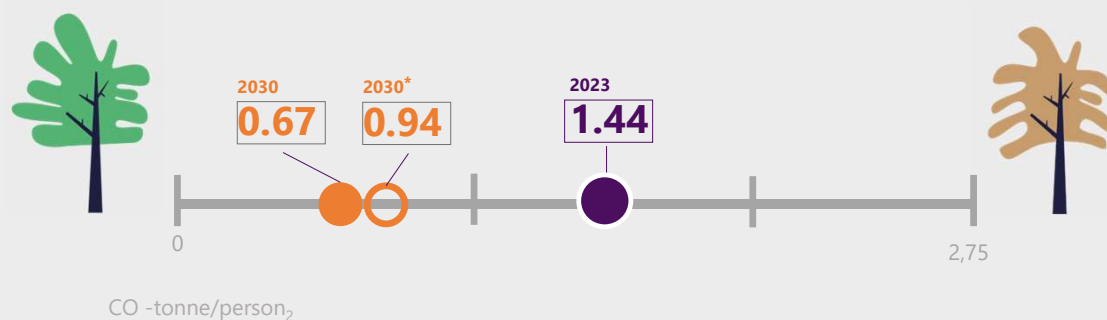
## Evaluation and remarks

**Budapest aims to promote sustainable transport modes within the transport sector, including active mobility and public transport.** and to reduce local emissions, to achieve climate neutrality and increase the efficiency of mobility's public space use, thereby reallocating valuable public space to other urban functions (e.g. recreational, social, green, etc.). The development of each mode of transport typically affects all other modes and the change in modal split is an overall indicator of changes in travel behaviour. Responses to changing travel demand due to the 2020-21 COVID, and the results of more intensive development of walking and cycling infrastructure, are reflected in the modal split over a 2-3-year period. However, **there is also a decline in public transport within sustainable transport modes.** Active mode users have mainly switched from public transport. In order to achieve the 2030 modal split target, in addition to the development of active modes, the greatest attention should be paid to shifting the use of public transport from private cars to public transport.



## A2.1 | GHG EMISSIONS FROM TRANSPORT

### 2023 results



#### Unit of measurement:

CO<sub>2</sub> tonnes/person



Baseline 2023



Actual value 2023



Target 2030

0.67  
based on SECAP methodology



BMT 2030  
modal split target\*

0.94  
BMT 2030 modal split target  
achievable value

#### \* Target parameters for the 2030 modal split targets:

- traffic flow (vkm): taking into account the 2030 modal split target and the public transport network development targets
- car occupancy: 1.3 persons
- change in vehicle mix: share of electric cars increases to 10%, share of electric bus fleet increases to 33% at the expense of the diesel and petrol categories
- lorry load factor remains at current estimates: J1 23%, J2-4 45%

### Evaluation and remarks

In Budapest, after CO<sub>2</sub> emissions linked to the energy consumption of buildings, transport is the second largest emitter, accounting for 28% of total emissions in 2015. Within this, private and commercial transport accounted for 26% and public transport for 2%. CO<sub>2</sub> emissions attributable to energy use in Budapest in 2023 can already be considered to be 30.3% from transport (source BKAÉ). It can therefore be concluded that transport CO<sub>2</sub> emissions from final energy use have increased as a share of total emissions in Budapest. In the Budapest SECAP (including in the City Report and the annual assessment of the environmental status of Budapest in the BKÁÉ documents), CO<sub>2</sub> emissions derived from final energy use, unlike in the SUMI methodology, CO<sub>2</sub> emissions from transport are calculated from the amount of fuel sold within the administrative boundaries of Budapest. In the SUMI methodology, transport-related GHG emissions are determined based on the total distance travelled by public transport vehicles in Budapest and the composition of the fleet, and the value of the indicator is calculated by projecting this value onto the population. For the quantification of the target value, the targets set in the SECAP were used.

**By achieving the BMT 2030 modal split targets, we can approach the target set in the SECAP. In addition, by reducing specific GHG emissions and/or reducing overall mobility demand (passenger and freight) and/or improving the modal split beyond the BMT targets, we can meet the SECAP target.**

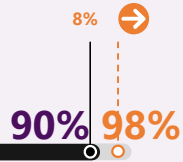
## A 4.3 | PHYSICAL AND AUDIOVISUAL ACCESSIBILITY IN PUBLIC TRANSPORT

### Level of accessibility weighted by number of passengers:\*

\* More than 3,000,000 trips are made every day in Budapest by public transport



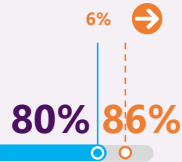
### The level of physical and audiovisual accessibility of public transport sectors:\*



#### Metro sector

821 000 trips/workday

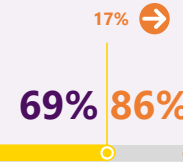
To achieve the metro sector target, line M1 rolling stock and infrastructure developments are needed, as well as improvements to accessibility of M1 and M2 platforms.



#### Trolleybus and bus sector

1 355 000 trips/workday

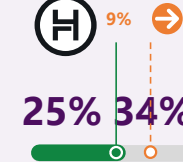
In addition to the full accessibility of the bus fleet, major improvements in the accessibility of bus stops are needed to achieve the sectoral target. All 3,878 bus and trolleybus stops should be accessible (based on ForTe data, 3,275 accessible). In addition, around 1,000 stops should have audible passenger information.



#### Tram sector

944 000 trips/workday

To reach the sectoral target, besides the planned procurement of around 100 CAF vehicles, a major improvement is needed in the accessibility of stops. Of the approximately 643 tram stops, 500 should be accessible in all three aspects, compared to the current 322.



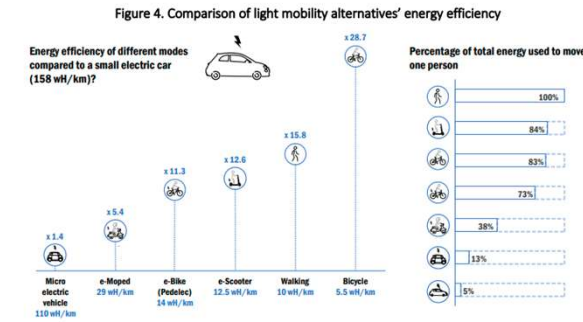
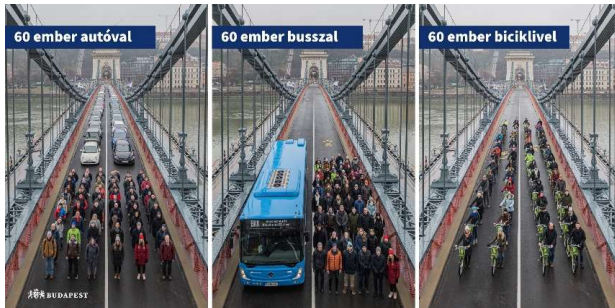
#### HÉV suburban railways

136 000 trips/workday

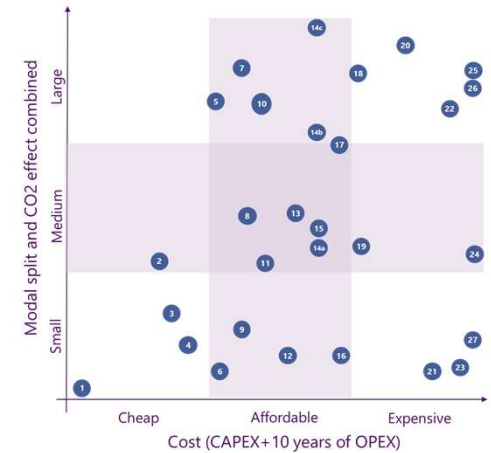
By 2030, the development of the HÉV already is not realistic, therefore 34% can be achieved by upgrading the stops. To achieve this, all 69 stops need to be equipped with public address systems (currently 35 stops).

\* In 2023, 91% of ticket vending machines and ticket offices, 303, were barrier-free. For all sectors, the 334 BKK ticket vending machines and ticket offices in operation must be **100%** accessible.

# It is essential to keep efficiency in mind during mobility planning



Source: ITF calculations and Héran and Sivert (2022).



## Efficient use of public space

Transport surfaces take up a huge amount of public space. If we can serve the city's mobility needs with less public space dedicated for transport, we can reallocate public space to other functions

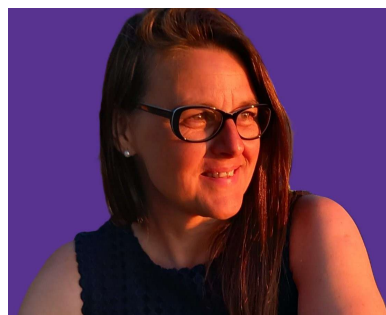
## Energy efficiency

Increasing energy efficiency decreases our carbon footprint and decreases costs of transport on a societal level. Energy efficiency is also critical to ensure we have sufficient energy distribution infrastructure in place

## Efficient development

Finding the most cost efficient mobility development measures can increase our impact several times without increasing our budget

**Thank you for your attention!**



**Tünde Hajnal**  
tunde.hajnal@bkk.hu



**András Vágány**  
andras.vagany@bkk.hu