BUDAPEST MOBILITY REPORT

SUMP MONITORING REPORT FOR THE YEAR 2024

The SUMP reports prepared annually contain a reduced set of indicators. According to our plans, a comprehensive SUMP report will be prepared every 5 years in connection with the revision of the BMT; this will present the situation analysis containing all indicators and the institutional analysis. The data used for the report relate to the year 2024, while the year of publication is 2026.

CONTENTS

EXECUTIVE SUMMARY (I/V)

WHY IS IT BEING PREPARED?

- SUMPs constitute a legal requirement by 2027 for the 431 urban nodes of the trans-European transport network (TEN-T).
- The SUMP concept is set out in the European Commission Recommendation (EU) 2023/550, which entered into force on 8 March 2023, on national support programmes for sustainable urban mobility planning.

Decision of the Budapest General Assembly: *"859/2023. (X. 25.) Resolution: The General Assembly requests the Mayor, through the Chief Executive Officer of BKK, to ensure the periodic review of the Budapest Mobility Plan, as well as the performance of the annual monitoring and evaluation tasks related to the sustainable urban mobility plan, with the content set out in Annex 5 to the proposal. Deadline: continuous"*

- The **SUMP Guidelines** and the **IKOP Guidelines** state that a fundamental element of the SUMP methodology is the monitoring of the strategic plan.

BUDAPEST'S SUMP REPORT FOR 2024

In accordance with the General Assembly resolution, in 2025 BKK also prepared, for the second time, the SUMP report for the preceding year, 2024, in which, in addition to the general data, we present **22 core indicators and 7 supplementary indicators.** Compared with the previous year's report, **the set of presented indicators was expanded by 9 indicators** (8 core and 1 supplementary)**.**

The calculation of some indicators for 2024 had already been presented earlier in the report for 2023 (because no earlier data were available or a very significant change occurred in 2024); for the sake of completeness, these are reproduced unchanged.

In calculating the indicators, we strive to present, for each sector of Budapest's transport system, progress that is important from the perspective of the strategic objectives or, where relevant, the identification of problems.

Increasingly more data are becoming available for the calculations from year to year; however, for 2024, data on the state-operated railway within Budapest's public transport system were available only for the MÁV–HÉV (suburban railway lines) operator. We are continuously working to take into account data from as many transport sectors as possible, thereby providing an increasingly comprehensive picture of Budapest's transport system in all its areas in the coming years. In the 2024 report **the range of baseline data presented was also expanded,** including the definition of competitive public transport service in Budapest and its current spatial accessibility.

The collection and processing of the diverse data and information included in the SUMP report were carried out with meticulous work and the utmost good faith.

The authors of the report would like to thank all those who contributed to identifying data sources and collecting the data. Despite careful data collection and data processing, it may still occur that some data are presented inaccurately or have meanwhile been updated and have become available. The present report also contains revised 2023 values for certain indicators due to methodological or data source clarifications.

For future SUMP reports to contain ever more accurate data and better-quality indicators, we kindly ask that any errors or omissions identified and any constructive feedback be sent by email to bmt@bkk.hu

HOW MUCH DOES BUDAPEST PUBLIC TRANSPORT COST?

In 2024 Budapest public transport operated from **242 billion HUF** in revenue, of which **61% was financed by the Budapest Municipality,** 4% by the Hungarian State, and the remaining 35% was covered by fare revenue, the related social policy fare support, and penalty fare revenue. **In 2025 a planned budget of ~ 270 billion** HUF supports the operation of public transport, of which the **Municipality finances 66%**, which is 95 billion HUF more than in 2019, meaning that the **steadily increasing costs of transport organisation activities**, as in previous years, are financed entirely by the **Municipality,** while the share of state aid is less than 3%, and between 2019 and 2024 it also declined in absolute terms from 12 billion HUF to 7.56 billion HUF.

As a result of the **March 2024 fare integration agreement**, a significant structural change occurred in fare revenue (in line with our preliminary modelling). In 2025 this effect will already be reflected over the full year, but it has practically remained at the 2024 level, thereby **contributing ~ 31% to the financing of Budapest public transport.**

LIVEABLE CITY

Although the population decline trend ongoing since 2015 has stalled, comparing the 2024 data with the previous year, it can be stated that the population of Budapest has practically stagnated. In parallel, the population is increasing in Budapest's catchment area; the population of Pest County increased from 1,333,257 to 1,336,134, by 2,877 people in one year.

The number of motor vehicles and the level of motorisation show a slight increase (from 423 to 429 passenger cars/1,000 inhabitants), while a structural change in the vehicle fleet has also begun. The share of purely electric motor vehicles in Budapest increased from 1.07% to 1.71%, and in the agglomeration from 0.99% to 1.60% during 2024.

Budapest's road network is the busiest road system in Hungary; the **roads owned and managed by 24 local governments are approximately 5,200 km long,** including the **district road networks extending over 4,018 km** , as well as the **Budapest Municipality roads extending over 1,182 km** in length. **The total network length of public transport is 1,492 km.**

Budapest's objective is to provide a competitive service for the city's residents across as large a share as possible – and at least along the backbone public transport network – in order to reduce trips made by private car.

The "competitive public transport index" first presented in 2024 shows that in 2024 738,706 people, i.e. **44% of Budapest's population, were provided with a service that is competitive with private car use from a network perspective,** while only approximately 58.6% of the backbone public transport network has access to competitive public transport service due to inadequate journey or headway times.

EXECUTIVE SUMMARY (III/V)

MOBILITY INDICATORS

Following methodological clarifications, in the 2024 report we present four types of modal splits, which, based on the data of the 2024 EFM household survey, were adjusted for the seasonality of transport modes. Based on the 2024 results, compared to 2021, **the share of active modes increased on a trip-number basis** for trips involving Budapest on an average weekday, while the share of public transport decreased by 10 percentage points on the basis of travel performance, mainly due to the increase in the average length of trips made by private car. To achieve the 2030 modal split target, alongside **the development of active modes**, the greatest attention must be paid to ensuring that people living in Budapest and the agglomeration are shifted from private car to **public transport for trips in Budapest and the agglomeration.** If trips to Budapest made by commuters are also taken into account, the passenger-kilometre share of public transport is lower in suburban mobility: in 2024 it was 32%, while for trips originating and ending within Budapest it was 35%.

Compared to the 2019 base year, by the end of 2024 the share of cycling infrastructure meeting the required comfort level improved by ~5 percentage points (46 km) to ~27% , which represents slower growth compared to the 2023 indicator value, at only 1.7% (4 km). To achieve the target set for 2030, an average annual **~45 kilometres** in length of the Level 1 and Level 2 comfort-standard network would need to be added.

SAFETY

Compared to the previous decade, the number of road traffic incidents involving personal injury is on average 12.2% lower. While in 2023 the decrease in the number of incidents and the number of injured persons was driven by a decline in the number of incidents resulting in minor injuries, and the number of incidents resulting in serious injuries rose by 4.6% from 2022 to 2023**, the trend reversed favourably in 2024: the share of incidents resulting in serious injuries decreased by 20.3% compared to the 2019 baseline, while those involving minor injuries remained stable. In 2024 the number of seriously injured persons, compared to 2023, decreased by 18.8% – from 911 persons to 740 persons – thus in 2024 the number of seriously injured persons approached the previous lowest level, the 2021 level (677 persons), when traffic was low due to Covid.** The number of fatalities again shows a downward trend: **in 2024, compared to the 2019 base year, the number of fatalities decreased from 47 persons to 34 persons, by 28%, which is a significant improvement.** In recent years, the number of fatalities and injured persons per incident averaged 1.2 persons, which can be considered unchanged. In our 2024 report, we introduce the **"risk level of active modes" indicator,** which shows the number of people killed in Budapest as a consequence of road traffic incidents involving personal injury while travelling by active modes (on foot and by bicycle), relative to the number of trips made by active-mode users. **Between 2021 and 2024, the share of users of active modes in Budapest's mobility mix increased from 22% to 24%; despite this, the number of fatalities among them decreased significantly, from 19 persons to 13 persons . In terms of transport safety,** our objective is that the number of fatalities, and with it the risk level of active modes, should decrease by 50% by 2030 and to zero by 2050, in line with the VisionZero principle.

TRANSPORT-RELATED ENVIRONMENTAL IMPACTS

For the climate indicators, we revised the data used in the 2023 report, as well as the baseline and target values derived from them, due to the refinement of the calculation methodology: travel sections outside the administrative boundary of Budapest were filtered out from passenger car traffic performance, and the fuel consumption data of vehicles were reviewed and updated. With the revised indicator values, the set of indicators derived from traffic performance has become more accurate and, at the same time, more favourable.

Transport-related CO_2 emissions from the 2024 value of 1.42 CO_2-tonnes/capita can be reduced more substantially, by 53%, to the 2030 target value of 0.67 CO_2-tonnes/capita, primarily through achieving the BMT modal split targets, as well as by reducing specific emissions and reducing traffic volumes. Achieving the BMT modal split targets alone could reduce transport-related CO_2 emissions in Budapest to 0.94 CO_2-tonnes/capita.

As a result of the technological changes required to reduce specific emissions, the energy efficiency of transport deteriorates slightly, however.

To achieve climate neutrality, in addition to achieving the BMT modal split targets, **it may also be necessary to increase the utilisation rates of passenger cars and freight vehicles, as well as to reduce total travel performance.**

The average measured annual concentration of PM2.5 aerosol in Budapest (fine particulate matter) in 2022 was 12 µg/m^3, which is **below the EU limit value** of 20 µg/m^3 **but above the WHO guideline value** of 5 µg/m^3**.** This value can mainly be improved by reducing traffic volumes and increasing the specific energy efficiency of transport.

According to forecasts, by 2030, 10-15% of the total vehicle fleet in the EU will be purely electric; **in Budapest** in 2024 only **1.7% of the vehicle fleet is of this type.**

ACCESS TO SERVICES

The range of accessibility indicators was significantly expanded in the 2024 report: in addition to physical, audiovisual and ICT accessibility, we also present indicators for the spatial and temporal accessibility of public transport, as well as its affordability. The spatial and temporal accessibility composite indicator value of 87% for Budapest, compared with the values measured during 2018 in the cities participating in the SUMI project, can be considered very good: it exceeds the 85% threshold median value. This means that, by international standards, **Budapest public transport** is of a high standard both in terms of spatial coverage and temporal accessibility calculated based on service frequency and **provides a service that is easily accessible to the population.**
The result of the affordability assessment of public transport (the percentage ratio of the price of a public transport pass to the income of households belonging to the lowest income quartile in Budapest) is that the indicator value **decreased significantly from 12.0% in the 2019 baseline year to 7,2% in 2024, that is, public transport in the capital is becoming increasingly affordable for the poorest 20% of the population as well**. This is explained by the stagnation of pass prices, followed by their reduction in 2024, as well as continuously increasing average earnings. Taking all public transport sectors together, the **76% level of physical and audiovisual accessibility can also be considered good compared with European cities.** However, there are large differences by sector: in some cases, the accessibility of vehicles, in others that of stops or stations, could be improved.

CUSTOMER SATISFACTION

Based on the index derived from the 2024 customer satisfaction survey, it can be stated that users travelling by public transport are satisfied in all respects with BKK's services. Compared to the 2022 baseline year, on a scale of 10, **satisfaction with comfort increased from 6.7 points to 7.3 points by 8.2%, while satisfaction with price level increased from 6.2 points to 7.4 points by 16.2%.** The former can be explained by continuous vehicle procurement, while the latter may be attributable to the signing of the suburban cooperation agreement in March, because of which pass prices fell significantly – especially for people living in the agglomeration.
Overall satisfaction has improved by 0.4 points since 2023, so **the aggregated customer satisfaction index stands at 7.5**. **Satisfaction with safety increased by 0.4 points compared to the 2022 baseline year,** the passenger information index reached the same value as in 2023, namely 7.6 points in 2024, which shows that, according to the TOP2 methodology, the share of **'rather satisfied' or** the **'completely satisfied' customers is high in every examined** customer information **category: above 89%.**

INTRODUCTION TO THE SUMP MONITORING SYSTEM

2024 REPORT

WHY IS A SUMP MONITORING REPORT PREPARED?

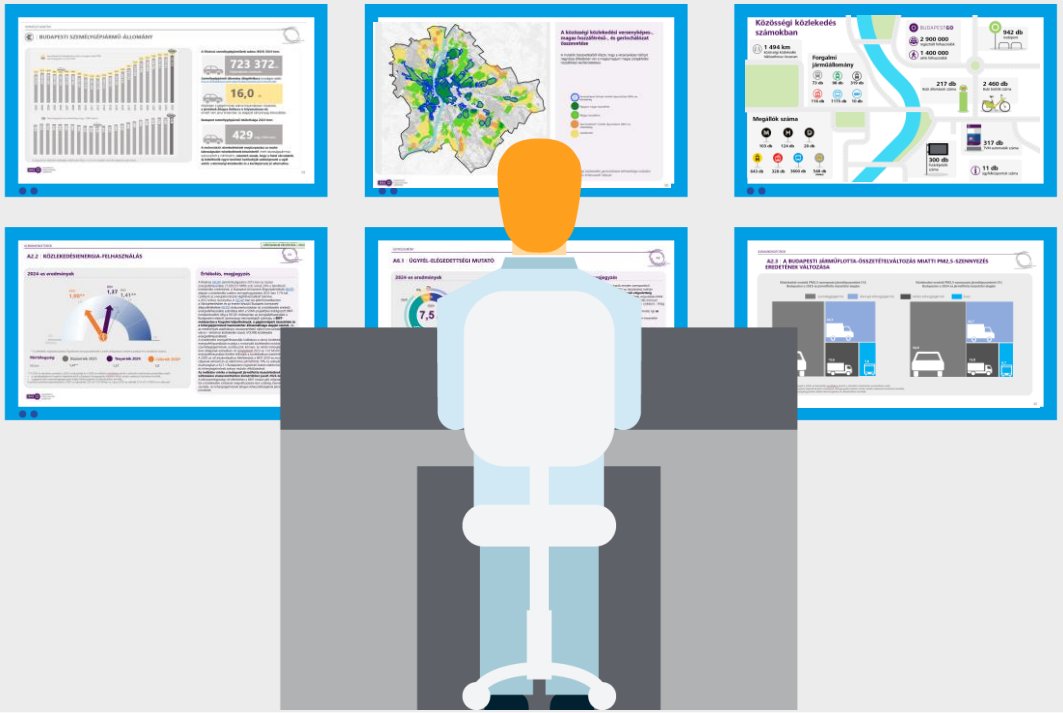
IN THE SUMP REPORT, WE PRESENT COMPREHENSIVE IMPACT INDICATORS TRACKING THE OBJECTIVES ADOPTED IN THE BUDAPEST MOBILITY PLAN

A key element of sustainable urban mobility planning is the continuous monitoring of the adopted objectives and the evaluation of the efforts made to achieve them. In preparing the report, we compare the results actually achieved with the target values of the objectives set and, as part of the progress assessments, identify the measures that may positively influence future progress. In the annual *Budapest Mobility Report*, in addition to the SUMP indicators, we also consider the City Report environmental, social and economic indicators as well to provide an accurate presentation of processes in Budapest.

Following the preparation of the first Budapest Mobility Report published on the basis of 2023 data, we expand the number of monitored indicators each year and, in the case of indicators that had not previously been calculated, determine the baseline values so that, for the next review of the Budapest Mobility Plan, the range of strategic indicators is detailed and comprehensive for the situation assessment. An important task of preparing the mobility report is to highlight intervention points where a given measure does not deliver the expected impact. The report therefore supports decision-makers in making timely adjustments and introducing new instruments to achieve the operational objectives of the BMP.

The Budapest Mobility Report provides, in a structured format and year by year through the presentation of trends, mobility strategy data (environmental, road safety and traffic data) in one place, enabling more well-founded decisions to be made.

For the sake of clarity and accessibility, a key consideration is to focus on comprehensive strategic information. **Objective: objective and transparent** – primarily quantitative (qualitative) – **reporting,** placing results in context, identifying causes and background processes, and drawing conclusions of either a positive or more negative nature (e.g. identifying the need for corrective action) and formulating generally applicable recommendations to achieve the mobility objectives set.



THE SUMP REPORT FRAMEWORK

The framework for the Budapest Mobility Report is provided by the SUMP Monitoring and Evaluation System adopted by the Budapest General Assembly on 25 October 2023.

The indicators monitoring the objectives of the SUMP are wide-ranging, cover different strategic areas, and therefore **the collection of the necessary data** involves multiple institutions. The data sources include BKK specialist departments and external data providers (institutions of the Municipality of Budapest, including Budapest Közút and BKV, as well as MÁV–HÉV and the Hungarian Central Statistical Office, etc.). In certain cases, it is necessary to obtain specific data from other public authorities; for example, the source of income data is the National Tax and Customs Administration (NAV). In addition to the definition and calculation methods of the indicators, the data owners are separately indicated on their data sheets.
BKK is committed to developments supported by data-driven decision-making and therefore measures or collects a large volume of data linked to the transport sectors for robust assessments (for example, road safety data, customer satisfaction data, or data calculated on the basis of the Integrated Transport Model (EFM)). Another important area of data collection is the data sets related to public transport services, e.g. on vehicle mileage and technical parameters.

Indicators presented in the 2024 report (22 + 7 items)

CORE INDICATORS	**A1.1 Modal split: distribution of trips to Budapest based on the number of trips** **A1.2 Modal split: distribution of trips starting from and ending within Budapest based on the number of trips** **A1.3 Modal split: distribution of trips in Budapest by passenger-kilometre** **A1.4 Modal split: distribution of trips starting from and ending within Budapest based on passenger-kilometres**
	A2.1 Greenhouse gas emissions (GHG) from transport **A2.2 Transport energy consumption** **A2.3 Transport-related air pollution (PM2.5)**
	A3.1 Road Safety Index – Serious Injuries **A3.2 Road Safety Index – fatalities** **A3.3 Risk level of active modes**
	A4.1 Temporal and spatial access to public transport **A4.2 Affordability of public transport services for the poorest** **A4.3 Physical and audiovisual accessibility of public transport** **A4.4 Accessibility of ICT in public transport**
	A5.1 Road congestion indicator **A5.2 Rate of disruption of basic public transport services** **A5.3 Availability of Bubi public bicycles and shared micromobility devices**
	A6.1 Customer satisfaction indicator
	A7.1 Degree of mobility integration **A7.2 Spatial accessibility of the public transport backbone network** **A7.3 Spatial availability of contiguous core cycling network elements** **A7.4 Share of people travelling from or to the suburbs by public transport**
COMPLEMENTARY INDICATORS	**K1.1.5 Proportion of completely barrier-free stops** **Q1.2.1 Proportion of main cycling network with adequate service comfort level** **K2.1.1 Proportion of purely electric passenger cars and trucks registered in Budapest** **K2.2.1 Proportion of public transport services provided by modern, barrier-free vehicles** **K3.1.1 Passenger safety sentiment indicator** **Q3.2.2 Degree of satisfaction with customer information** **Q3.3.1 Rate of fare integration**

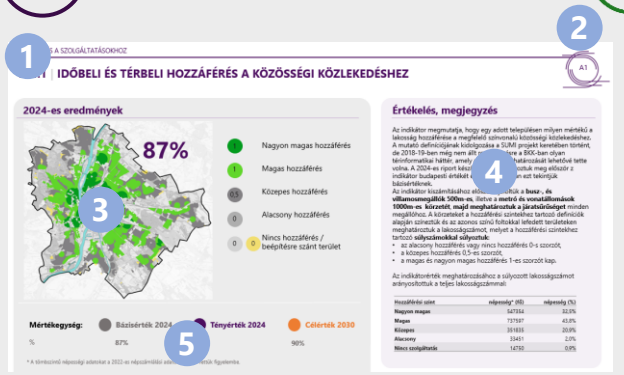
WHAT CAN BE FOUND IN THE INDICATOR DATA SHEETS?

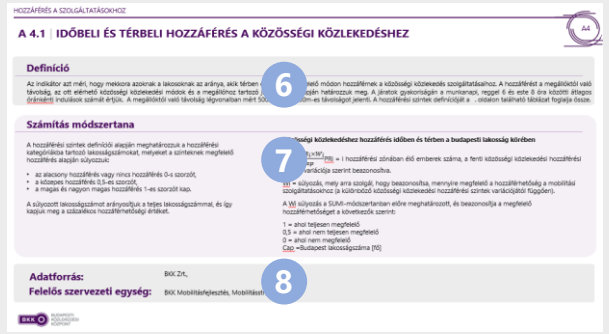
The indicator data sheets present the **indicator values calculated using the methodology defined in the BMT monitoring system and their analysis, as well as the definitions of the indicators and the methodology for measuring them.** For each indicator, we provide its value calculated for 2024 according to the definition set out in the Budapest Mobility Plan Monitoring System, as well as its baseline value and target value known from previous years.

If 2024 data were not available for the report for the calculation of a given indicator, we used the most recent available measured values. The year of calculation of the baseline values and actual values is indicated in every case. Different types of indicators are distinguished by different base colours.

1. **Indicator code and title**
2. **Topic code**
3. **Indicator infographic**
4. **Assessment and analysis**
5. **Unit, Baseline value, Actual value, Target value**
6. **Definition of the indicator**
7. **Methodology of calculation**
8. **Additional information**

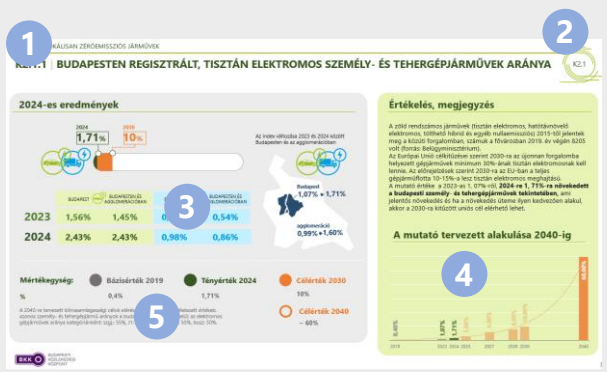
Core indicators

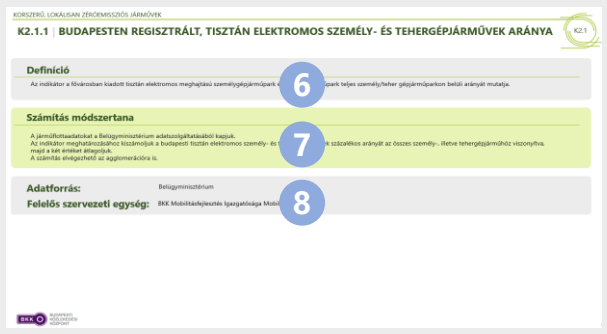




The numbering of core indicators:
A[*Topic serial number*].*indicator serial number.*

Complementary indicators





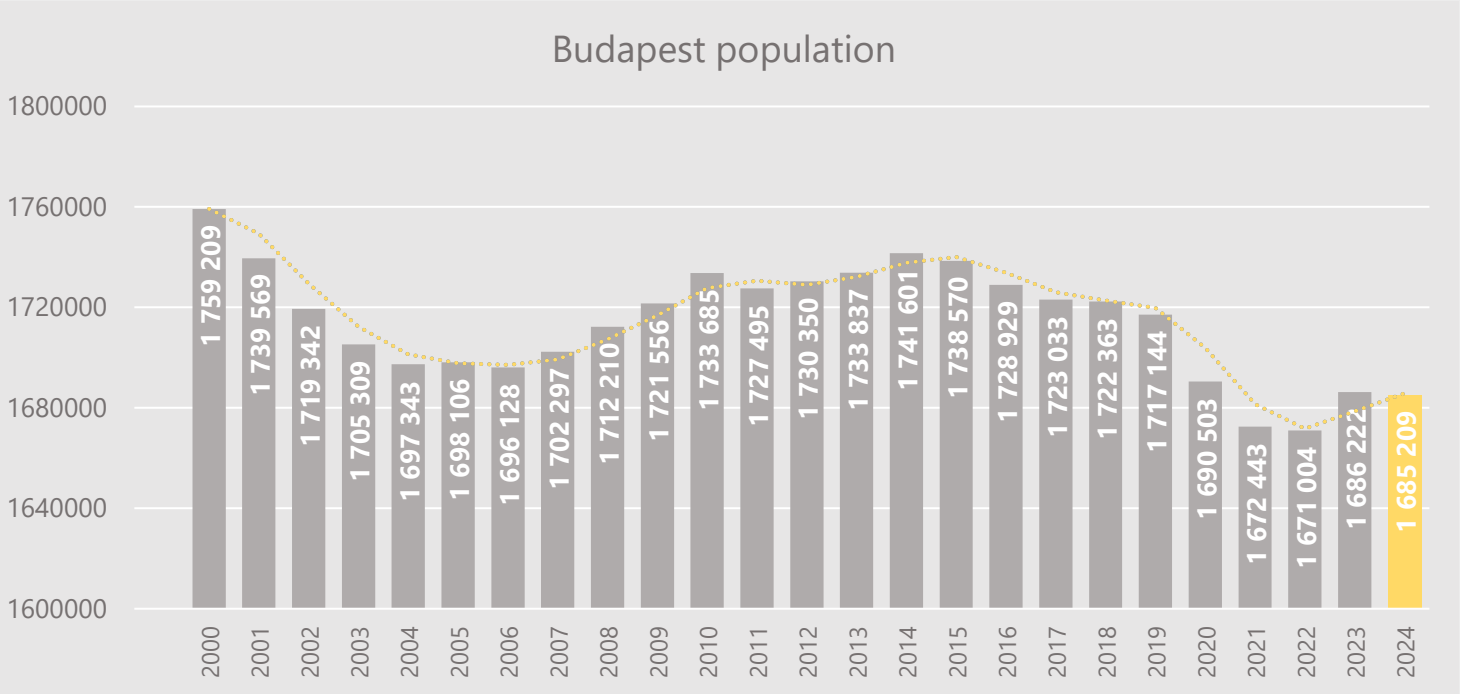
The numbering of additional indicators:
K[*BMT operational objective number*].*indicator serial number.*

BASELINE DATA

2024 REPORT

POPULATION CHANGE IN BUDAPEST 2024

Compared to the approximately 15 thousand-person increase in 2023, the decrease of one thousand persons is not significant, and the capital's population is practically stagnating.



The values shown in the chart contain the data updated by the HCSO on 1 January 2025, while the trend line shows the moving average of the population.

	2021	2022	2023	2024
natural loss	-9 262	-7 837	-6 679	-8 049
net domestic migration	-12 026	-5 046	4 223	3 146
net international migration	3 228	11 444	17 674	3 890

Administrative area of Budapest: **525.14 km²**

The number of residents in Budapest at the time of the 1970 census was still 2 001 083 persons, which has decreased by nearly 330 thousand over the past fifty years: at the time of the 2022 census, the population of the capital was 1 671 004 persons.

Population change across the districts did not occur evenly, out-migration can also be observed here; the population of the inner-city districts declined to a greater extent, while that of the outer districts increased. At the same time, the highest population density (10–26 thousand persons/km²) is found in the Pest inner-city areas located outside the "Small Boulevard" internal ring road, in Districts VI, VII and VIII.

In 2024, the population of Budapest (HCSO 22.1.2.1. Resident population by sex, county and region, data as of 1 January 2025)

1 685 209 persons

Comparing the 2024 data with that of the previous year, it can be stated that compared to the previous increase of ~15 000 persons in 2023, the decrease of 1013 persons is not significant, and the population of the capital is practically stagnating.

Based on the data of the 2011 and 2022 censuses, the population of the capital decreased by approximately 44 thousand persons (-2,5%) over 11 years; this trend came to a halt from 2023. The increase in 2023 was driven by the fact that the components of the population data (demographic indicators: natural decrease, balance of internal migration and balance of international migration) developed positively. In 2024, natural decrease increased, which the positive balance of internal out-migration could not offset.

POPULATION OF PEST COUNTY AND BUDAPEST FUNCTIONAL URBAN AREA

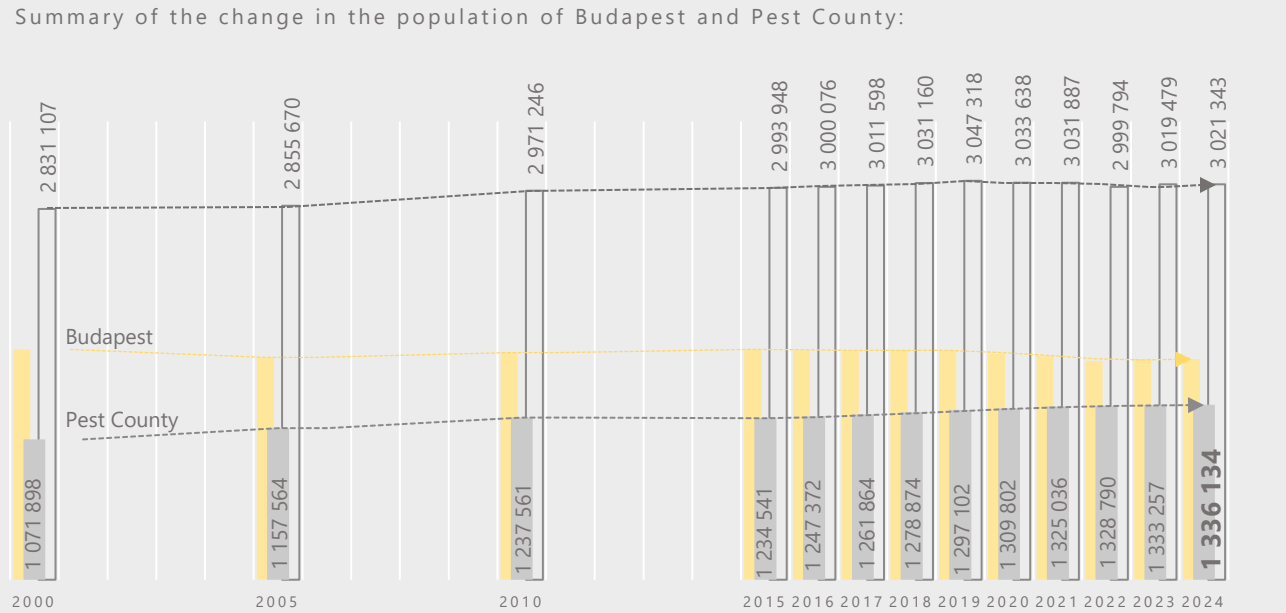
In the functional urban area, a shift in population concentration from the inner areas towards the outer areas can be observed.

Pest County is one of the most populous and largest counties in the country, with a total population of **1 336 134** inhabitants in **2024** across its 187 settlements representing an increase of 2,877 persons (0.22%) compared to the previous year. **The continuously increasing population trend of the county and the agglomeration also continued in 2024.**

The Act on cooperation between the Municipality of Budapest and the surrounding settlements (Agglomeration Act), which regulates the development of and cooperation among the agglomeration settlements around Budapest, affects 80 settlements in Pest County (highlighted in dark grey in the figure on the right).

Region	Number of settlements
Agglomeration Act	**80**
Pest County	**187**
EFM	**193**

Summary of the change in the population of Budapest and Pest County:



The values shown in the chart are KSH data updated on 2025. 01. 01.

The trend lines show the moving average of the population.

Interpretation of the functional urban area in the report:
The Budapest functional urban area is interpreted as corresponding to the agglomeration area of the Unified Transport Model (EFM) maintained by BKK (shaded in light grey); this comprises 193 settlements in Budapest's catchment area.

Total population of Budapest and the functional urban area:

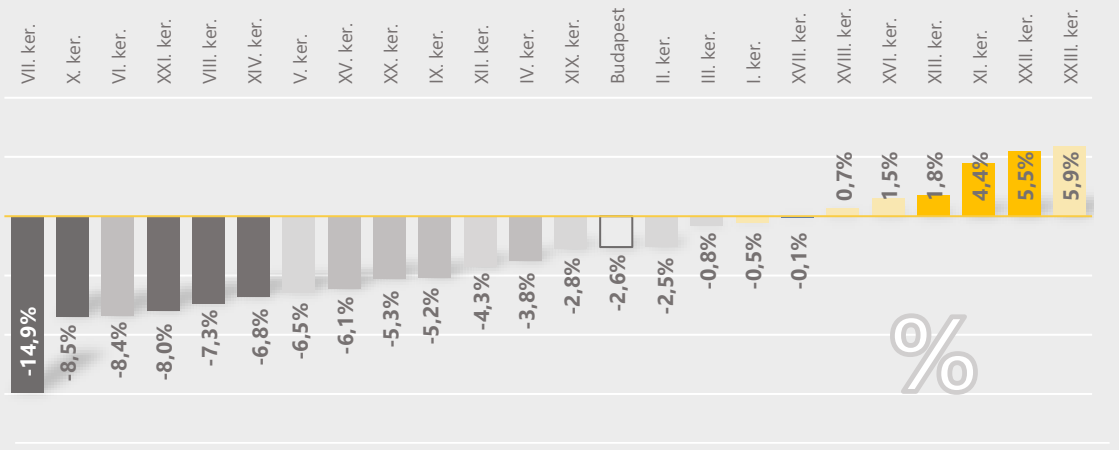
2013:	**3,249,346** people
2022:	**3,257,241** people

The population of the functional urban area has not changed significantly over the past decade, but a shift in population concentration from the inner areas towards the outer areas can be observed both within and beyond the administrative boundaries of Budapest.

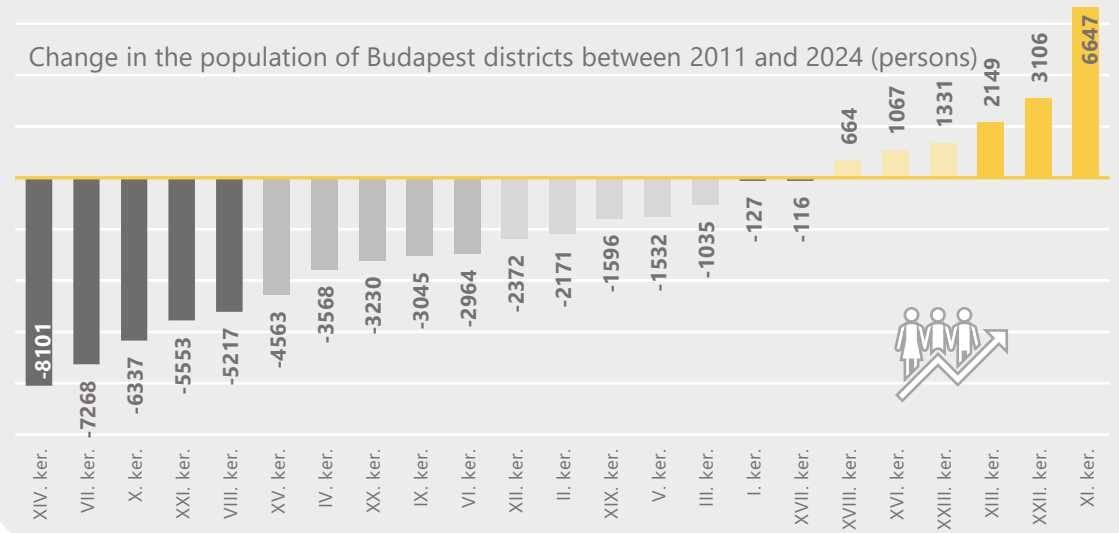
POPULATION CHANGE IN BUDAPEST DISTRICTS BETWEEN 2011 AND 2024

With the exception of the south and east Pest districts, the garden-city districts of South Buda, and District XIII, most Budapest districts are experiencing population decline.

Change in the population of Budapest districts as a proportion of district population (%)

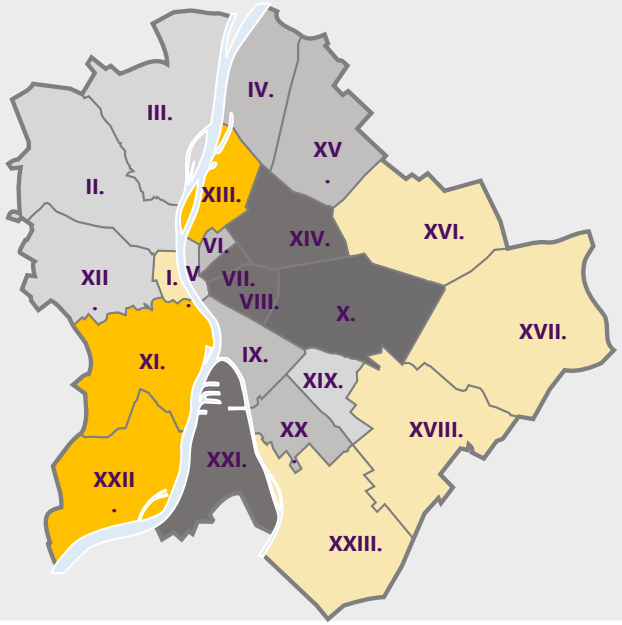


Change in the population of Budapest districts between 2011 and 2024 (persons)

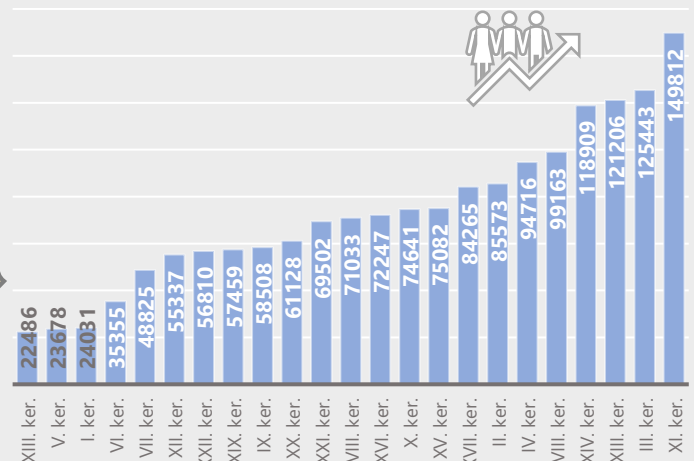


Based on census data, of the 23 districts of the capital, the population increased in 6 districts between 2011 and 2024, while in seventeen districts, fewer people live there than in the early 2010s.
The highest in-migration was recorded in South Buda, in Districts XI and XXII, and on the Pest side in District XIII and the suburban garden-city Districts XVI, XVII, XVIII and XXIII.
Looking at the proportions of district populations, a similar pattern can be observed: District XXIII has the smallest population among Budapest districts, but growth there is the highest, at 5.9%.

In 2024, the population of District XI, the most populous district, was 149,812 people, which since 2011 represents an increase of approximately 6,647 people and 4.4%.
The largest proportional increase, 5.9%, occurred in the least populous District XXIII, Soroksár.

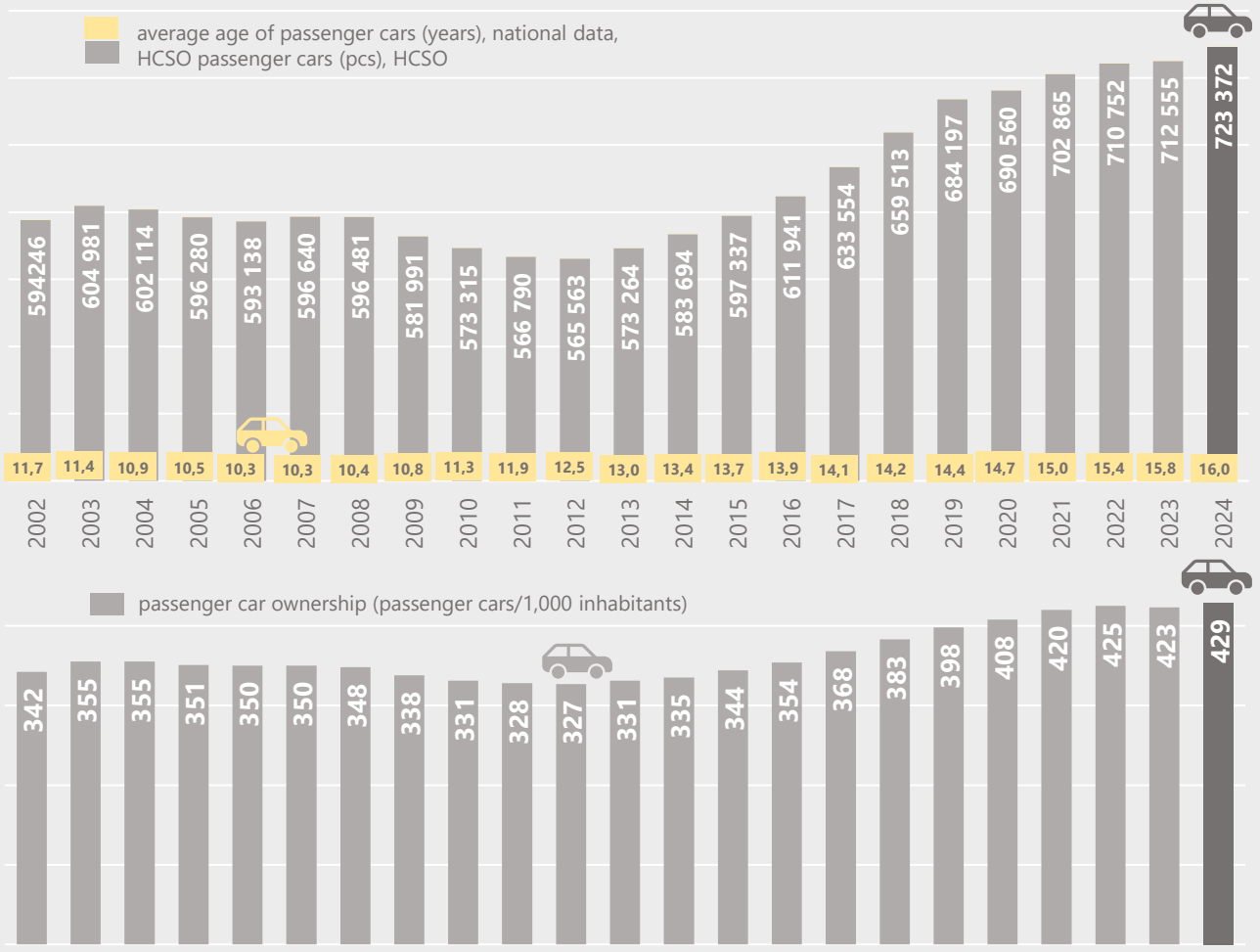


Population of Budapest districts in 2024 (persons)



BUDAPEST PASSENGER CAR FLEET

The number of passenger cars in the capital and motorisation show a slight increase after the stagnation in 2023.



The values shown in the chart were calculated using the HCSO's updated, revised data of 25 Oct 2024.

Number of passenger cars in Budapest (HCSO) in 2024:

723 372
is continuously increasing.

Average age of passenger car fleet (national data):
24.2.1.21. Number and average age of road motor vehicles by vehicle type, at the end of June and December

16.0 years

While the number of vehicles is continuously increasing, **the average age of vehicles is also continuously increasing,** therefore, the pollutant emissions of the subsector are not improving materially.

Passenger car ownership in Budapest in 2024:

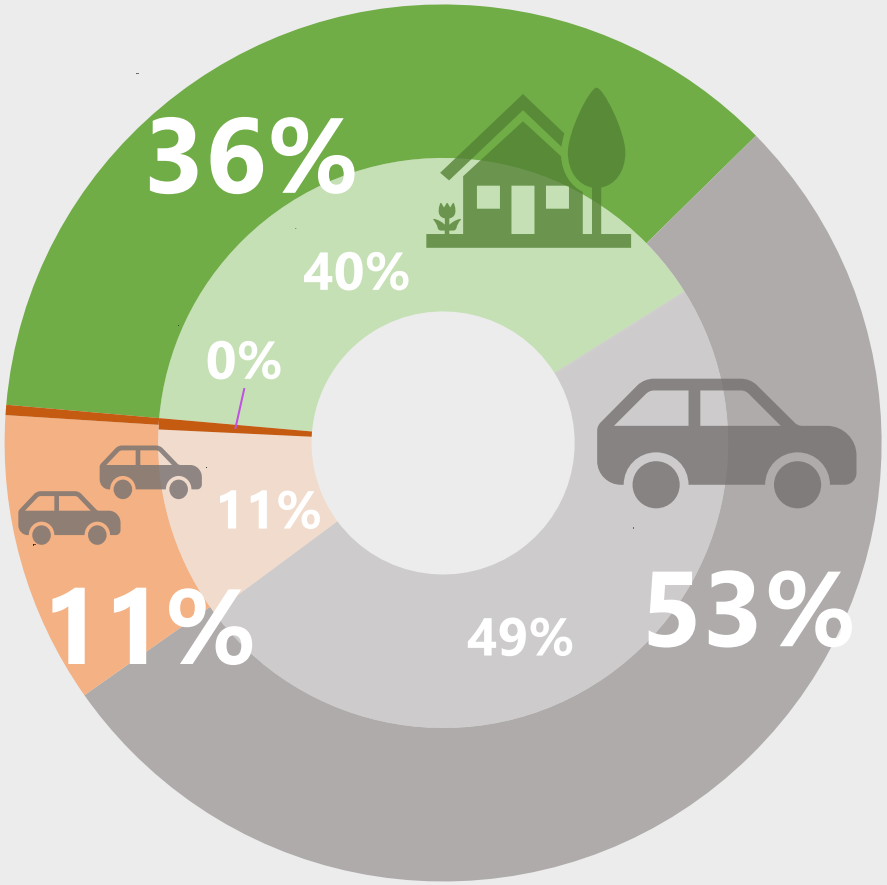
429 passenger cars/1,000 inhabitants

Motorisation shows a slight increase after the stagnation in 2023.

NUMBER OF PASSENGER CARS USED WITHIN A HOUSEHOLD

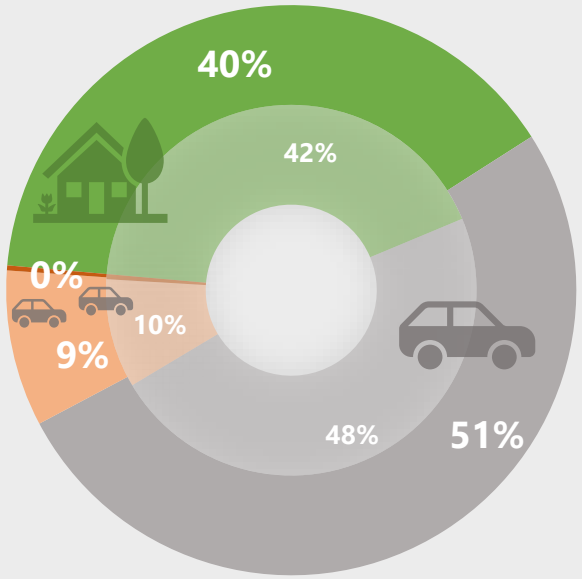
In the Budapest agglomeration, the share of households without a car is half that within Budapest; the functional urban area is uniformly characterised by a growing number of households with one and two cars.

Share of households by number of cars in the household in Budapest and the functional urban area, based on the 2019 and 2024 EFM household survey data:

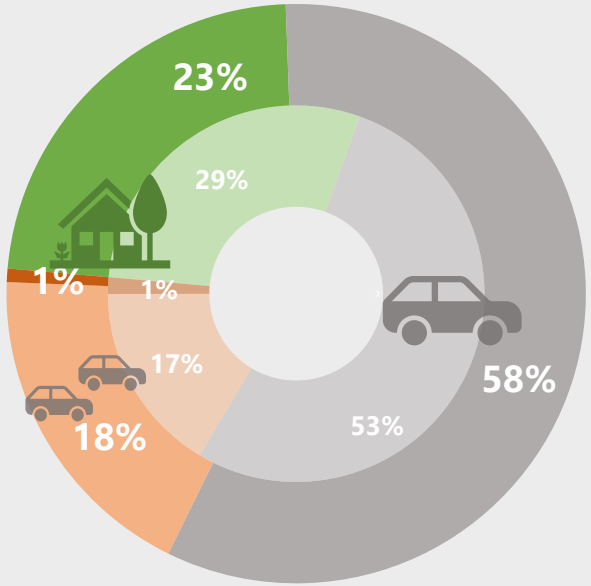


In Budapest and its urban area, 64% of people live in a household that has a car. In the functional urban area, the share of households with a car is significantly higher, by 17 percentage points, than in Budapest.
The functional urban area is characterised by an increase in the share of households with 1 and 2 cars from 70% to 76% between 2019 and 2024.
Since 2019, the share of households without a car has decreased by 2 percentage points in Budapest and by 6 percentage points in the functional urban area.

Budapest only



Functional urban area only



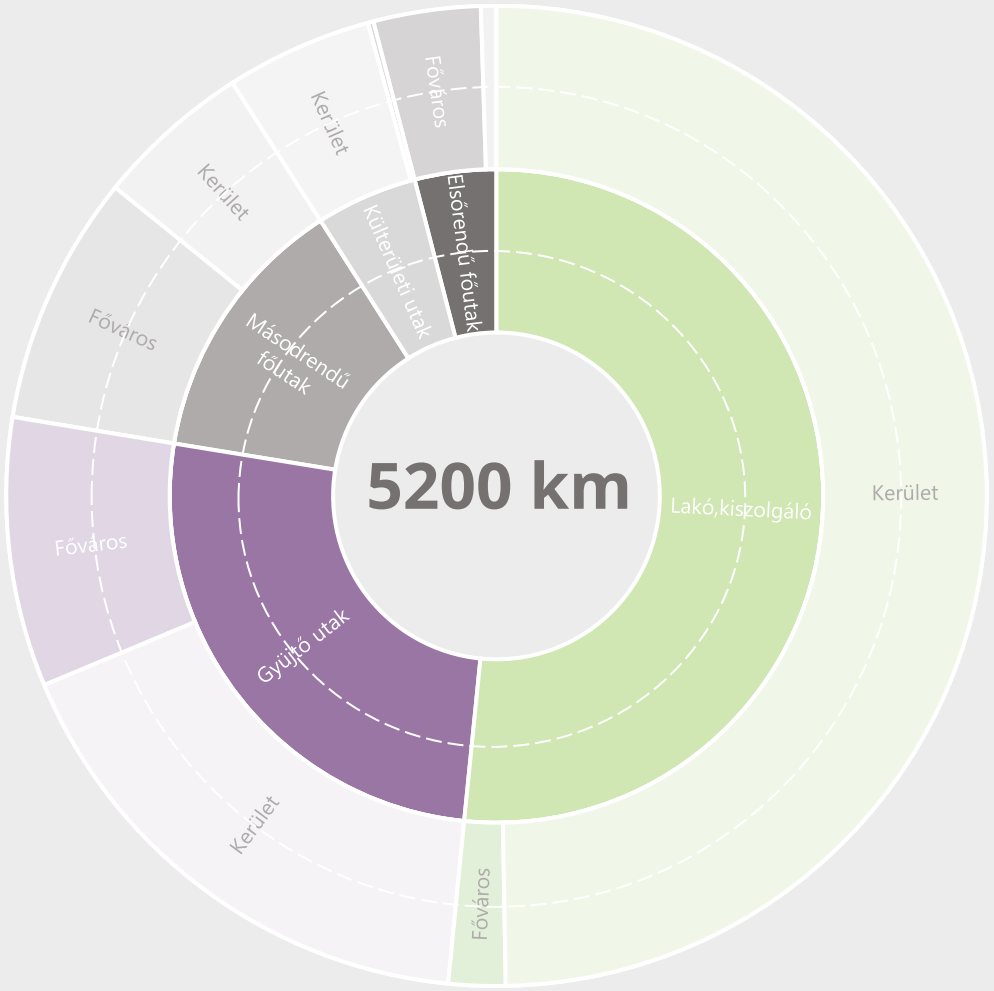
KEY ECONOMIC INDICATORS CITY REPORT – BASED ON THE MONITORING REPORT OF THE "AT HOME IN BUDAPEST" PROGRAMME

The annually prepared City Report presents and assesses in detail the proportions of Budapest residents, migration to the agglomeration, GDP, and income data. Budapest's transport policy affects not only a liveable environment but also, indirectly, the city's economic performance; therefore, we also monitor the effects of developments and regulatory interventions through these indicators.

	2022	2023	2024	DATA SOURCE
BUDAPEST ECONOMIC PERFORMANCE WITHIN THE COUNTRY; GROSS DOMESTIC PRODUCT PER CAPITA AS A PERCENTAGE OF THE NATIONAL AVERAGE	211.9% revised data	217.3 %	220.8% preliminary data, will remain until the end of 2026	STADAT
BUDAPEST'S GDP, % OF THE COUNTRY'S GDP	36.87 % (modified due to revised data)	38.0%	38.9% preliminary data, will remain until the end of 2026	STADAT
AVERAGE ANNUAL NET INCOME PER CAPITA (HUF/PERSON/YEAR)	2 891 025 revised data	3 338 670	3 729 451 preliminary data, will be finalized on 22/10/2026	STADAT
NUMBER OF REGISTERED BUSINESSES PER 1000 INHABITANTS IN HUNGARY (PCS)	191.54	191.97	189.77	STADAT
NUMBER OF REGISTERED BUSINESSES PER 1000 INHABITANTS IN BUDAPEST (PCS)	252.01	248.86	245.84	CLEANED

BUDAPEST ROAD NETWORK

**Approximately 23% of Budapest roads are managed by the Municipality of Budapest;
in 2024, approximately 10% of Budapest's road network remained undeveloped.**



Budapest's road network is the busiest road transport system in Hungary. Based on the records of Magyar Közút , the total length of roads owned and managed by the 24 local governments is approximately 5,200 km, including the **district road networks 4,018 km** in extent, as well as the **roads of the Municipality of Budapest 1,182 km** in length.

Based on 2024 data, **outer areas** account for **5%** of Budapest's roads. Taking the entire road network into account, it can be stated that 500 km of road sections, that is, approximately **10% of the road network remains undeveloped**.

Examining the network role of roads, it can be established that **18% of roads in built-up areas are classified primary roads** (first- or second-class main road), **while 82% are minor roads** (collector road, residential road, access road).

Roads and public spaces under the management of the Municipality of Budapest are defined by Government Decree 432/2012 . Budapest Közút Zrt. is responsible for the operation and maintenance of roads, bridges, engineering structures, traffic engineering facilities owned by the Municipality of Budapest, as well as roads owned by the districts but used by public transport.

First-class main road [km]		2nd-class main road [km]		Collector road [km]		Residential and access road [km]		Outer-area road [km]	
Budapest	Districts	Budapest	Districts	Budapest	Districts	Budapest	Districts	Budapest	Districts
183,39	26,69	429,54	266,36	461,71	890,36	97,52	2 584,26	9,77	250,59

Public transport in numbers

The values shown in the figure are data as of the end of 2024.

1,494 km
public transport total network length

Operational vehicle fleet

73 | 98 | 324
115 | 115 | 10

Operational vehicle fleet

103 | 124 | 20
643 | 328 | 3600 | 548 (Volán)

BUDAPESTGO

2,900,000
registered users

1,400,000
active users

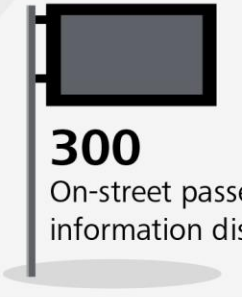
942
Mobi-points

217
Bubi public bike stations

108,308
Bubi users

2,460
Bubi bikes

317
ticket vending machines

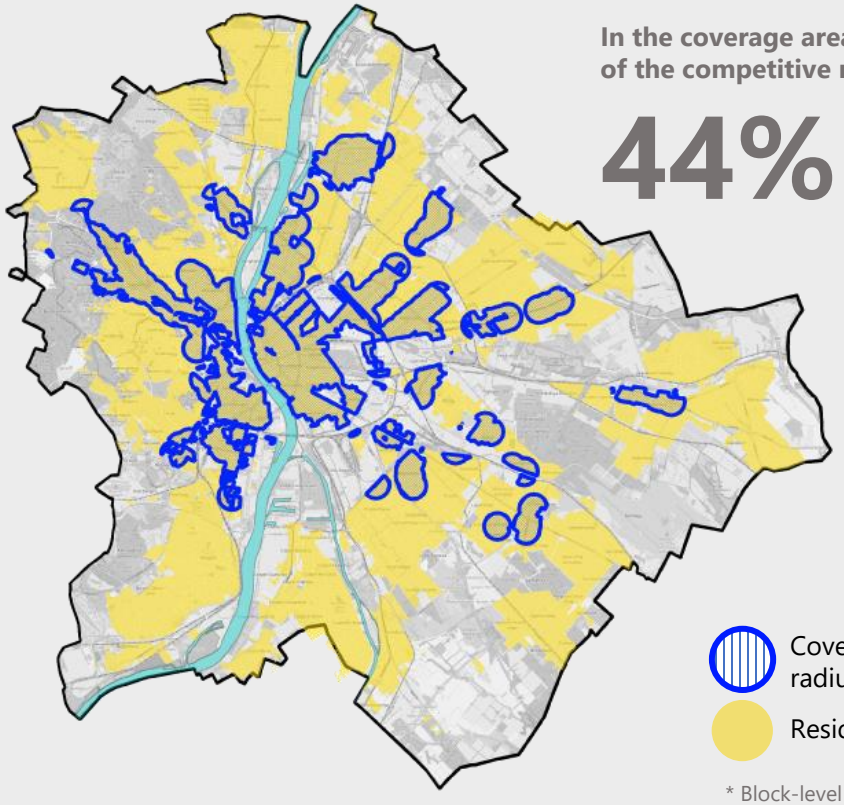


300
On-street passenger information displays

11
customer service centres

COMPETITIVE PUBLIC TRANSPORT INDEX

In 2024, we provide competitive service for 44% of the Budapest population within a 500-metre radius of the competitive network.**



In the coverage area within a 500-meter straight-line radius of the competitive network, 738,706 people live representing

44% **of the population of Budapest.**

Coverage within a 500-metre straight-line radius along the competitive network

Residential area

* Block-level population data based on 2022 census data.

Unit of measurement:
share of the Budapest population with access to competitive service, %

	Baseline values 2024	Actual values 2024	Target 2030
500 m	44%	44%	74,8%
1000 m	62%	62%	91,2%

Evaluation and notes

Budapest aims to provide competitive service for as large a share of the city's population as possible, but at least along the public transport core network** – in order to reduce trips made by private car.

In 2024, we provide **competitive service for 44% of the Budapest population within a 500-metre radius of the competitive network****, which means that competitive public transport service is available along approximately
58,6% of the core network**.
To determine the target value, we used the 2024 core network** as the basis. **Budapest aims that by 2030 three quarters of the city's population** (that is, all Budapest residents living within the 500-metre catchment area of the core network**) **have access to competitive public transport service:**

- the travel time to the inner-city area bounded by the Small Boulevard and the Danube shall be no more than 5 minutes longer than the travel time by car from the same origin;
- at least 8-12 services per hour shall depart from stops on the competitive network towards the inner-city area, also outside peak hours;
- this inner-city area shall be accessible with no more than one transfer.

Straight-line distance from network [m]	Population* [persons]	Index [%]
500	738 706	43.8%
1000	1 043 506	61.9%

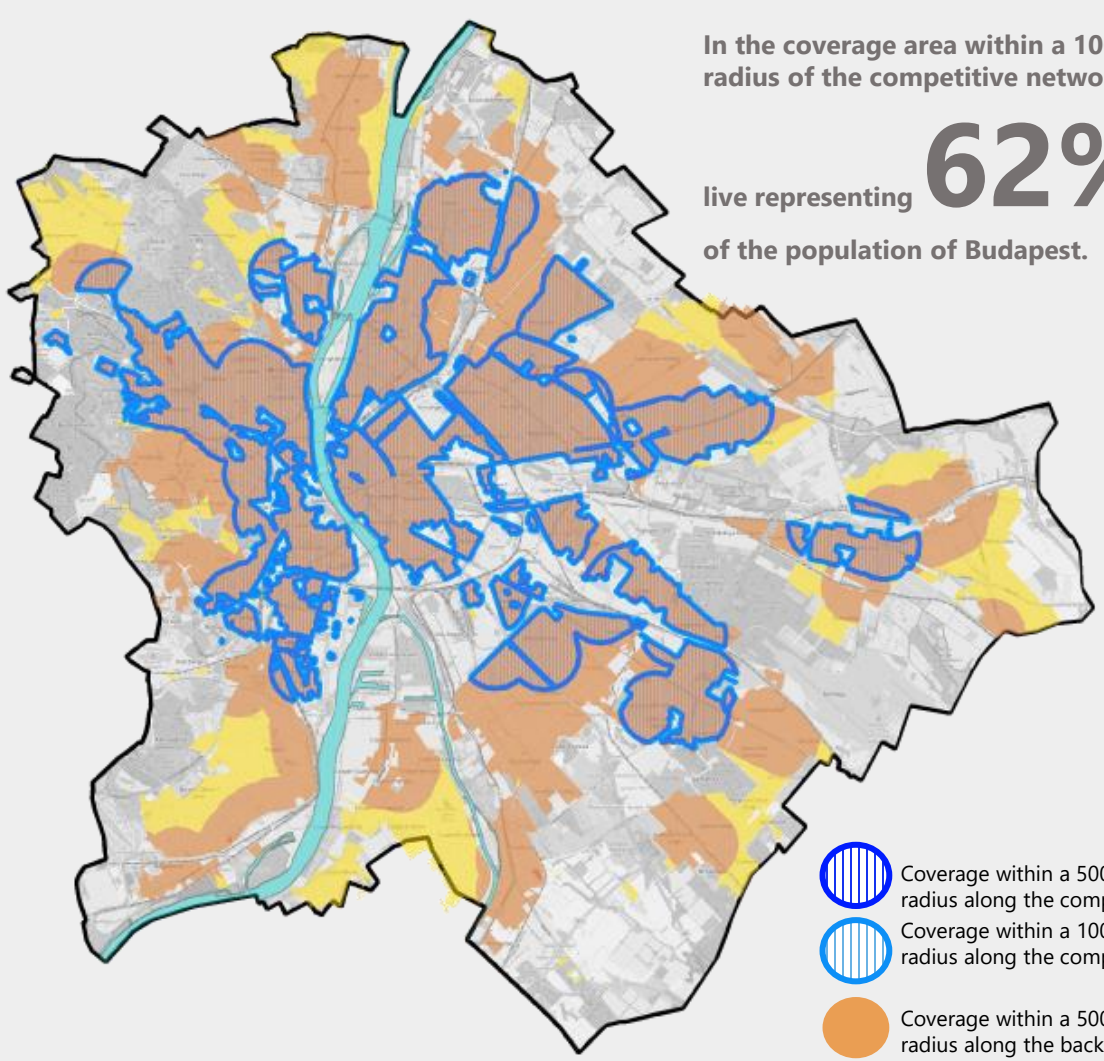
** The network interpreted on the basis of the definition of the *7.2 Spatial accessibility of the public transport core network* indicator.

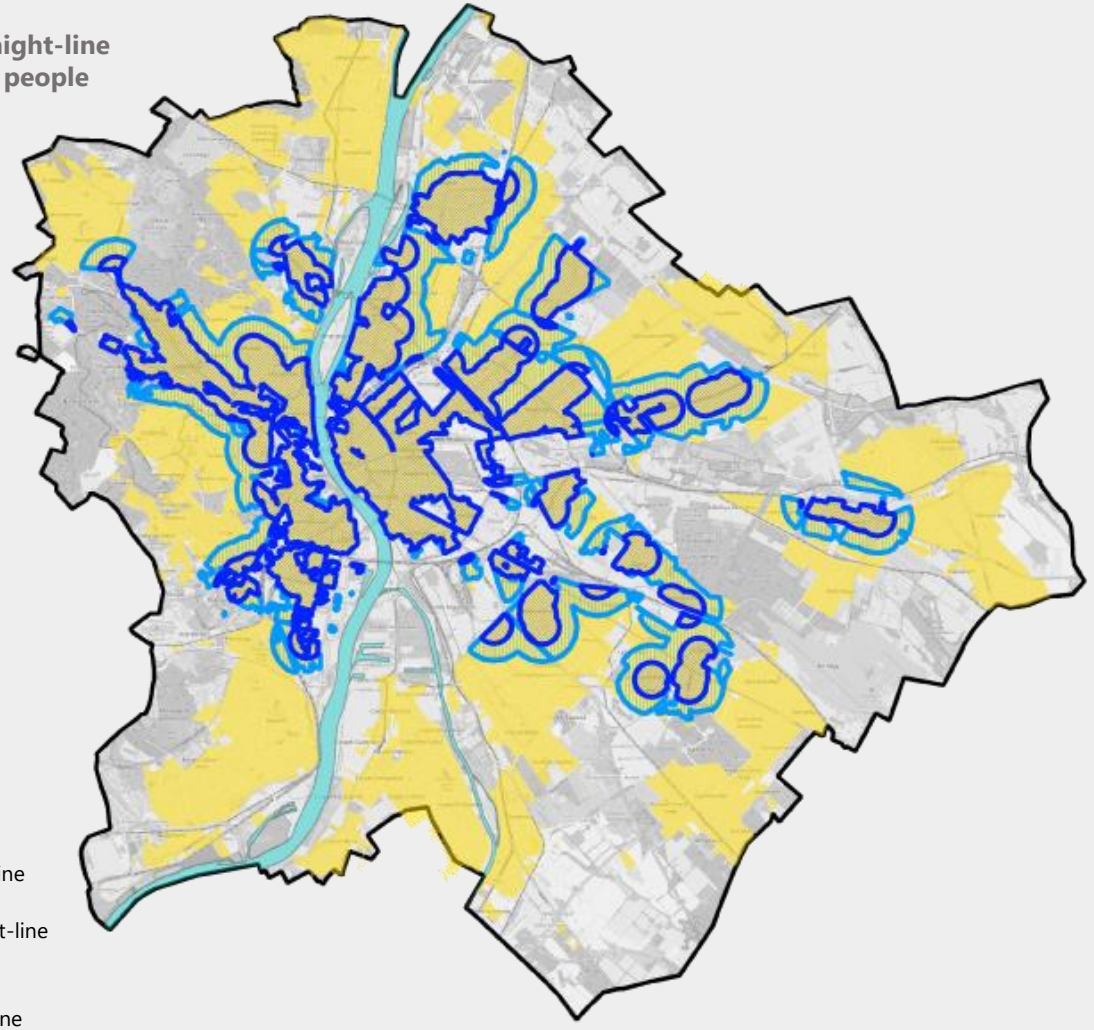
COMPETITIVE PUBLIC TRANSPORT INDEX

In the coverage area within a 1000-meter straight-line radius of the competitive network, 1,043,506 people

live representing 62%

of the population of Budapest.



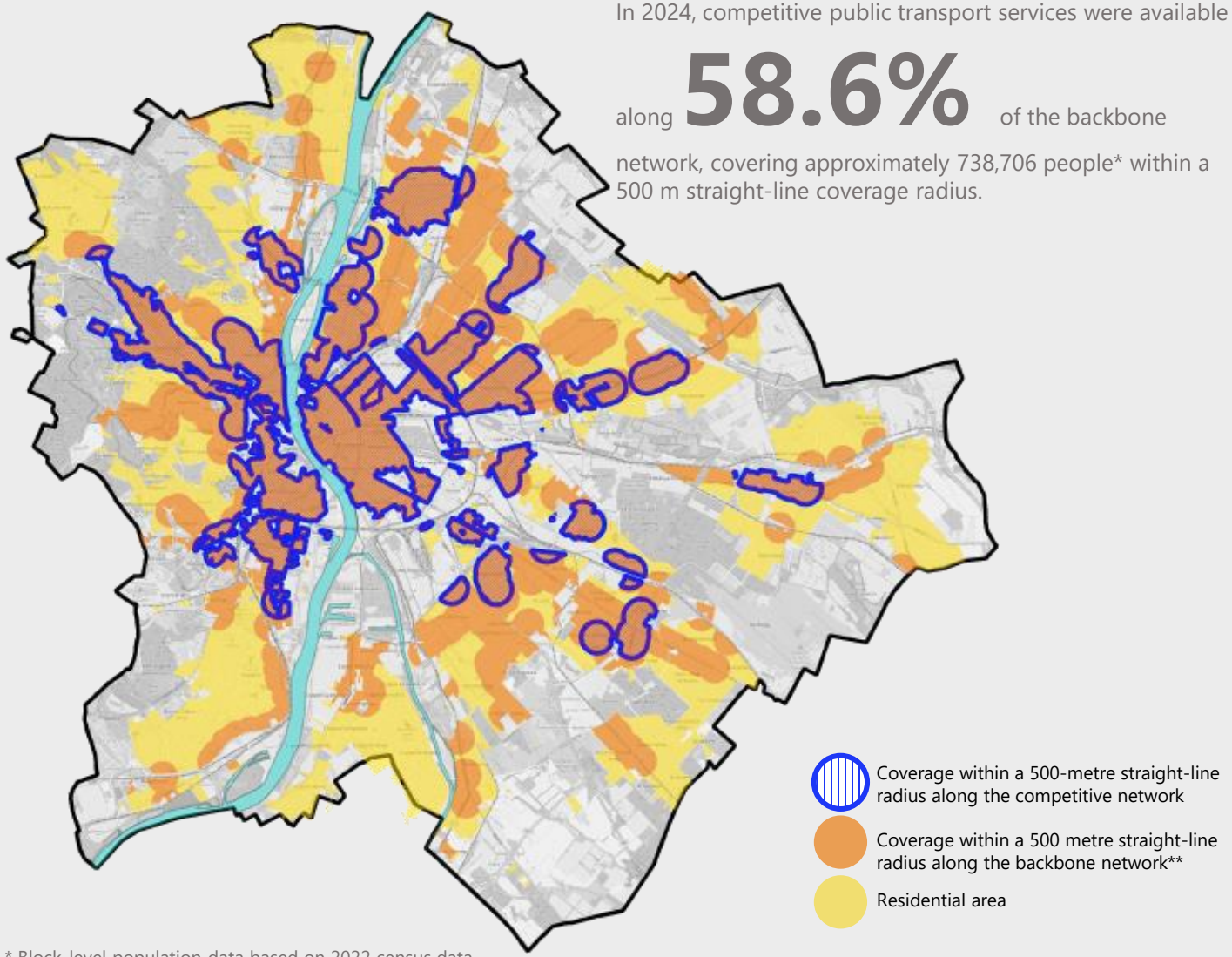


- Coverage within a 500-metre straight-line radius along the competitive network
- Coverage within a 10000-metre straight-line radius along the competitive network
- Coverage within a 500 metre straight-line radius along the backbone network
- Residential area

* Block-level population data based on 2022 census data.

COMPETITIVE PUBLIC TRANSPORT ON THE BACKBONE NETWORK

In 2024, competitive public transport services were available along **58.6%** of the backbone network, covering approximately 738,706 people* within a 500 m straight-line coverage radius.



* Block-level population data based on 2022 census data.

Elements of the public transport backbone network**:

- all railway stations and train stops located within Budapest
- HÉV and metro stations
- the following tram lines
  - Small Boulevard (47, 49)
  - Grand Boulevard (4, 6 full line)
  - Hungária ring (1 full line to Kelenföld)
  - Outer ring (only the shared stops of 3, 62 and 62A are to be considered)
  - Pest Embankment (2 full line)
  - Buda Embankment (19, 41)
  - Hűvösvölgy line (56, 61)
  - Bartók Béla út (inner section, inbound from Móricz Zs. krt.: 19, 41, 47, 49, 56)
  - Fehérvári út (17, 41, 47, 56 to Budafok tram depot)
  - Alkotás utca, Villányi út (17, 61)
  - Frankel Leó út–Bécsi út (17, 19, 41)
  - Lehel utca–Béke út (14 to Rákospalota–Újpest railway station)
  - Üllői út (50)
  - Keleti–Soroksári út (23, 24)
  - Népszínház utca between Magdolna utca and Blaha L. tér (28, 37)

  - all bus and trolleybus stops where, on weekdays between 6 a.m. and 8 p.m., an average of 10 or more services depart per hour, excluding separate terminal stops

** The network interpreted on the basis of the definition of indicator *7.2 Spatial accessibility of the public transport backbone network* indicator

COMPETITIVE PUBLIC TRANSPORT INDEX

DEFINITION

Criteria of the competitive public transport network based on the Public Transport Network Development Strategy currently under preparation:
from the given Budapest public transport stops

- the access time to the "city centre area" is no more than 5 minutes longer than the travel time calculated from the same origin by private car;
- from the stops of the competitive network, at least 8-12 services per hour depart towards the "city centre area" also outside peak hours;
- the "city centre area" can be reached with a maximum of 1 transfer.

For the purposes of defining the indicator, "city centre area" means the area bounded by the Small Boulevard and the Danube.
The indicator shows what percentage of the total population of Budapest lives within a 500-metre catchment area of the competitive stops of the network defined in this way.

CALCULATION METHODOLOGY

Competitive public transport

- The Budapest public transport stops are assessed based on the definition of the competitive network, and those are selected where all three criteria are met simultaneously.
- Around the competitive stops, 500-metre and 1000-metre circles are drawn as the crow flies using QGIS software.
- Based on the above-defined areas, using territorial data from the census*, the number of population with access to the competitive service is determined: Lv [persons].
- Calculation of the competitive public transport network indicator: $\frac{L\,v}{Cap}$ [%]

Cap = population of Budapest [persons]
Actual value for 2024 = baseline value = 44%

Determination of the target value of the indicator for 2030:
The objective of Budapest is that competitive transport should be accessible along 100% of the public transport **core network****, that is, by 2030 74.8% of the population should have competitive access to public transport services.

* In the report, block-level population data were taken into account based on the 2022 census data.
** The *7.2 Spatial accessibility of the public transport core network* indicator-based network.

CORE INDICATORS

2024 REPORT

A

CORE INDICATORS

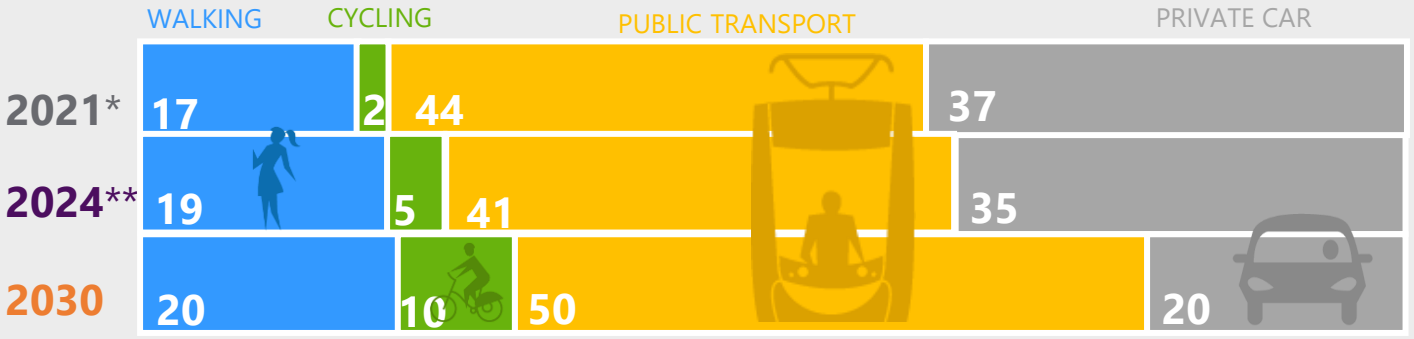
THE CORE INDICATORS MEASURE THE ACHIEVEMENT OF THE BMT STRATEGIC OBJECTIVES. IN LINE WITH THE TEN-T REGULATION THE INDICATORS ARE GROUPED BY THEMATIC AREA. THE ANNUAL REPORT CONTAINS THE KEY INDICATORS (22/25).

A1	**MODAL SPLIT**	**A1.1 Modal split: distribution of trips to Budapest based on the number of trips** **A1.2 Modal split: distribution of trips starting from and ending within Budapest based on the number of trips** **A1.3 Modal split: distribution of trips in Budapest based on passenger-kilometre** **A1.4 Modal split: distribution of journeys starting from and ending within Budapest based on passenger-kilometres**
A2	**CLIMATE INDICATORS**	**A2.1 Greenhouse gas emissions (GHG) from transport** **A2.2 Transport energy consumption** **A2.3 Transport-related air pollution (PM2.5)** **A2.4 Impact on the general public in terms of traffic noise pollution**
A3	**SAFETY**	**A3.1 Road Safety Index – serious injuries** **A3.2 Road Safety Index – fatalities** **A3.3 Risk level of active modes**
A4	**ACCESS TO SERVICES**	**A4.1 Temporal and spatial access to public transport** **A4.2 Affordability of public transport services for the poorest** **A4.3 Physical and audiovisual accessibility of public transport** **A4.4 ICT Accessibility in public transport** **A4.5 Active mobility options**
A5	**TRAFFIC**	**A5.1 Road congestion indicator** **A5.2 The share of disruption to basic public transport services** **A5.3 Availability of Bubi and shared micromobility devices**
A6	**CUSTOMER EXPERIENCE**	**A6.1 Customer satisfaction indicator**
A7	**MULTIMODALITY AND ACCESSIBILITY**	**A7.1 Degree of mobility integration** **A7.2 Spatial accessibility of the public transport backbone network** **A7.3 Spatial accessibility of connected main cycling network elements** **A7.4 Share of people travelling from or to the suburbs by public transport** **A7.5 Travel time provided by the transport system in Budapest and the agglomeration**

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

A slight increase can be observed in sustainable transport modes despite the decline in public transport, alongside the number of trips affecting Budapest.

Results for 2024



* The 2021 values are revised values corrected for the seasonality of transport modes based on the modal split survey conducted in the same year.
** Based on the data of the 2024 EFM household survey, revised values corrected for the seasonality of transport modes.

Unit of measurement:
%, based on number of trips

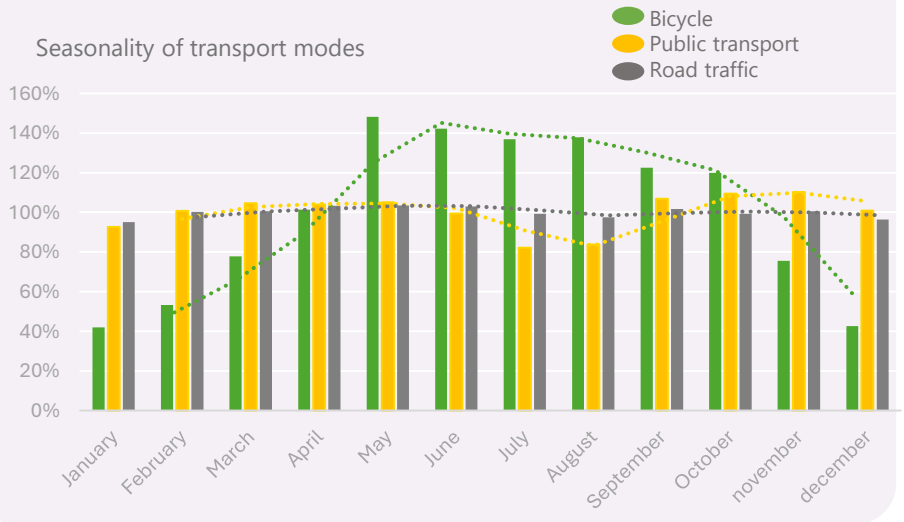
Baseline values 2021
walking 17%
cycling 2% public transport 44%
private car transport 37%

Actual values 2024
walking 19%
cycling 5% public transport 41%
private car transport 35%

Target 2030
walking 20%,
cycling 10%, public transport 50%,
private car transport 20%

Evaluation and notes

Budapest aims to increase the share of sustainable modes within the transport sector, such as active mobility and public transport; reduce local air pollutant emissions to achieve climate neutrality and, by increasing the efficiency of the use of public space by mobility, reallocate valuable public spaces to other urban functions (e.g. recreational, social, green, etc.).
The development of individual transport modes typically also affects all other modes; the change in modal split shows the change in travel behaviour overall. The responses to changed travel needs caused by Covid in 2020–21, and the results of more intensive development of pedestrian and cycling infrastructure, became visible in the modal split within 2-3 years.
The **3-percentage point decline in public transport within sustainable modes is identifiable,** while active mode users mainly shifted from public transport. **Overall, however, a slight increase of 2 percentage points can be observed in sustainable transport modes.**
The 2030 **modal split target** requires **the development of active modes** while the greatest attention must be paid to **attracting Budapest residents from private cars to public transport**.



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

A1

Definition

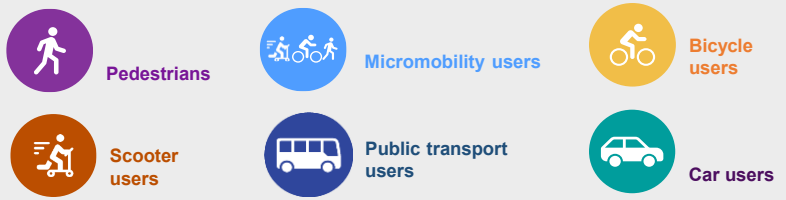
The indicator measuring the composition of urban traffic and the frequency of use of different transport modes is the trip-based modal split.
The trip-based modal split within the city boundary is the weekday distribution by transport mode of **daily traffic within Budapest and traffic travelling to Budapest from the agglomeration or from Budapest to the agglomeration** . The transport modes calculated are: walking, cycling, public transport, passenger car. This indicator shows the modal split ratio **in proportion to the number of trips** . The transport mode share survey is governed by Decree 20/2012. (III. 14.) of the Budapest General Assembly (Appointment Decree), the Annual (Public Service) Contract and its Annex 3.

Calculation methodology

The transport mode share is calculated every 2 years on the basis of a household survey. During the household survey, the travel habits of residents are recorded using a representative sample of households in Budapest and the metropolitan area. The sample includes all trips made on the previous day of an average weekday. Access walking is not counted separately under walking in the number of trips, as access walking is not a separate trip. On this basis, the percentage shares of trips made by the 4 calculated modes are determined on a trip basis relative to each other, so that the total daily trip share equals 100%.

Research methodology

In the BMT, we measure both the trip-based (A1.1; A1.2) and the travel performance-based (A1.3; A1.4) modal split in order to obtain a more comprehensive picture of mobility habits in Budapest.
* During the 2024 household survey, data were collected at a total of 12,000 addresses, corresponding to interviews with 25,499 persons. The household surveys were carried out over approximately 2 months from the end of May 2024 until July. The trips / person (including walking) by origin zone are the average number of all trips made within one day by the persons surveyed in the given zone.
Travel by scooter (and other micromobility devices) is shown combined with the share of cyclists.



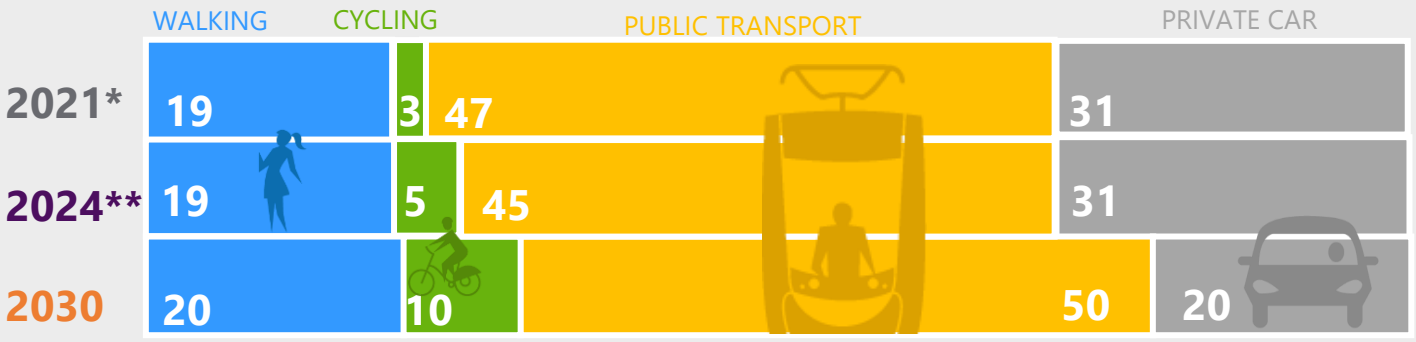
Data source: BKK

Responsible organisational unit: Strategic Data Management and Knowledge Centre Directorate
Data Analysis and Modelling Department

A1.2 MODAL SPLIT: DISTRIBUTION OF TRIPS ORIGINATING AND ENDING WITHIN THE CITY ON A TRIP-COUNT BASIS

The shares of transport modes are fundamentally unchanged, except for cycling, whose share increased beyond the margin of error.

2024 results



* The 2021 values are seasonality-adjusted values for transport modes based on the modal split survey of the same year.
** Seasonality-adjusted values for transport modes based on the data of the 2024 EFM household survey.

Unit of measurement:
%, based on number of trips

Baseline values 2021
walking 19%
cycling 3% public transport 47%
private car transport 31%

Actual values 2024
walking 19%
cycling 5%
public transport 45% private car transport 31%

Target 2030
walking 20%
cycling 10% public transport 50%
private car transport 20%

Evaluation and notes

Budapest aims to increase the share of sustainable modes within the transport sector, such as active mobility and public transport; reduce local air pollutant emissions to achieve climate neutrality and, by increasing the efficiency of the use of public space by mobility, reallocate valuable public spaces to other urban functions (e.g. recreational, social, green, etc.).
The development of individual transport modes typically also affects all other modes; the change in modal split shows the change in travel behaviour overall. The responses to changed travel needs caused by Covid in 2020–21, and the results of more intensive development of pedestrian and cycling infrastructure, became visible in the modal split in recent years.

Contrary to the preliminary A1.1 indicator published in the 2023 report, the A1.2 indicator **does not include the Budapest sections of trips arriving from the agglomeration and crossing the city boundary,** only trips within Budapest, therefore the share of public transport is 4 percentage points higher, while the share of private car traffic is 4 percentage points lower within the 2024 trip-based proportions.

Unfortunately, an increase in the share of sustainable transport modes cannot be demonstrated since 2021; only the share of cycling has increased within sustainable trips in Budapest.

To **achieve the 2030 modal split target** within the continued, consistent development of **active modes** greater attention needs to be given to the **development of walking,** including the preparation and implementation of the forthcoming Pedestrian and Accessibility Strategy.

A1.2 MODAL SPLIT: DISTRIBUTION OF TRIPS ORIGINATING AND ENDING WITHIN THE CITY ON A TRIP-COUNT BASIS

A1

Definition

The modal split of transport in Budapest is the distribution by transport mode of **trips generated and ending daily within Budapest**. The transport modes applied are: walking, cycling, public transport, private car. This indicator shows the ratio of modal split in terms of the ratio of the number of trips. The implementation of the transport modal split survey is governed by Decree 20/2012. (III. 14.) of the Budapest General Assembly (Appointment Decree) and the Annual (public service) contract and its Annex 3.

Calculation methodology

We calculate the transport modal split every 2 years, based on a modal split survey or household survey. In both data collection methods, mobility habits of residents are collected on a sample representative of households in Budapest and its urban region. In the sample, the objective is to record all trips made on an average weekday. **The ratio does not include trips that crossed the city boundary.** Access walking is not counted as walking in the number of trips, because access walking is not considered a separate trip. On this basis, we determine, on a trip-number basis, the percentage shares of trips made by the 4 calculated modes relative to each other, then adjust them with seasonal factors reflecting the traffic patterns of the different transport modes so that the total daily trip share equals 100%.

Research methodology

In the BMT, we measure both trip-number-based (A1.1; A1.2) and passenger-kilometre-based (A1.3; A1.4) modal split so that we obtain a more complete picture of mobility habits in the capital.

* During the 2024 household survey, data were collected at a total of 12,000 addresses, corresponding to interviews with 25,499 persons. The household surveys were carried out over approximately 2 months from the end of May 2024 until July. The trips / person (including walking) by origin zone are the average number of all trips made within one day by the persons surveyed in the given zone. Travel by scooter (and other micromobility devices) is shown combined with the share of cyclists.

Benchmark

Similarly to indicator A1.2, in the Vienna trip-number-based modal split interpreted in a comparable way (page 113), a similar shift can be observed within sustainable transport modes in the period after 2020 as in Budapest. Alongside the decline in public transport, the share of people walking and cycling increased.

Vienna modal split values				
2019	28%	7%	38%	27%
2022	35%	9%	30%	26%
2030		85%		15%

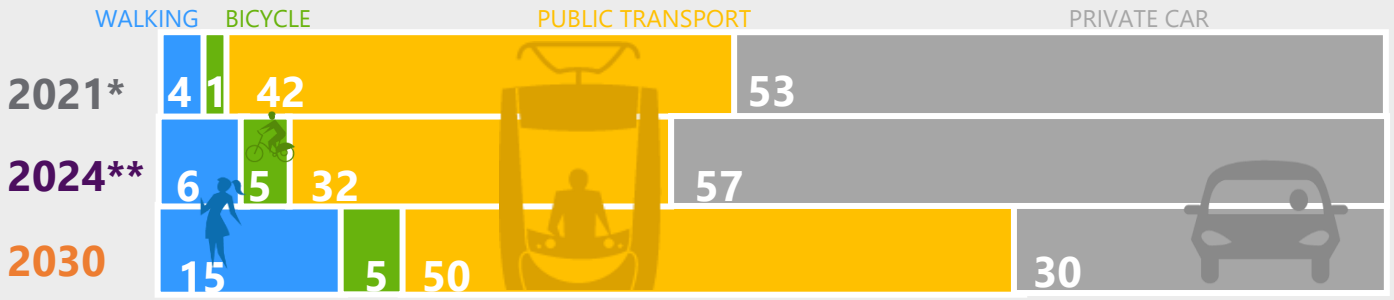
Data source: BKK

Responsible organisational unit: Deputy CEO for Mobility organisational unit
Data Analysis and Modelling Department

A1.3 MODAL SPLIT: DISTRIBUTION OF TRIPS IN BUDAPEST BY PASSENGER-KILOMETRE

Within the travel performance of Budapest, public transport has declined, and users of active modes have switched primarily from public transport.

2024 Results



* The values for 2021 are revised values adjusted for the seasonality of modes of transport based on the modal split measurement of the same year.
** Revised values based on the 2024 EFM household survey data, adjusted for the seasonality of transport modes.

Unit of measurement:
%, on a passenger-kilometre basis

Base values 2021
walking 4%
cycling 1% public transport 42%
passenger car transport 53%

Actual values 2024
walking 6%
cycling 5% public transport 32%
passenger car transport 57%

Target 2030
walking 15%
cycling 5% public transport 50%
passenger car transport 30%

Evaluation and notes

The modal split is an indicator of the composition of urban traffic and the division of transport between different modes of transport. **Budapest aims to increase the share of sustainable modes within the transport sector, such as active mobility and public transport;** reduce local air pollutant emissions to achieve climate neutrality and, by increasing the efficiency of the use of public space by mobility, reallocate valuable public spaces to other urban functions (e.g. recreational, social, green, etc.).
The development of individual transport modes typically also affects all other modes; the change in modal split shows the change in travel behaviour overall. The responses to changed travel needs caused by Covid in 2020–21, and the results of more intensive development of pedestrian and cycling infrastructure, became visible in the modal split within 2-3 years.

When examining the modal split on the basis of passenger-kilometres, we examine the proportions of the total distances travelled during passenger transport-related journeys. Compared to the indicator based on the number of journeys, **changes in the length characteristics** of modes of transport can also be examined here. Within **sustainable modes of transport, a 10 percentage point decline in public transport can be observed: users of active modes** have primarily **switched from public transport.** According to the values of the indicator examined on the basis of travel performance, we are 4 percentage points away from our target, although we have come closer to the base value on the basis of the number of trips. This is mainly due **to the increase in the average length of journeys made by car**.

In order to achieve the **2030 modal split goal, in addition to the development of active modes**, the greatest attention must be paid to attracting the residents of Budapest **from private cars to public transport.**

A1.3 MODAL SPLIT: DISTRIBUTION OF TRIPS IN BUDAPEST BY PASSENGER-KILOMETRE

A1

Definition

The distribution by mode of the **within-city-boundary** section of all trips typical within the territory of Budapest on an average weekday. The transport modes considered are walking, travel by bicycle, travel by public transport, passenger car. This indicator **shows the modal split by the share of kilometres travelled during trips** .
The modal split survey is regulated by Decree 20/2012. (III. 14.) of the Budapest General Assembly (Appointment Decree), the Annual (Public Service) Contract and its Annex No. 3.

Calculation methodology

The modal split is planned to be calculated at a frequency of every 2 years based on a household survey*. During the household survey, the mobility habits of city residents are recorded on a representative sample covering households in Budapest and its metropolitan area. The sample always includes all trips and trip stages from the previous day, typically on a weekday in October.
When calculating the ratio, only the Budapest section of the trip is taken into account; trip stages that took place in the agglomeration are "cut off" before or after crossing the administrative boundary.
Access walking that in itself does not count as a trip (e.g. to a stop, to a vehicle) is recorded in minutes, converted using a speed of 4 km/hour, and then, in the case of passenger-kilometres, added to the walking value. On this basis, the percentage shares of trips made by the four calculated modes are determined relative to one another so that the total daily trip share equals 100%.

Research methodology

In the BMT, we measure both the trip-number-based (A1.1; A1.2) and the travel-performance-based (A1.3; A1.4) modal split in order to obtain a more complete picture of mobility habits in the capital.
* During the 2024 household survey, a total of 12 000 addresses were surveyed, representing interviews with 25 499 persons.
The household survey took place over approximately 2 months, from the end of May 2024 until July.
Trips / person (including walking) by origin zone is the average of all trips of persons surveyed in the given zone within one day.
Travel by e-scooter (and other micromobility devices) is shown combined with the share of cyclists.

Data source: BKK

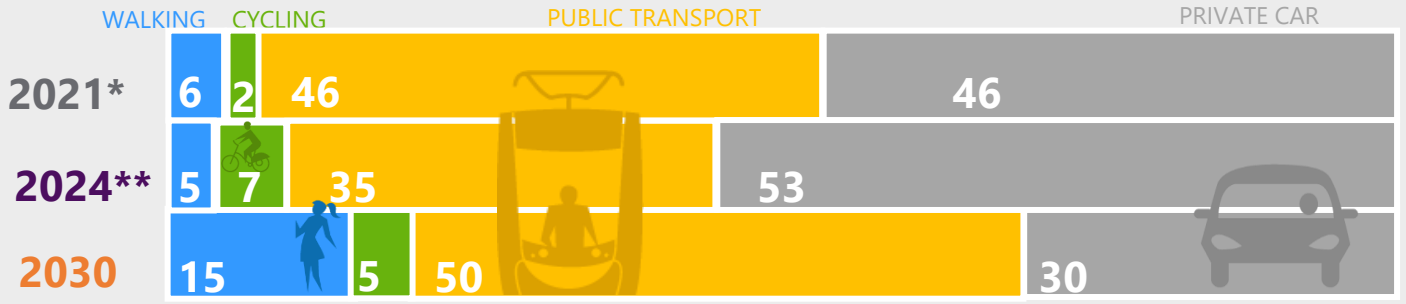
Responsible organisational unit: Strategic Data Management and Knowledge Centre Directorate
Data Analysis and Modelling Department

BUDAPESTI KÖZLEKEDÉSI KÖZPONT

A1.4 MODAL SPLIT: DISTRIBUTION OF TRIPS STARTING FROM AND ENDING WITHIN BUDAPEST ON THE BASIS OF PASSENGER-KILOMETRES

Based on the values of the indicator examined on the basis of travel performance within Budapest, it can be said that we have moved away from the 2030 target due to the decline in the share of public transport.

2024 Results



* The values for 2021 are values adjusted for the seasonality of transport modes based on the modal split measurement of the same year.
** Based on the data of the 2024 EFM Household Survey, values adjusted for the seasonality of transport modes.

Unit of measurement:
%, on a passenger-kilometre basis

Base values 2021*
walking 6%
cycling 2% public transport 46%
passenger car transport 46%

Actual values 2024**
walking 5%
cycling 7% public transport 35%
passenger car transport 53%

Target 2030
walking 15%
cycling 5% public transport 50%
passenger car transport 30%

Evaluation and notes

The modal split is an indicator of the composition of urban traffic and the division of transport between different modes of transport. **Budapest's goal is to increase the proportion of sustainable modes of transport within the transport sector, such as active mobility and public transport;** local emissions should be reduced by achieving climate neutrality and increasing the efficiency of mobility in public spaces, in order to redistribute valuable public spaces to other urban functions (e.g. recreational, social, green, etc.).
When examining the modal split on the basis of passenger-kilometres, we examine the proportions of the total distances travelled during passenger transport-related journeys. Compared to the indicator based on the number of journeys, changes in the length characteristics of modes of transport can also be examined here.

The responses to the changed travel needs due to Covid in 2020-21 and the results of more intensive developments in the pedestrian and bicycle infrastructure became visible in the modal split in 2-3 years: **the frequency and travel performance of urban cycling also started to increase, while public transport was largely shifted to cars and bicycles.**

Contrary to the preliminary indicator A1.3 published in the 2023 report, the A1.4 indicator **does not include the Budapest legs of journeys arriving from the agglomeration and crossing the city limits, only** those within Budapest. As a result, there is a slight difference in the share of public transport in the 2024 factual value, i.e. **3 percentage points more,** and the share of passenger car traffic is **4 percentage points lower among trips to Budapest only.**

According to the values of the indicator examined on the basis of travel performance within Budapest, it can be said that **we have moved away from the 2030 target due to the decline in public transport, in order to achieve** which more attention must be paid to the development of pedestrian transport and the elaboration and implementation of the Pedestrian and Accessibility Strategy in preparation within the framework of the further persistent development of active modes.

A1.4 MODAL SPLIT: THE DISTRIBUTION OF TRIPS ORIGINATING WITHIN BUDAPEST AND ALSO ENDING WITHIN IT, BASED ON PASSENGER-KILOMETRES

A1

Definition

The distribution of trips typical within the territory of Budapest by mode of transport on an average weekday, taking into account only those trips that **originate within the territory of Budapest and also end within it.** The modes of transport considered are walking, cycling, travel by public transport, and by passenger car. This indicator shows the modal split based on the share of kilometres travelled during trips. The modal split survey is regulated by Decree 20/2012. (III. 14.) of the Budapest General Assembly (Appointment Decree), the Annual (Public Service) Contract and its Annex No. 3.

Calculation methodology

We calculate modal split every 2 years on the basis of a modal split survey or on the basis of a household survey. In both data collection methods, the travel habits of residents are collected on a sample representative of households in Budapest and its metropolitan area. The objective of the sample is to record all trips on an average weekday. This ratio **does not include those trips (not even their Budapest sections) that crossed the city boundary.** Access walking that in itself does not count as a trip (e.g. to a stop, to a vehicle) is recorded in minutes, and converted using a speed of 4 km/h, then added to the walking value in the case of passenger-kilometres. On this basis, the percentage shares of trips made by the four calculated modes are determined relative to one another, then adjusted by the seasonal factors of traffic patterns for the various transport modes so that the total daily travel share is 100%.

Research methodology

In the BMT, we measure both trip-number-based (A1.1; A1.2) and travel-performance-based (A1.3; A1.4) modal split in order to obtain a more complete picture of mobility patterns in the capital.
** During the 2024 household survey, data collection took place at a total of 12 000 addresses, which means interviews with 25 499 persons.
The household surveys lasted for approximately 2 months, from the end of May 2024 until July.
Trips / person (including walking) by origin zone is the average of all trips made within one day by persons surveyed in the given zone.
Travel by scooter (and other micromobility devices) is presented combined with the share of cyclists.

Data source: BKK

Responsible organisational unit: Mobility Deputy Chief Executive organisational unit
Data Analysis and Modelling Department

BKK BUDAPESTI KÖZLEKEDÉSI KÖZPONT

DETERMINATION OF THE SEASONALITY OF MODAL SPLIT VALUES

A1

During the calculation of the modal split values, the proportions of transport modes were corrected in order to eliminate seasonal effects. The household surveys and the annual modal split surveys on which the data are based were collected in the autumn/summer period, but the frequency of use of each mode of transport can vary significantly depending on the seasons, primarily in the case of cycling, but also in the case of other modes (e.g. summer holidays, school holidays).
The modal split values formed from the data surveys were corrected with the values calculated for cycling, public transport and public roads, for which the seasonality of each mode was determined in a monthly breakdown, with which their proportions were weighted. In the case of walking, we calculated an annual average based on the seasonality of pedestrian traffic in certain European capitals (Vienna, London, Paris). The seasonality of the average journey lengths of the modes of transport was not taken into account due to the lack of adequate data.

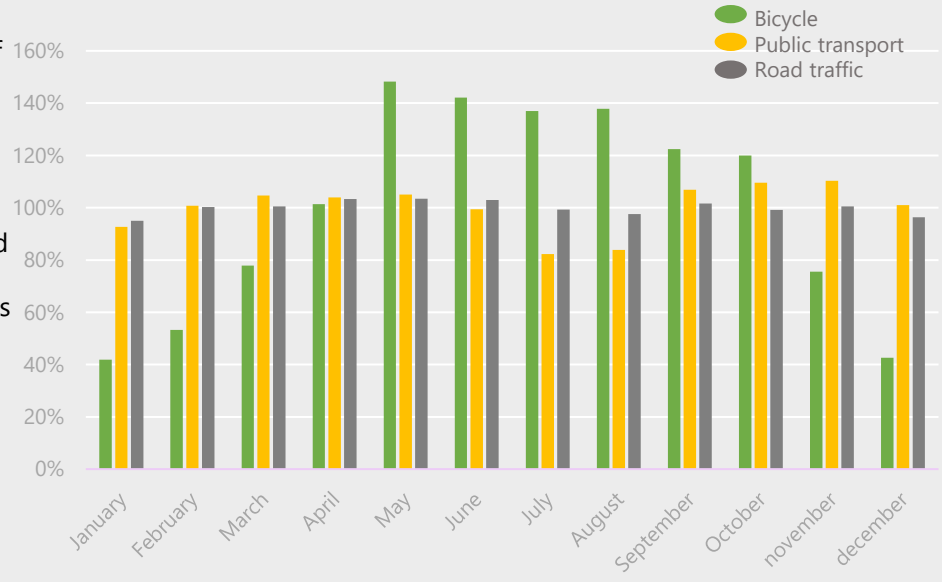
Examination of the seasonality of bicycle traffic
For 2024, based on the data of 12 bicycle traffic counters, we prepared a monthly summary of the daily data – trips/month. From the aggregated monthly data, we determined the monthly average number of trips for 2024, and then examined the extent to which the travel data for each month differed from the defined average monthly number of trips. Subsequently, we determined the average deviation of the years from the average monthly number of trips in the corresponding months on a monthly basis, so we obtained the seasonality of bicycle traffic.
Locations of bicycle counting: Jane Haning rakpart, Moszkva sétány, Hungária körút, Szerémi út, Teréz körút, Valdemar and Nina Langlet rakpart, Árpád híd, Kőbányai út, Bem tér, Műegyetem rakpart, Róbert Károly körút, Fogarasi út.

Examination of the seasonality of public transport
For the year 2022–24, the change in the weekly number of journeys of the main bus services (compared to 2019) was averaged on a monthly basis, so we obtained the monthly average change in the number of journeys. The seasonality of the years was determined by the deviation of the monthly changes in the number of journeys from the annual average, then the value of the corresponding months of the two years was averaged, correcting the share of public transport in the modal split based on this.

Examination of the seasonality of road transport
In the case of road transport, we calculated with data series for 2023–2024. The weekly change in road traffic (compared to 2022) was averaged on a monthly basis, and the change in the average monthly traffic volume was determined. Subsequently, the seasonality of the years was determined by deviating from the annual average of the monthly changes in traffic size.

Correction of Modal Split values by mode

1. We examined the month of the year in which the data were surveyed (household survey, modal split research).
2. The values of the modal split have been corrected with the seasonality factor for the month of the survey.
3. In the case of walking, we corrected the results of the measurement based on the annual seasonality measured in certain European capitals (Vienna, London, Paris) – given that we do not currently have data on the seasonality of walking in Budapest similar to those of other modes.

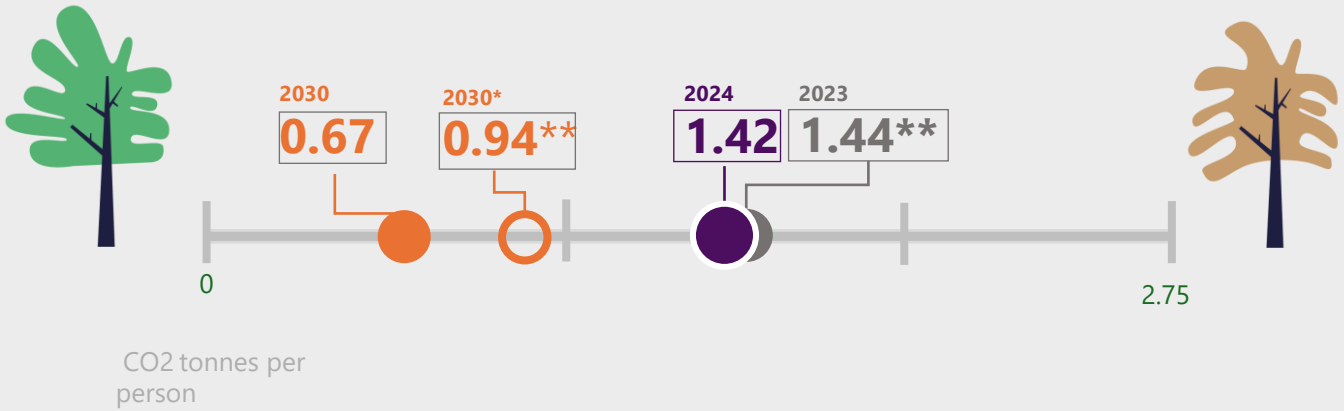


100% average of the values for the whole year by mode.

A2.1 GREENHOUSE GAS (GHG) EMISSIONS FROM TRANSPORT

By achieving the BMT 2030 modal split targets, we can approach the emission target set in the SECAP.

2024 Results



* The parameters considered for the determination of the target values are indicated next to the calculation methodology on the next page.

Unit of measurement:

CO2 tonnes p.person

Base value 2023
1.44*

Actual value 2024
1.42

Targets 2030*
0.67
Based on the SECAP methodology

0.94**
The value that can be achieved by reaching the goal of the BMT 2030 modal split.

** The 2023 base value and the 2030 target value in the 2023 report have been revised due to the clarification of the calculation methodology:
- the passenger car traffic performance was filtered out of the travel sections outside the administrative boundaries of Budapest,
- The fuel consumption data of the vehicles have been reviewed and updated.

As a result of the corrected calculation, the 2023 base value was changed from 1.55 to 1.44 CO_2 tonnes/capita, while the 2030 target value was changed from 0.79 to 0.94 CO_2 tonnes/capita.

Evaluation and notes

In Budapest, transport is the second largest emitter after CO_2 emissions related to the energy consumption of buildings, accounting **for 28%** of total emissions in **2015**. Within this, 26% is for private and commercial transport, while 2% for public transport.
30.3% of CO2 emissions related to energy consumption in Budapest can be considered to be of transport origin in **2024** (source BKÁÉ), so it can be concluded that **the CO2 emissions from transport derived from final energy consumption increased within the total emissions of Budapest** (data for 2024 were not yet available at the time of the report). In the Budapest SECAP (including the City Report and the annual assessment of the environmental status of Budapest, the BKÁÉ documents), the CO_2 emission value is calculated from the final energy consumption, and the CO2 emission value from transport is calculated from the amount of fuel sold within the administrative boundaries of Budapest, contrary to the SUMI methodology.
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 BMT's 2030 targets of 0.94 CO2-tonnes/capita resulting from the modal split, we can approach the target value of 0.67 CO2-tonnes/capita set in the SECAP. In addition, we can achieve the target set by SECAP by reducing specific GHG emissions and/or reducing the overall mobility demand (passenger and freight transport) and/or improving the modal split beyond the BMT targets.

The value of the indicator improved slightly by 1.4% in 2024, due to the change in the composition of the vehicle fleet in Budapest.

A2

A2.1 | TRANSPORT-RELATED GREENHOUSE GAS (GHG) EMISSIONS

Definition

The indicator shows the well-to-wheel or WTW greenhouse gas (GHG) emissions per capita of the population of Budapest resulting from all passenger and freight transport (depending on the availability of data), i.e. examining the entire life cycle of the energy carrier.

Methodology of calculation

The indicator calculates the greenhouse gas emissions of public transport, passenger and freight traffic in Budapest.

The indicator calculates all transport-related GHG emissions based on the mode of transport, vehicle stock and fuel type, taking into account mileage, and then divides them by the number of inhabitants. **The calculation of the traffic performance for 2023–2024 for passenger and lorry vehicles is based on the data of the updated Strategic Version 07 of the Unified Traffic Model (EFM SV07), while the mileage values of public transport vehicles are based on the actual data of BKK's public services.**

Transport-related greenhouse gas emissions =

$$\frac{(\sum_{ij} A_{ij} \times (\sum_{ck} S_{ijk} \times C_{ijkc} \times I_{jk} \times (T_k + W_k) \times (1 + F_{ijk})))}{cap} \times 1000 \; [_{CO2} \text{ tonnes/person/year}]$$

Tk = CO_2 emissions per fuel type unit (from tank to vehicle use) [kg/l or kg/kWh]
Wk = CO_2 emissions per fuel type unit (from well to tank) [factor]
Aij = Volume of activity (based on mode i travelled, vehicle type j) [million jkm/year]
Sijk = Proportion of fuel type k, by vehicle type j and mode i [share]
Cijkc = Emission class c ratio, k by fuel type, vehicle type j and mode i [share]
Ijk = Energy intensity based on distance travelled by vehicle type j and fuel type k [l/km or MJ/km or kWh/km]
Cap = Number of inhabitants in the functional urban area [persons]
Fijk = Non-carbon GHG correction (equivalent to carbon dioxide) [factor]
k = Energy type (petrol, diesel, biofuel, electric, hydrogen, etc.) [type]
i = Mode of transport (car, truck, metro, tram, bus, trolleybus, HÉV suburban railway, etc.) [type]
j = Vehicle type (if available, model specification, e.g. SUV, etc.) [type]

Parameters taken into account to determine the target value:

Parameters of the target value achievable with the 2030 modal split targets:

- traffic performance (J-KM): taking into account the 2030 Modal Split target and the public transport network development targets
- car occupancy level: 1.3 people
- change in vehicle fleet composition: the share of e-cars will increase to 10%, the share of electric buses to 33% at the expense of diesel and petrol categories
- truck payload utilisation remains at the current estimate: J1 23%, J2-4 45%

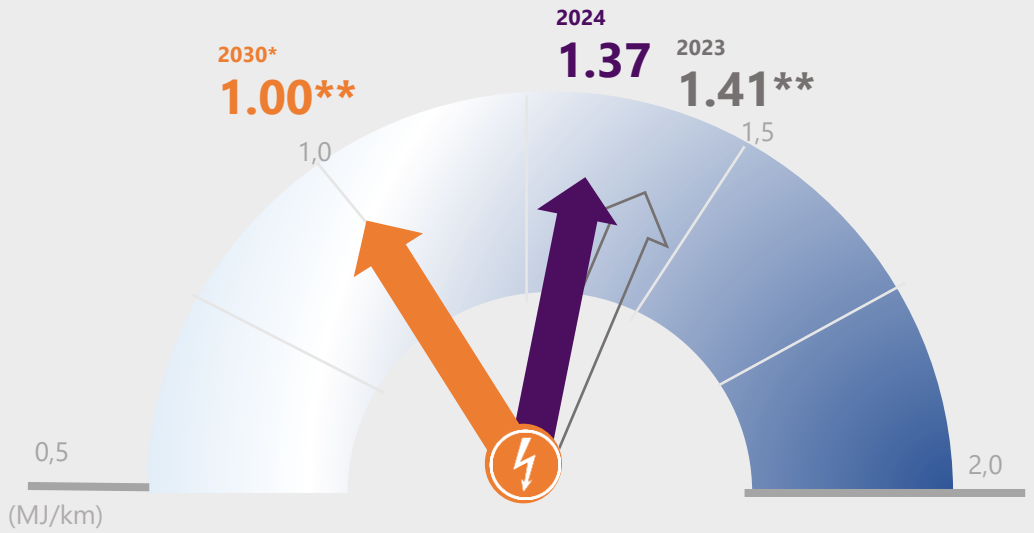
Data source: BKK Zrt.

Responsible department: BKK Mobility Strategy; Data analysis and modeling

A2.2 | TRANSPORT ENERGY CONSUMPTION

The value of the indicator improved slightly in 2024 due to the change in the composition of the vehicle fleet in Budapest.

2024 Results



* The parameters considered for the determination of the target values are indicated next to the calculation methodology on the next page.

Unit of measurement:	Base value 2023	Actual value 2024	Target 2030*
MJ/km	1.41**	1.37	1.0**

** The 2023 base value and the 2030 target value in the 2023 report have been revised due to the clarification of the calculation methodology:
- the travel sections outside the administrative boundaries of Budapest were filtered out of the passenger car traffic performance;
- The fuel consumption data of the vehicles have been reviewed and updated.

As a result of the revised calculation, the base value for 2023 has been changed from 2.82 to 1.41 MJ/km, while the target value for 2030 has been changed from 2.15 to 1.0 MJ/km.

Evaluation and notes

According to the Budapest SECAP , the total energy consumption in Budapest in 2015 was 27,928,557 MWh, 24% of which can be considered to be of transport origin. According to the Budapest Environmental Status Reports (BKÁÉ), the energy consumption of the transport sector decreased by 7.7% in 2023 in terms of the final consumption of energy carriers, compared to 2022. In SECAP (and consequently in the City Report and the annual Budapest Environmental Assessment (BKÁÉ) documents), the calculation of transport-related energy consumption differs from the BMT methodology developed in the SUMI project. While the SECAP methodology calculates energy consumption from the amount of fuel sold in Budapest, the **BMT methodology calculates on the basis of traffic performance, the composition of the vehicle fleet and the payload utilisation of goods vehicles**, but the results do not include the transport energy consumption of urban-suburban transport (railways, VOLÁN) due to a lack of data.

The indicator of transport energy consumption shows the energy consumption of urban transport in proportion to the annual average of motorised transport modes (passenger cars, buses, light and heavy goods vehicles). The recalculated energy consumption value of 1.41 MJ/km in 2023 will be considered as the base value.
To calculate the 2030 target, we assumed the achievement of BMT's 2030 modal split targets and a 10% share of the electric vehicle fleet, in line with the K2.1.1 target for the proportion of purely electric cars and trucks registered in Budapest.

The value of the indicator improved slightly by 2.83% in 2024 due to the change in the composition of the vehicle fleet in Budapest.
In order to **achieve the climate neutrality goal,** in addition to achieving the goals of the BMT modal split**, a change in traffic habits** will be necessary, highlighting the significant **increase in the average utilisation levels** of cars and goods vehicles**.**

BUDAPESTI KÖZLEKEDÉSI KÖZPONT

A2

A2.2 | TRANSPORT ENERGY CONSUMPTION

Definition

Urban transport within Budapest interpreted together with the mileage of vehicles arriving in Budapest and from the agglomeration: the total energy consumption of public transport and road passenger and freight traffic per passenger-kilometre and freight ton-kilometre (annual average for all motorised modes of transport).

Methodology of calculation

The indicator calculates energy consumption from transport based on the mode of transport, the composition of the vehicle fleet and the mileage of the fuel type, as well as the payload utilisation of goods vehicles.
The calculation of the traffic performance for 2023 is based on the data of the updated Strategic Version 07 of the Unified Traffic Model (EFM SV07) for passenger cars, the mileage values of public transport vehicles and the actual data of BKK's public services.

Traffic energy consumption $= \frac{(\sum_{ij} A_{ij}(\sum_k S_{jk} \times I_{jk} \times EC_k))}{TV_{pass} + (\frac{TV_{fre}}{8})}$

TV_{pass} = mileage for passenger transport (passenger-kilometres) [million passenger-km]
TV_{fre} = volume of freight transport for freight transport [million tonnes-km]
S_{jk} = k fuel type ratio j by vehicle type [%]
I_{jk} = energy intensity according to distance travelled by vehicle type j and fuel type k [l/km or MJ/km or kWh/km]
A_{ij} = volume of activity (distance travelled by mode i and vehicle type j) [million km/year]
EC_k = fuel energy content for k fuel [MJ/l or MJ/kg]
k = fuel type [type]
i = mode of transport (passenger car, truck, metro, tram, bus, trolleybus, suburban railway, etc.) [type]
j = vehicle type (if available, model specification, e.g. SUV, etc.) [type]

Vehicle fleet data were taken into account in the manner calculated for the A2.1 Transport GHG emissions indicator.

Parameters taken into account to determine the target value

2030 1.0 MJ/km – parameters taken into account to achieve **the modal split targets:**

- traffic performance (J-km): **taking into account the 2030 Modal Split target and the public transport network development targets;**
- car occupancy: 1.3 people, EFM data;
- change in vehicle composition: the **share of electric cars will increase to 10% and the share of e-buses to 33%** at the expense of diesel and petrol categories;
- the average payload utilisation of trucks will remain at the current estimated level: J1 **23%,** J2-4 **45%.**

Data source: BKK

Responsible department: BKK Mobility Strategy, Data Analysis and Modelling

BKK BUDAPESTI KÖZLEKEDÉSI KÖZPONT

A2.3 | TRANSPORT-RELATED AIR POLLUTION (PM2.5)

The value of the indicator improved slightly in 2024 due to the change in the composition of the vehicle fleet in Budapest.

2024 Results

* The parameters considered for the determination of the target values are indicated next to the calculation methodology on the next page.

Unit of measurement:
kg PM2.5 eq/person

Base value 2023	Actual value 2024	Target 2030*
0.26**	0.24	0.2**

** The 2023 base value and the 2030 target value in the 2023 report have been revised due to the clarification of the calculation methodology:
- the travel sections outside the administrative boundaries of Budapest were filtered out of the passenger car traffic performance;
- The fuel consumption data of the vehicles have been reviewed and updated.

As a result of the revised calculation, the base value for 2023 **has changed from 0.62 to 0.26 kg PM2.5 eq/capita**, while **the target value for 2030** has changed from 0.5 to **0.2 kg PM2.5 eq/capita**.

Evaluation and notes

PM2.5 particles, which can enter the respiratory tract, can pose a serious health risk. Long-term exposure to polluted air reduces life expectancy and the number of healthy life years. PM2.5 emissions from transport are caused by vehicle exhaust fumes (the concentration of which increases with congestion), tyres and brakes, as well as road surface wear and dust build-up. Transport-related air pollution can be improved primarily by reducing the volume of traffic and increasing the specific efficiency of the use of transport energy.

According to the Environmental Assessment of Budapest (BKÁÉ), the average value of PM2.5 aerosol, small particulate matter measured in Budapest in 2023 is: **12 µg/m³.**
The measurement results of about 5 measuring points have so far **complied with the relevant, EU-wide uniform limit value of 20 µg/m 3-year PM2.5 at all evaluable measuring points.** The 2021 WHO recommendation is stricter: 15 µg/m³ per year.
The value of the indicator decreased from 0.26 to 0.24 kg PM2.5 eq/person in 2024, due to the change in the composition of the vehicle fleet in Budapest.
Similarly to other climate indicators, the transport-related PM2.5 value per population is determined according to the SUMI methodology based on the mileage of traffic in Budapest and the composition of the vehicle fleet. The value of the indicator is determined by the worst state of air pollutant emissions (when the parameter value exceeds 2.15 kg PM2.5 equivalent per capita) and the best status (when the parameter value is 0 kg).
The threshold of 2.15 kg of PM2.5 equivalent per capita in the SUMI methodology is set taking into account the Gothenburg 2020 PM2.5 target, given that around 30% of urban emissions come from road transport. Since the values calculated for Budapest vary around 0.25, the scale of the indicator is plotted to 1.0 for easier illustration.

A2

A2.3 | TRANSPORT-RELATED AIR POLLUTION

Definition

The value of PM2.5 emissions (exhaust and non-exhaust gas origin) from urban transport, public transport, passenger and freight traffic per resident of Budapest.
PM2.5 (Particulate Matter) is an indicator of airborne particles with a diameter of up to 2.5 micrometres.
(EHI = Emission harm equivalent index [kg PM2.5 eq./cap per year])

Methodology of calculation

The indicator calculates total PM2.5 emissions according to mileage based on mode of transport, vehicle fleet and fuel type, and then divides them by the number of inhabitants. (BKK requests mileage data for passenger cars from the EFM, and mileage data for public transport vehicles from service providers.)
To calculate this metric, we used the following formula:

$$EHI = \frac{\sum_s Eeq_s \times (\sum_{ij} A_{ij} \times (NE_i + \sum_{ck} S_{ck} \times E_{ijkcs} \times I_k)) \times 1000}{cap}$$

Eeq_s = health effect value equivalent to the type of pollutant (PM2.5) [factor]
E_{ijkcs} = pollutant emissions: vehicle i per vehicle kilometre travelled with mode i, vehicle j, fuel type k and emission class c (g/km)
Aij = volume of activity (distance travelled by mode i and vehicle type j) [million j-km/year]
sijk = Proportion of fuel type J, J by vehicle type and mode i [proportion]
Cijkc = Emission class c ratio, K by fuel type, J by vehicle type and mode i [SHARE]
NE_{si} = i non-exhaust emissions of pollutants based on distance travelled [g/km]
(= 0 for nitrogen oxide)
cap = Number of inhabitants within the functional urban area [person]
k = type of energy (petrol, diesel, biofuel, electricity, hydrogen, etc.) [type]
i = vehicle-type mode of transport (passenger car, truck, metro, tram, bus, trolleybus, suburban railway, etc.) [type]
j = vehicle class (if available, model definition, e.g. SUV, etc.) [type]
s = type of substance restricted to nitrogen oxide and PM2.5 [type]
c = emission class (EURO emission standard) [type]

Vehicle fleet data were taken into account as specified in the A2.1 Transport GHG emissions indicator.

Parameters taken into account to determine the target value:

Parameters of the target value achievable by meeting the 2030 modal split targets:

- Traffic performance (J-KM): taking into account the 2030 Modal Split target and the public transport network development targets;
- car occupancy: 1.3 people, EFM data;
- change in vehicle composition: the **share of electric cars will increase to 10% and the share of e-buses to 33%** at the expense of diesel and petrol categories

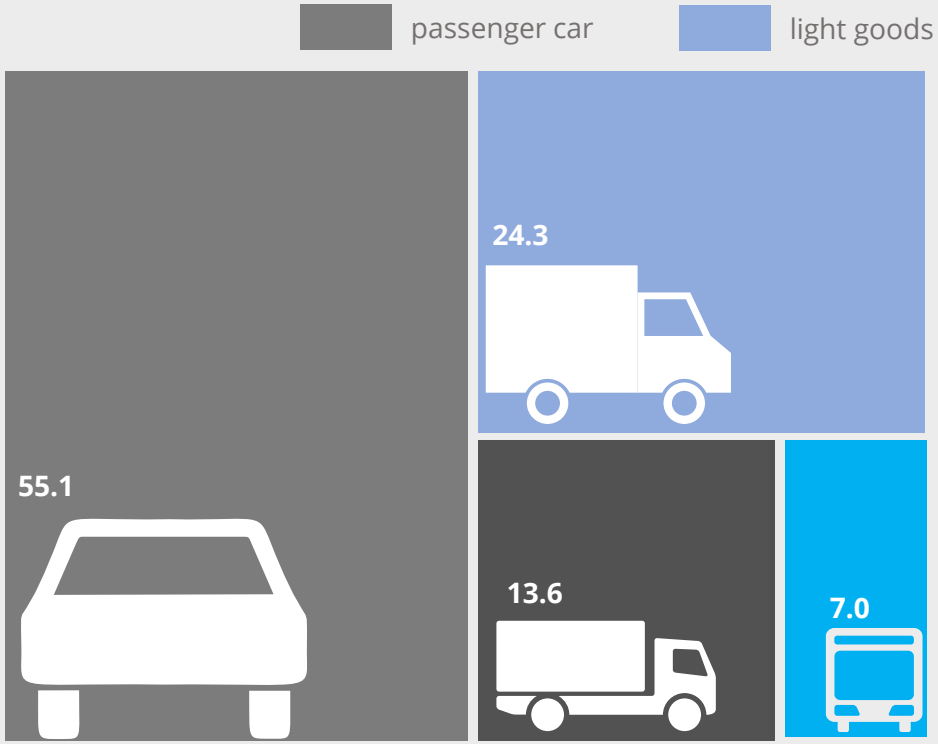
Data source: BKK

Responsible department: BKK Mobility Strategy, Data Analysis and Modelling

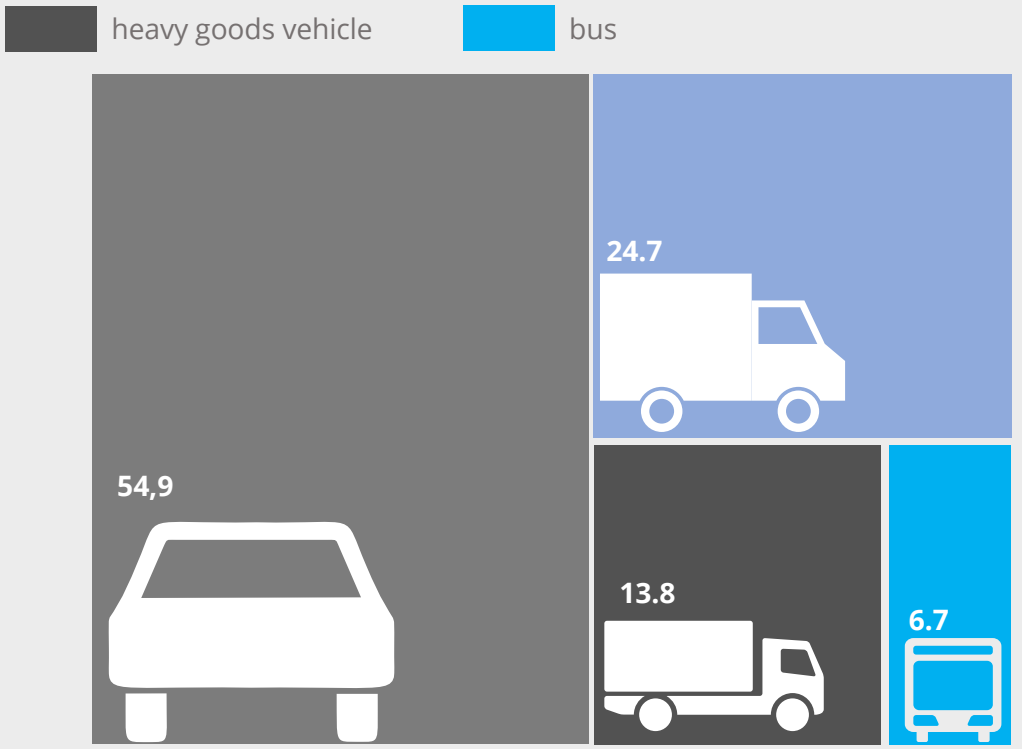
THE BUDAPEST CHANGE IN THE SOURCE OF PM2.5 POLLUTION DUE TO THE CHANGE IN THE COMPOSITION OF THE VEHICLE FLEET IN BUDAPEST

A2

Transport-related PM2.5 pollution by vehicle type [%] in Budapest based on the composition of the 2023 vehicle fleet



Transport-related PM2,5 pollution by vehicle type [%] in Budapest based on the composition of the 2024 vehicle fleet



* We revised the 2023 baseline value presented in the 2023 report due to the refinement of the calculation methodology:
- we excluded from passenger car traffic performance the trip segments outside the administrative boundaries of Budapest;
- we reviewed and updated vehicle fuel consumption data.

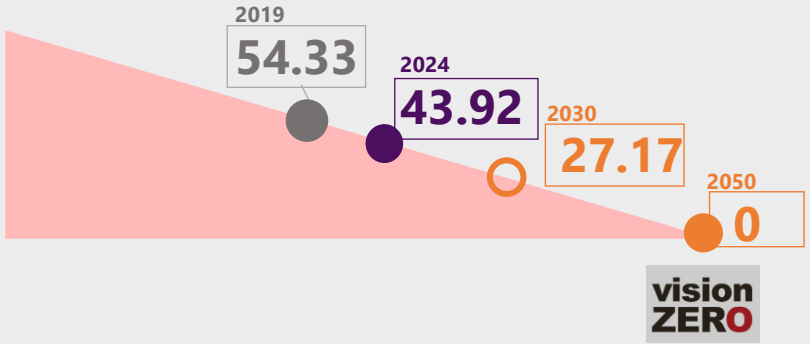
A3.1 ROAD SAFETY INDEX – SERIOUS INJURIES

In 2024, the number of seriously injured persons approached the previous lowest level recorded in 2020, when traffic volumes were low due to Covid.

2024 results – within the administrative boundaries of Budapest

740 persons were seriously injured in road traffic incidents.

Indicator value per 100,000 inhabitants:



BRFK–BKK cleaned data within the administrative boundaries of Budapest (excluding M0/M2/M4/M6/M51)

Unit of measurement:
persons/year/100,000 population

Baseline values 2019
Index value: **54.33**
Number of seriously injured persons: **933**

Actual values 2024
43,92
740 persons

Target 2050
Vision Zero: **0** persons

Target 2030
50% reduction by 2030
Index target value: **27.17**

Evaluation and notes

After the slow increase that had continued since 2012, the number of road traffic incidents involving personal injury and the number of persons injured in these incidents decreased markedly in 2020 due to the reduction in motor vehicle traffic associated with the coronavirus pandemic, and since then have shown a stagnating trend with a slight increase.

The number of persons seriously injured in traffic incidents in Budapest – following the significant decline due to Covid – began to increase from 2022, and then fell back to the 2020 level in 2024.

After the low point in 2022, the number of Budapest residents stagnated during 2023–24, and the index value improved significantly overall. Compared with the previous decade, the number of road traffic incidents involving personal injury is on average 12,2% lower. While in 2023 the decrease in the number of incidents and in the number of injured persons was accounted for by the decrease in the number of incidents resulting in minor injuries – and from 2022 to 2023 the number of incidents involving serious injuries increased by 4,6% –, **whereas in 2024 the pattern reversed favourably: the share of incidents involving serious injuries was already 20.3% lower than the 2019 baseline, while the share of those involving minor injuries stagnated. In 2024, the number of seriously injured persons compared with 2023 decreased by 18,8%, from 911 persons to 740 persons thus in 2024 the number of seriously injured persons approached the previous lowest level, the 2021 level (677 persons), when traffic volumes were low due to Covid.**

In order to improve the safety indicators and achieve the Vision Zero objective, better cooperation between institutions and an expansion of the resources available for increasing road safety would be important.

A3

A3.1 ROAD SAFETY INDEX – SERIOUS INJURIES

Definition

The indicator presents the number of persons seriously injured in road traffic incidents involving personal injury in Budapest. The rate per 100,000 population shows the number of persons seriously injured in road traffic incidents in the capital city. With this indicator, we monitor the implementation of the Vision Zero road safety principle. For the calculation of the indicator, from the data published by the Hungarian Central Statistical Office (KSH), **we did not take into account incidents occurring outside the administrative boundary of Budapest,** as well as incidents occurring within the administrative boundary of Budapest on main roads, expressways and motorways not managed by Budapest Közút Zrt. (e.g. M0, M3 from Szentmihályi út to the administrative boundary of Budapest), and the number of persons injured in those incidents.

Calculation methodology

A serious personal injury road traffic incident is any, event occurring on the pavement, roadway or on a private road open to public traffic, in which at least one moving vehicle was involved, and as a consequence of which at least one person was seriously injured, requiring more than 8 days to recover. For the indicator, the number of persons seriously injured as defined above is recorded, this is multiplied by 100,000, and the resulting value is then divided by the population measured in the given year.

Data source: BKK / KSH: https://www.ksh.hu/stadat_files/ege/hu/ege0068.html; https://www.ksh.hu/stadat_files/ege/hu/ege0070.html

Responsible department: Mobility Development Directorate, Road Safety; Mobility Strategy

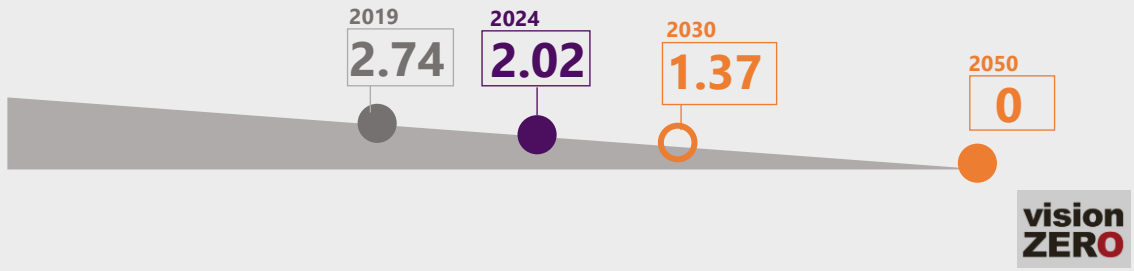
A3.2 ROAD SAFETY INDEX – FATALITIES

In 2024, the number of fatalities decreased by 28% compared to the base year, which is a significant improvement.

2024 results – within the administrative boundaries of Budapest

34 people killed in road traffic incident

Indicator value per 100,000 inhabitants:



BRFK–BKK cleaned data within the administrative boundaries of Budapest (without M0/M2/M4/M6/M51).

Unit of measurement:
person/year/100,000 inhabitants

Base values 2019
Index value: **2.74**
Deaths: **47**

Actual values 2024
2.02
34 people

Target 2050
VisionZero: **0 people**

Target 2030
50% reduction by 2030
Index target: **1.37**

Evaluation and notes

Our aim is to reduce the number of road deaths in Budapest
- by 50% by 2030
- and to zero by 2050.

After a slow increase since 2012, the number of road traffic incidents with fatal injuries and the number of deaths decreased in 2020 as a result of the decrease in vehicle traffic related to the coronavirus epidemic. After an increase in 2021-2022, fatal injury events and the number of deceased persons are again on a downward trend. **In 2024, the number of people who died in fatal injury events (34 people) is close to the lowest value so far in 2020 (30 people).**
The number of deceased and injured persons has averaged 1.2 per incident in recent years, which can be considered unchanged.

In 2024, the number of fatalities decreased by 28% from 47 to 34 compared to the base year of 2019, which is a significant improvement, but such a more favourable development of the indicator does not necessarily indicate a clear trend, it can also be traced back to the natural fluctuation of the data series.

A3

A3.2 | ROAD SAFETY INDEX – FATALITIES

Definition

The indicator presents the number of persons killed as a result of road traffic accidents involving personal injury in Budapest. The ratio shows the number of persons killed as a result of road traffic accidents per 100,000 inhabitants. For the calculation of the indicator, from among the data published by the HCSO, **we did not take into account accidents occurring outside the administrative boundary of Budapest,** as well as accidents occurring within the administrative boundary of Budapest on main roads, expressways and motorways not managed by Budapest Közút Zrt. (e.g. M0, M3 from Szentmihályi út to the administrative boundary of Budapest), and the number of persons killed in these accidents. This indicator is used to monitor the implementation of the VisionZero road safety principle.

Calculation methodology

A fatal road traffic accident is any accident occurring on the pavement, on a public road or on a private road open to public traffic, in which at least one moving vehicle was involved and as a result of which at least one person died at the scene of the accident or within 30 days. For the indicator, the number of persons killed as a result of the fatal accidents defined above is recorded, multiplied by 100,000, and then the resulting value is divided by the population.

Measures supporting the achievement of the VisionZero target

The outcome of accidents involving personal injury is significantly influenced by vehicle speed; therefore, among the measures, priority is given to aligning the permitted speed with the network and public space function of the roads, as well as to stricter enforcement of speed limits.
In infrastructure interventions, we place particular emphasis on aspects serving the safety of the most vulnerable road users.
In addition to infrastructure redesign, enhanced enforcement and the updating of the regulatory framework, greater emphasis must also be placed on awareness-raising and attitude-shaping among road users.

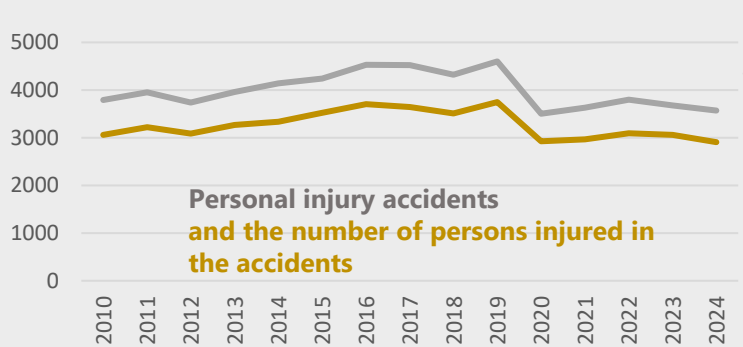
Data source: BKK Zrt. / Budapest Közút Zrt. / Magyar Közút Nonprofit Zrt. / HCSO https://www.ksh.hu/stadat_files/ege/hu/ege0070.html https://www.ksh.hu/stadat_files/ege/hu/ege0080.html

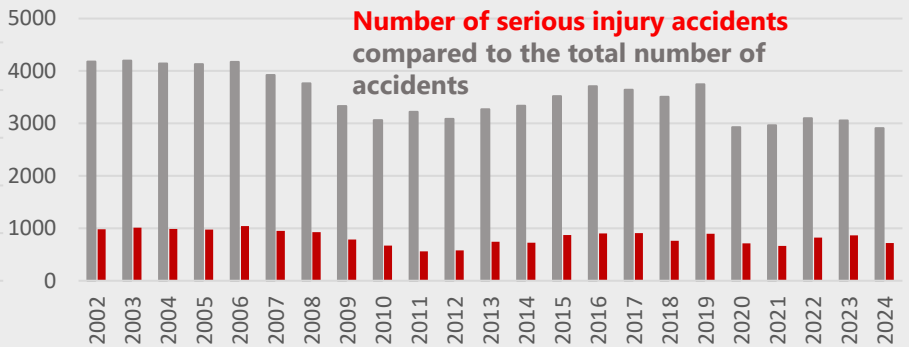
Responsible department: Mobility Strategy and Planning, Road Safety and Accessibility; Mobility Strategy

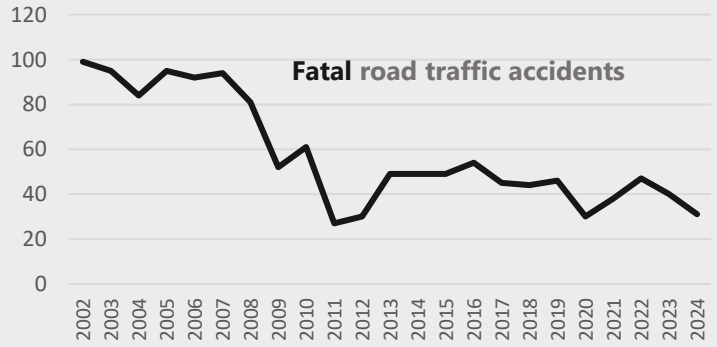
ROAD SAFETY CLEANSED DATA INTERPRETED WITHIN THE ADMINISTRATIVE BOUNDARIES OF BUDAPEST

A3

BUDAPEST / tényleges év		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
lakosságszám		1719342	1705309	1697343	1698106	1696128	1702297	1712210	1721556	1733685	1727495	1730350	1733837	1741601	1738570	1728929	1723033	1722363	1717144	1690503	1672443	1671004	1686222	1685000
BRFK–BKK tisztított adatok Budapest közigazgatási határain belül (M0/M2/M4/M6/M51 nélkül)	Személysérüléses közúti közlekedési események száma összesen [eset]	4179	4194	4143	4127	4172	3921	3762	3331	3059	3219	3087	3268	3337	3520	3707	3644	3507	3747	2926	2963	3096	3057	2907
	Súlyos sérüléses közúti közlekedési események [eset]	982	1010	986	977	1042	949	924	785	669	558	577	741	724	874	904	909	764	899	711	666	824	864	718
	Halálos közúti közlekedési események [eset]	99	95	84	95	92	94	81	52	61	27	30	49	49	49	54	45	44	46	30	38	47	40	31
BRFK–BKK tisztított adatok Budapest közigazgatási határain belül (M0/M2/M4/M6/M51 nélkül)	Közúti közlekedési esemény során megsérült személyek száma [fő]	5181	5210	5152	5095	5198	4938	4782	4164	3789	3955	3736	3959	4137	4238	4528	4522	4324	4600	3503	3630	3795	3675	3572
	Közúti közlekedési eseményben súlyosan sérült személyek száma [fő]	1070	1113	1060	1041	1144	1032	997	843	707	585	601	770	758	913	945	958	810	933	742	677	871	911	740
	Közúti közlekedési események során halálos sérülést szenvedett személyek száma [fő]	106	96	87	98	96	95	86	55	65	29	31	50	50	51	55	48	45	47	30	41	49	40	34
A3.1 | Közúti közlekedésbiztonsági index – súlyos sérültek		62,23	65,27	62,45	61,30	67,45	60,62	58,23	48,97	40,78	33,86	34,73	44,41	43,52	52,51	54,66	55,60	47,03	54,33	43,89	40,48	52,12	54,03	43,92
A3.2 | Közúti közlekedésbiztonsági index – halálos áldozatok		6,17	5,63	5,13	5,77	5,66	5,58	5,02	3,19	3,75	1,68	1,79	2,88	2,87	2,93	3,18	2,79	2,61	2,74	1,77	2,45	2,93	2,37	2,02







ROAD SAFETY DATA

A3

Presentation of the differences resulting from the methodological change, comparison of the indicator values reported in the 2023 and 2024 reports

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
BRFK–BKK cleaned traffic safety data (within the administrative boundaries of Budapest, excluding the M0, M2, M4, M6 and M51 motorways)																							
A3.1 Road Safety Index – serious injuries	62,23	65,27	62,45	61,30	67,45	60,62	58,23	48,97	40,78	33,86	34,73	44,41	43,52	52,51	54,66	55,60	47,03	54,33	43,89	40,48	52,12	54,03	43,92
A3.2 Road Safety Index – Fatalities	6,17	5,63	5,13	5,77	5,66	5,58	5,02	3,19	3,75	1,68	1,79	2,88	2,87	2,93	3,18	2,79	2,61	2,74	1,77	2,45	2,93	2,37	2,02
With KSH (HCSO) data																							
A3.1 Road Safety Index – serious injuries	63,28	66,85	63,57	61,83	68,51	61,04	58,70	49,78	41,24	34,91	35,31	45,22	43,93	53,15	55,58	56,18	50,22	55,67	45,49	40,90	52,96	54,74	44,69
A3.2 Road Safety Index – Fatalities	6,28	5,75	5,48	5,89	5,95	5,87	5,08	3,25	3,86	1,74	1,91	2,88	2,93	2,99	3,30	2,84	2,90	2,91	1,95	2,57	3,05	2,61	2,49

The new indicator values calculated on the basis of **cleaned BRFK–BKK data are more favourable** than the values calculated on the basis of the previous data. The difference arises from the fact that a narrower dataset was taken into account in the calculation.
Due to the specific features of police on-site investigation and data recording, as well as errors in GPS coordinate-based location identification, events that in fact occurred outside the administrative boundaries of Budapest may also be recorded in the HCSO database as cases that occurred in Budapest. The separation of cases that occurred outside and inside the administrative boundaries raises several issues:

- Due to the inaccuracy of GPS coordinate-based location identification, the data cannot be reliably filtered on this basis.
- Certain sections of the M0 motorway alternately run inside and outside the administrative boundary of Budapest; however, none of these sections is under the management of Budapest.

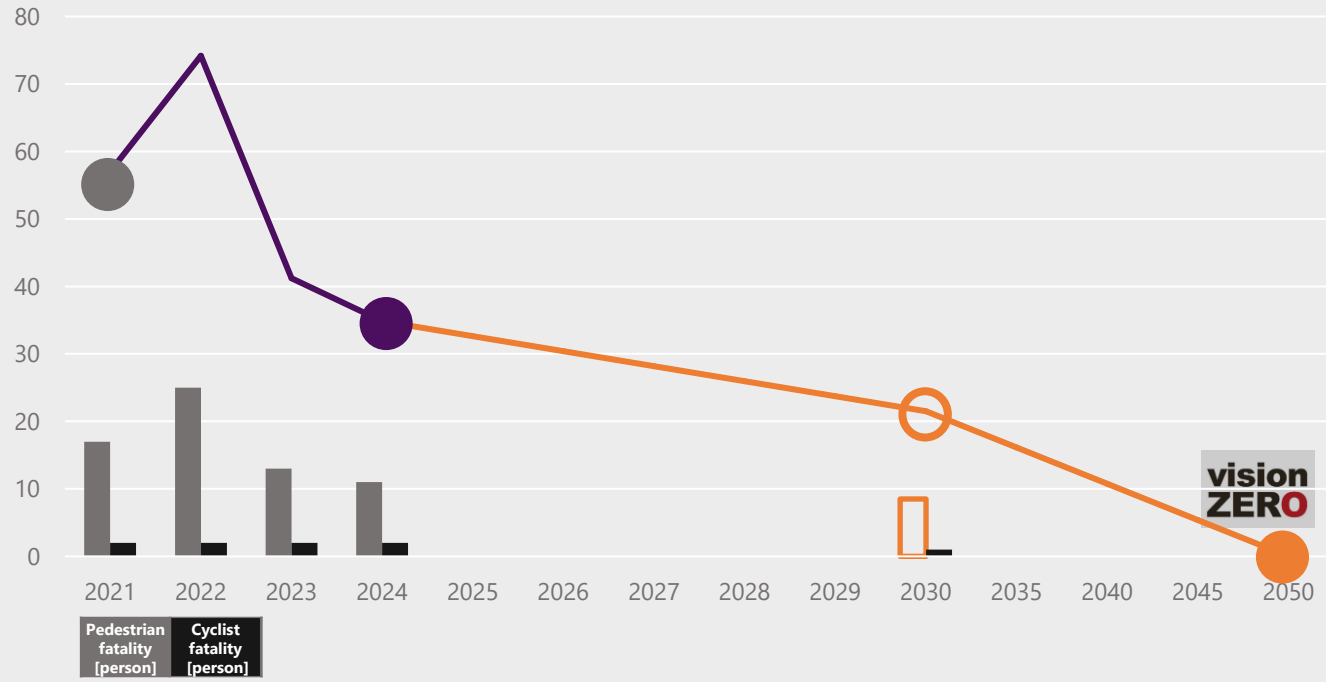
Taking all this into account, we decided that in the calculation of the indicator, within the administrative boundary of Budapest **events that occurred on main roads, expressways and motorways not under the management of Budapest Közút Zrt.,** (e.g. M0, M3 from Szentmihályi út to the administrative boundaries of Budapest) **and the number of persons injured or killed in these events are not considered.**

The difference between the number of events and the number of injured persons fluctuates from year to year. The difference is outstanding in 2018; the number of events was 238, while the number of injured persons was 302. Disregarding the year 2018, the difference in the number of events fluctuates between 15 and 68, while the difference between the number of injured and deceased persons fluctuates between 24 and 97. These differences may arise from changes in the data recording methodology, as well as from the opening of new road sections within the administrative boundary but not under municipal management, such as the opening of the M51 in August 2013.

A3.3 | RISK LEVEL OF ACTIVE MODES

Between 2021 and 2024, the share of users of active modes in Budapest's modal split increased; nevertheless, the number of fatalities decreased significantly.

2024 results



Unit of measurement: [persons/(million trips/year)]

Baseline value 2021
57

Actual value 2024
35

Target 2050
VisionZero: **0**

Target 2030
22

By 2030, a 50% reduction in the number of fatalities compared to the 2021 baseline value.

Evaluation and notes

The indicator shows the number of people in Budapest travelling by active modes (on foot and by bicycle) who died as a result of road traffic incidents causing personal injury, relative to the number of trips made by users of active modes.

Between 2021 and 2024, the share of active modes in Budapest's modal split increased from 19% to 24% (A1.1 modal split), yet the number of fatalities decreased significantly – from 19 persons to 13 persons. Compared to the cities participating in the SUMI project, the indicator's value of 35–74 means that the risk level of active modes in Budapest can be considered low.

Our objective is the reduction of the number of fatalities and thus the risk level of active modes in line with the VisionZero principle

- by 50% by 2030
- to zero by 2050

	2021	2022	2023	2024
Pedestrian fatality [person]	17	25	13	11
Cyclist fatality [person]	2	2	2	2
A3.3 index	**57**	**74**	**41**	**35**

A3.3 | RISK LEVEL OF ACTIVE MODES

A3

Definition

The risk level indicator for active modes shows the number of people travelling by active modes (walking and cycling) who died as a result of road traffic incidents involving personal injury in Budapest, relative to the number of trips made by active mode users.
This indicator is used to monitor the implementation of the Vision Zero road safety principle – with particular attention to the most vulnerable road users.

Calculation methodology

A fatal road traffic incident among users of active modes includes any fatal incident that occurred on a public road or on a private road open to public traffic, in which the victim was travelling by active mode, i.e. walking or cycling. For the indicator, we take the number of fatal incidents defined above, multiply it by 1000, and then divide the resulting value by one millionth of the annual trips associated with the respective modes of transport.

$$\text{A3.3 index} = \left(\sum K_i \,/\, \sum Exp_i\right) \times 1{,}000$$

where:
i = the type of active transport mode (walking, cycling)
K_i = the number of deaths by transport mode (number of persons who died at the scene or within 30 days) [persons]
Exp_i = the number of trips in Budapest [million trips/year], taking into account the modal split values interpreted on the basis of the definition of indicator A1.2

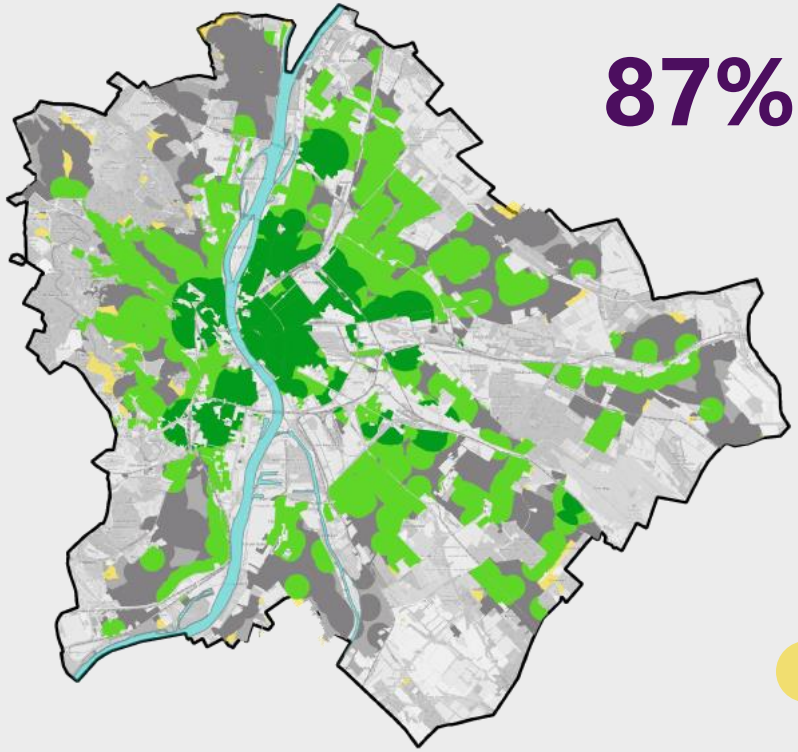
Data source: BKK / Budapest Közút Zrt. / Magyar Közút Nonprofit Zrt.

Responsible department: Mobility Strategy and Planning, Road Safety and Accessibility; Mobility Strategy

A4.1 | TEMPORAL AND SPATIAL ACCESS TO PUBLIC TRANSPORT

87% of Budapest's population has temporally and spatially high or very high access to public transport.

Results for 2024



87%

- 1 — Coverage of residential areas with very high temporal and spatial access
- 1 — Coverage of residential areas with high temporal and spatial access
- 0,5 — Coverage of residential areas with medium temporal and spatial access
- 0 — Coverage of residential areas with low temporal and spatial access
- 0 0 — No access / Residential area

Unit of measurement:
%

Baseline value 2024
87%

Actual value 2024
87%

Target 2030

* Block-level population data based on 2022 census data.

Evaluation and notes

The indicator is a weighted index showing the extent to which the population in a given settlement has access to public transport of an adequate service level (the access levels are defined on the next page). The definition of the indicator was developed as part of the SUMI project, but in 2018–2019, BKK did not yet have the GIS background required to determine the indicator. During preparation of the 2024 report, we determined the indicator's value for Budapest for the first time, and this will be regarded as the baseline value going forward.

To calculate the indicator, we first designated the **500-metre catchment areas of bus and tram stops,** as well as the **1,000-metre catchment areas of metro and railway stations as the crow flies and then determined service frequency** for each stop. The catchment areas were colour-coded based on the definitions of the access levels, and for the areas covered by patches of the same colour we determined the population, which we weighted using the **weights assigned to the access levels:**

- low access or no access received a multiplier of 0
- medium access received a multiplier of 0.5
- high and very high access received a multiplier of 1

To determine the indicator value, the weighted population was proportioned to the total population:

Access level	population* (fő)	population (%)
Very high	547,354	32.5%
High	737,597	43.8%
Medium	351,835	20.9%
Low	33,451	2.0%
No service	14,750	0.9%

Description of temporal and spatial access levels

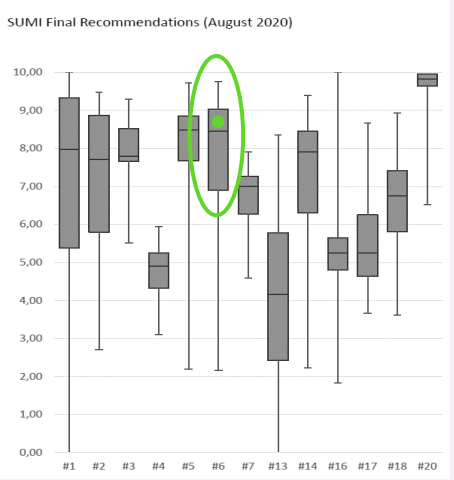
weights		
1	Very high access	People who live less than **5 minutes** (within a radius of 500 metres) from a bus or tram stop with **more than 10 departures** per hour **AND** less than **10 minutes** (within a radius of 1,000 metres) from a metro or train station with more than **10 departures per hour** (both conditions must apply).
1	High access	People who live less than 5 minutes (within a radius of 500 metres) from a bus or tram stop with more than 10 departures per hour **OR** less than 10 minutes (within a radius of 1,000 metres) from a metro or train station with more than 10 departures per hour (but they don't have to be both, otherwise the temporal and spatial availability would be very high).
0,5	Medium access	People who live less than **5 minutes** (within a radius of 500 metres) from a bus or tram stop with **4 to 10 departures** per hour **AND/OR** less than **10 minutes** (within a radius of 1,000 metres) from a metro or train station with **4 to 10 departures** per hour.
0	Low access	People who live less than **5 minutes** (within a radius of 500 metres) from a bus or tram stop with **fewer than 4 departures** per hour **and/or** less than **10 minutes** (within a radius of 1,000 metres) from a metro or train station with **fewer than 4 departures** per hour (or both).
0	No access	People who live **more than 5 minutes** (within 500 metres) of a bus or tram stop **AND more than 10 minutes** (within 1,000 meters) of a metro or train station (both conditions must apply).

		Metro and train		
		distance** < = 1,000 metres / 10 minutes walk		
Bus and tram	Frequency* (departure/hour)	> = 10 departures/hour	> = 4 and < 10 departures/hour	< 4 departures/hour
distance** < = 500 metres / 5 minutes walk	> = 10 departures/hour	Very high access	High access	High access
	>= 4 and < 10 departures/hour	High access	Medium access	Medium access
	< 4 departures/hour	High access	Medium access	Low access

* Frequency: average hourly services on weekdays between 6 a.m. and 8 p.m.
** Distance is measured as the straight-line radius around the given stop.

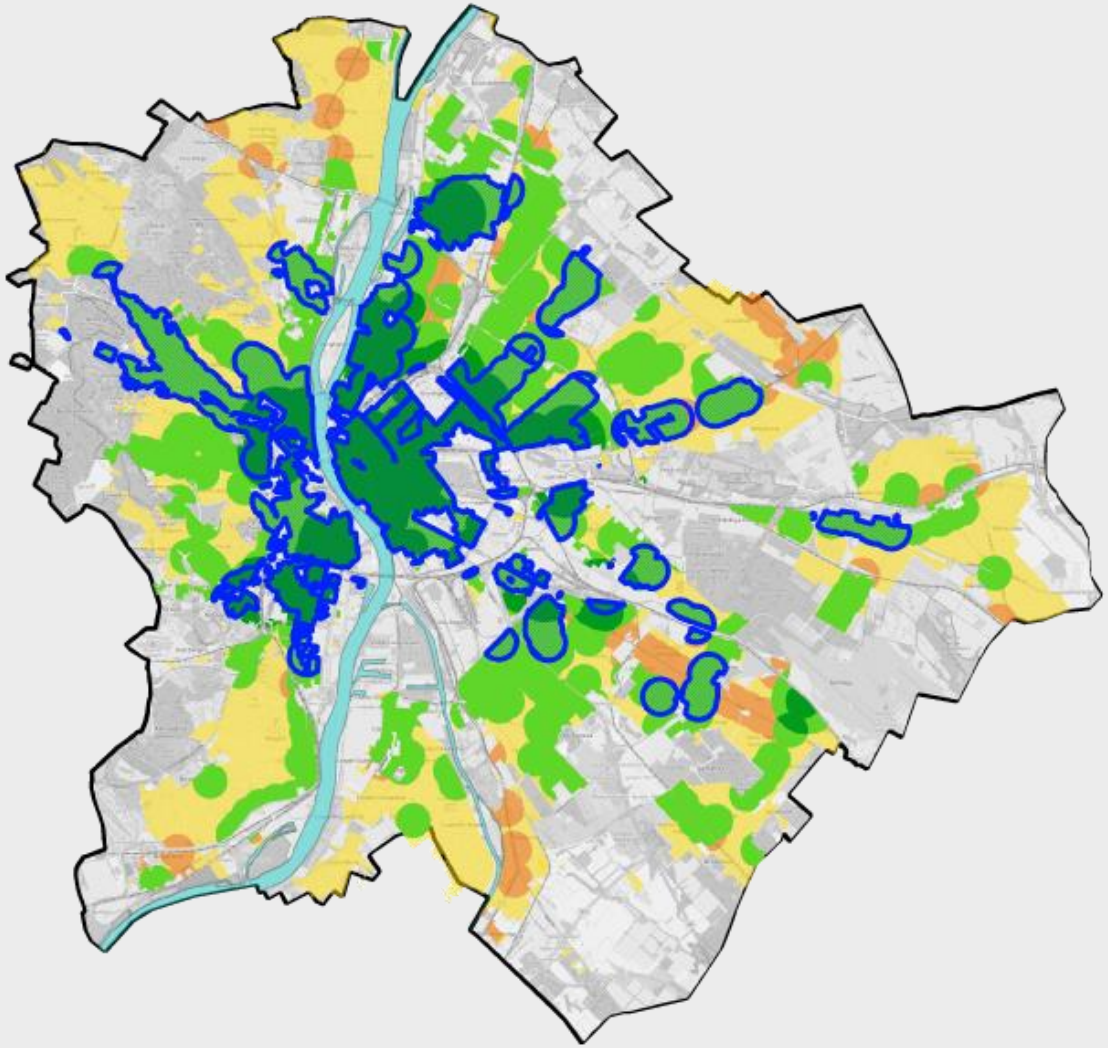
The indicator value of 87% for Budapest, compared with the values measured in the cities participating in the SUMI project during 2018, can be considered very good, above average, and exceeds the median value of 85%. This means that, by international standards, **Budapest's public transport system** is of a high standard both in terms of spatial coverage and temporal accessibility calculated on the basis of service frequency, and **provides an easily accessible service for the population.**

The city aims to improve spatial accessibility to the service by increasing the share of competitive services provided on the core network, so that by making public transport more attractive, the modal split share of public transport increases and car use decreases.



#	Title of the SUMI indicator
#1	Affordability of public transport services for the poorest Affordability of public transport for the poorest group
#2	Physical and audiovisual accessibility in public transport Accessibility of public transport for mobility-impaired groups
#3	Transport-based air pollution (PM2.5) Air pollutant emission
#4	Resident involvement in traffic noise pollution Noise hindrance
#5	Road Safety Index – fatalities Road deaths
#6	**Temporal and spatial access to public transport** **Access to mobility services**
#7	Quality of public spaces indicator Quality of public spaces
#13	GHG emissions from transport Greenhouse gas emissions
#14	Road congestion indicator Congestion and delays
#16	Active mobility opportunities Opportunity for active mobility
#17	Degree of mobility integration in 28 PBXs Multimodal integration
#18	Customer satisfaction index Satisfaction with public transport
#20	Active mode risk level Traffic safety active modes

THE PUBLIC TRANSPORT COMPETITIVE, HIGH-ACCESSIBILITY NETWORK AND ITS SPATIAL COMPARISON WITH THE BACKBONE NETWORK



The comparison of the indicators shows that a large part of the competitive network
overlaps with residential areas with high/very high temporal and spatial accessibility.

- Coverage of residential areas with very high temporal and spatial access
- Coverage of residential areas with high temporal and spatial access
- Coverage within a 500-metre straight-line radius along the competitive network
- Coverage within a 500 metre straight-line radius along the backbone network*
- Residential area

* Network interpreted on the basis of the definition of indicator 7.2 Spatial accessibility of the public transport backbone network.

A4.1 | TEMPORAL AND SPATIAL ACCESS TO PUBLIC TRANSPORT

A4

Definition

The indicator measures the proportion of residents who have appropriately timed and spatially adequate access to public transport services. Access is determined based on the distance from stops, the public transport modes available there, and service frequency at the given stop. Service frequency, or frequency of departures, refers to the average hourly number of departures on weekdays between 6 a.m. and 8 p.m. The distance from stops refers to a straight-line distance of 500 metres and 1,000 metres, respectively. The definitions of the temporal and spatial access levels are summarised in the table on page 52.

Calculation methodology

Based on the definitions of the access levels, we determine the population figures belonging to the access categories, which are weighted according to the corresponding access level:

- low access or no access receives a weighting factor of 0
- medium access receives a weighting factor of 0.5
- high and very high access receives a weighting factor of 1

The weighted population figure is proportioned to the total population, and this gives the percentage temporal and spatial accessibility value.

Temporal and spatial access to public transport among the population of Budapest

$= \frac{\sum_i PR_i \times W_i}{cap}$ PRi = i number of people living in access zone i, identified according to the variation of the public transport access levels above.

Wi = weighting, which serves to identify how adequate access to mobility services is (depending on the variation of the different public transport access levels).

The Wi weighting is predefined in the SUMI methodology, and identifies adequate accessibility as follows:

1 = where fully adequate
0,5 = where not fully adequate
0 = where inadequate
Cap = population of Budapest [persons]

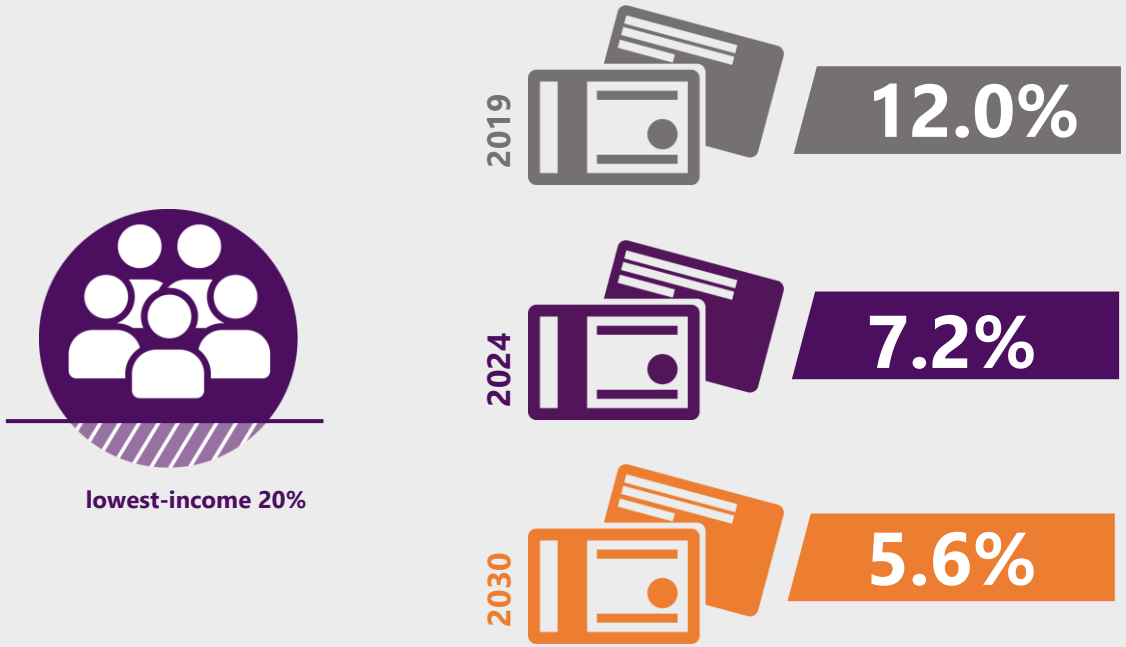
Data source: BKK

Responsible department: BKK Mobility Development, Mobility Strategy

A4.2 AFFORDABILITY OF PUBLIC TRANSPORT SERVICES FOR THE POOREST

Financial access to public transport for the lowest-income 20% of Budapest's population has been continuously improving since 2015.

2024 results



Unit of measurement:
%

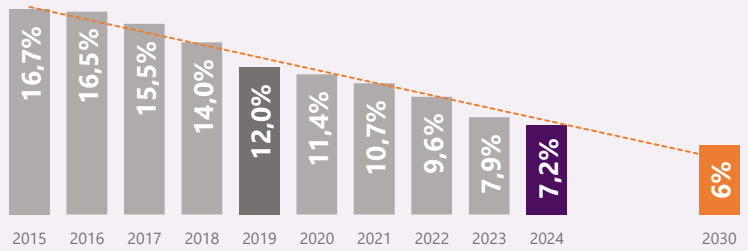
Baseline value 2019	Actual value 2024	Target 2030
12.0%	7.2%	5.6%

Evaluation and notes

The indicator **shows the financial access to public transport for the lowest-income 20% of Budapest's population.**
Between 2019 and 2024, the price of the adult public transport pass remained constant at 9,500 HUF, which in 2024 decreased to 8,950 HUF due to fare integration. According to the SUMI methodology, we calculate with a full-fare pass, but in Budapest public transport is free of charge for children under 14 and people over 65, and this discount accounts for 12% of the total population in the case of 0–14-year-olds and 21% in the age group over 65.

The value of the indicator shows continuous improvement: it decreased significantly from 12.0% in 2019 to 7.2% by 2024. This is explained by the stagnation of pass prices, then their decrease in 2024, and continuously increasing average earnings.

The value of the indicator for the **total population of Budapest** in terms of income conditions is **3.2%,** which places it in the middle range in international comparison: Sao Paulo 14.3%; London 7.5%; Paris 3.1%; Vienna 1.7% - based on 2023 data.
(Source: Picodi.com reports and analytics – The comparison of public transport fares in large cities)



A3

A4.2 AFFORDABILITY OF PUBLIC TRANSPORT SERVICES FOR THE POOREST

Definition

The indicator measures the affordability of public transport, showing the income-based access of those with the lowest earnings to public transport services in Budapest. The percentage ratio of the price of the public transport pass and the income of households in Budapest belonging to the lowest income quartile.

Calculation methodology

The price of the adult monthly pass providing unlimited travel within the territory of Budapest is divided by the average per capita income of Budapest residents belonging to the bottom 20%-of the income distribution. The income data are taken from the website of the Hungarian Central Statistical Office: https://www.ksh.hu/stadat_files/jov/hu/jov0055.html, and the ratio of the national data / Budapest 14.1.2.4. Gross per capita income and net income by region and settlement type income value is applied for determining the income quintiles.

Data source: BKK / HCSO

Responsible department: BKK Customer Experience and Analysis; Mobility Strategy and Planning, Road Safety and Accessibility; Mobility Strategy

A4.3 PHYSICAL AND AUDIOVISUAL ACCESSIBILITY OFPUBLIC TRANSPORT

Considering all public transport sectors together, the 76% accessibility rate can also be considered good at European level.

Results for 2024

Trip-weighted accessibility level in public transport

Unit of measure:
%

Baseline value 2024	Actual value 2024	Target 2030
76%	76%	88%

The value of the indicator for 2024 was already published in the 2023 report. Based on the feedback received, the 2024 data (trip volume values, metro sector indicator) were refined, therefore in the 2024 report we present the indicator data calculated with the revised values.

Evaluation and notes

Considering all public transport sectors together, the 76% accessibility rate can also be considered good at European level; in the SUMI project it is around the median value of the 46 participating cities. (The indicators calculated as part of the SUMI project are summarised on page 120.) There are large differences by sector: in some cases, the accessibility of vehicles could be improved, in others the accessibility of stops and stations. Our objective is to improve these proportionally by 2030.

Values considered in the calculation of the indicator, by sector:

- share of accessible ticket vending machines and ticket offices;
- share of vehicles equipped with a visual passenger information system;
- share of vehicles equipped with a voice-based passenger information system;
- share of low-floor vehicles;
- share of vehicles with a designated wheelchair/pushchair space;
- share of stops equipped with a voice-based passenger information system;
- share of stops with barrier-free access;
- share of stops with barrier-free platform–vehicle access.

Comment: due to data gaps, the indicator does not include MÁV and Volán vehicle and stop data within Budapest, nor for the agglomeration.

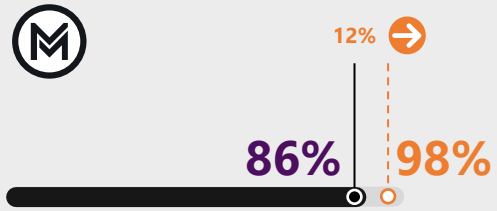
A4

A4.3 | PHYSICAL AND AUDIOVISUAL ACCESSIBILITY OF PUBLIC TRANSPORT

Trip-weighted accessibility level:

More than 3,285,000 journeys are made in Budapest every day by public transport

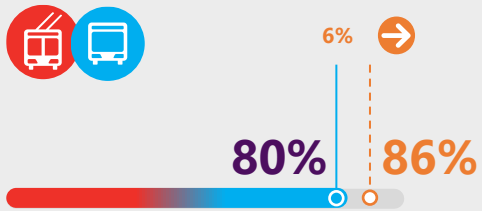
Level of physical and audiovisual accessibility of public transport sectors:



In the metro sector

818,739 trips/workday

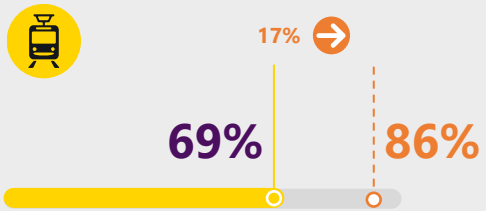
In 2024, the accessibility related to the Határ út metro station was completed.
To achieve the metro sector's target, rolling stock and infrastructure developments are required and barrier-free accessibility of metro platforms on lines M1 and M2 must be improved.



In the trolleybus and bus sector

1,355,424 trips/workday

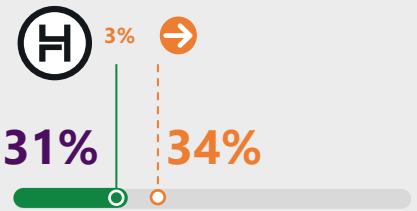
In order to achieve the sectoral target value, in addition to the complete accessibility of the bus fleet, a significant development is required in the accessibility of stops. The goal is to make all of the 3,878 bus and trolleybus stops accessible (according to ForTe data, 3,275 are barrier-free for the time being). In addition, about 1,000 stops should also have audio passenger information.



In the tram sector

932,426 trips/workday

In order to achieve the sectoral target, in addition to the planned procurement of approximately 100 CAF vehicles, significant improvements are needed in the accessibility of stops. Of the about 643 tram stops, 500 should be barrier-free in all three respects, compared to the current 322.



In the suburban railway sector

156,469 trips/day

The development of suburban railway vehicles is no longer realistic until 2030 **, so 34%** is achievable with the development of suburban railway stations .To do this, each of the 69 stops must be equipped with a voice-based passenger information system (which 35 stops currently have).

In 2024, 91% of ticket vending machines and ticket offices, 303 units, were barrier-free, with no change compared to 2023.
It is true for all sectors that the 334 operating BKK ticket vending machines and ticket offices **must be made 100%** accessible.

A4.3 | PHYSICAL AND AUDIOVISUAL ACCESSIBILITY OF PUBLIC TRANSPORT

Definition

This indicator determines the physical and audiovisual accessibility of public transport services (the services of the MÁV Group and BKK) for people with reduced mobility.
People with reduced mobility include persons with visual and hearing impairments, as well as people with physical mobility limitations, for example pregnant women, wheelchair users and users of mobility aids, older people, people travelling with prams, persons with very different physical characteristics from the average (very short persons), as well as those with temporary injuries. The indicator monitors the accessibility of vehicles, stops, ticket offices and ticket vending machines (TVMs).

Methodology of calculation

The share of accessible vehicles and stops (low-floor design), by mode, **weighted by number of trips** is calculated. For vehicles, we take into account their physical accessibility (low floor and interior layout), as well as their ICT accessibility (audio and real-time visual passenger information). In the case of stops, we assess access to the stops and boarding from the stops to the vehicle, as well as the availability of audible passenger information (voice-based passenger information must be automatic). Ticket offices are considered accessible if they can be approached by wheelchair, are equipped with an induction loop system, the KONTAKT sign language interpreting service is available, and the fare product can be purchased from staff.
Ticket vending machines are considered accessible if they can also be used by people with visual and hearing impairments and by wheelchair users.
Note: due to data gaps, the indicator does not include vehicle and stop data for MÁV and Volán services within Budapest, nor for the agglomeration.

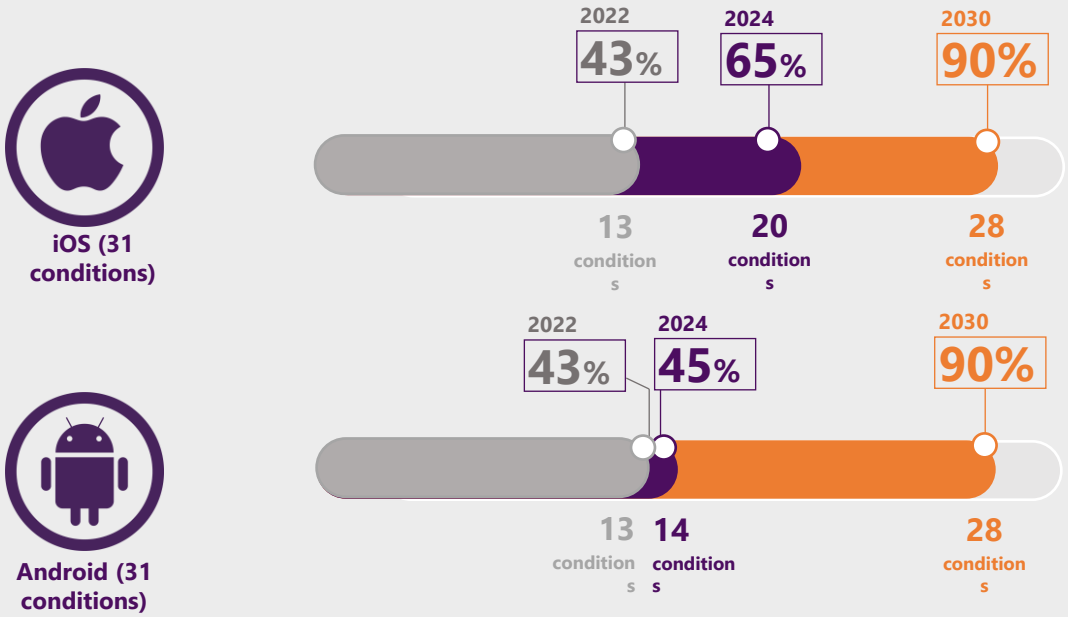
Data source: BKK, MÁV–HÉV Zrt. (with agglomeration data)

Responsible department: BKK Mobility Strategy and Planning, Road Safety and Accessibility; Mobility Strategy

A4.4 ICT ACCESSIBILITY IN PUBLIC TRANSPORT – APPLICATIONS

To achieve the target of 90% by 2030, we need to improve the functions that are not yet operating properly.

2024 audit results



Unit of measurement: %

Base value 2022
BudapestGO – iOS: 43% (13/30)
BudapestGO – Android: 43% (13/30)

Actual value 2024
BudapestGO – iOS: 65% (20/31)
BudapestGO – Android: 45% (14/31)

Target 2030
90% (28/31)

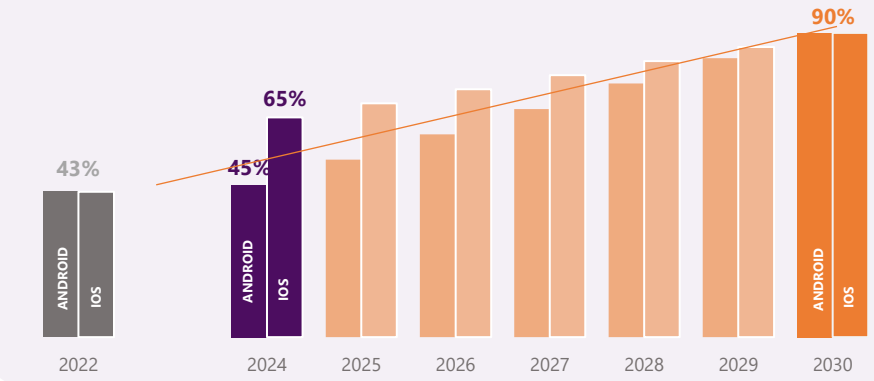
The value of the indicator for 2024 has already been published in the 2023 report, but in order to present the full set of indicators, the data sheets will be published unchanged in the 2024 report.

Evaluation and notes

The fulfilment of the requirements for the accessibility of digital platforms can be verified on the basis of the conditions of the EN 301 549 standard. **In 2022, out of 30 conditions, the application met 13 conditions** on both platforms (iOS and Android), creating **a base value of 43%.** During the audit carried out **in 2024**, as new features were added to the application in the meantime, **31 conditions** could already be examined; of these**, the iOS platform met 20 and the Android platform 14 conditions,** i.e. the **former achieved a result of 65% and the latter only 45%.**

Improvements have been made to the review and accessibility of screens related to journey planning in the app. The continuation of this work will proceed with the knowledge of the results of **the audits on the interfaces related to payment, registration and marking of favourites. In order to achieve the target 90% result by 2030, functions that are not yet operating in accordance with the requirements must be improved in a planned manner,** and it must be continuously monitored that they meet the requirements of the standard in the case of a development.

Planned trend of the indicator through 2030



A4.4 ICT ACCESSIBILITY IN PUBLIC TRANSPORT – WEBSITES

BKK reviews and fine-tunes the accessibility of information-communication interfaces in line with the results of the annual audits.

2024 audit results

BUDAPESTI KÖZLEKEDÉSI KÖZPONT

MÁV

VOLÁN

Unit of measurement:
Score (max. = 100)

Baseline value 2022
BKK | www.bkk.hu – 97
MÁV Group | mavcsoport.hu – 68
Volánbusz | volanbusz.hu – 88

Actual value 2024
BKK | www.bkk.hu – 93
MÁV Group | mavcsoport.hu – 66
Volánbusz | volanbusz.hu – 87

Target 2030
BKK | www.bkk.hu – 99
MÁV Group | mavcsoport.hu – 99
Volánbusz | volanbusz.hu – 99

Evaluation and notes

Compliance with the requirements for the info-communication accessibility of digital interfaces can be checked on the basis of the conditions of the EN 301 549 standard. The WCAG (Web Content Accessibility Guidelines)-**standard defines 41 conditions.**
The conditions can be grouped into the following categories:

- accessible navigation;
- appropriate names and labels;
- appropriate contrast;
- navigability in tables and lists;
- whether audio and video materials contain captions or transcripts;
- whether the website language is set correctly.

The accessibility of the BKK website is at a very high level compared to that of other transport service providers; in the future, problem-specific development should be carried out. In the case of MÁV and Volánbusz, however, comprehensive accessibility improvements would be necessary.

The development steps for improving the accessibility of info-communication interfaces primarily focused on the development of screens related to journey planning. In the future, the further development of accessibility in areas related to registration and the marking of favourites will follow.
The further development of accessibility in areas related to registration and the marking of favourites will follow. **BKK reviews and fine-tunes the accessibility of info-communication interfaces in line with the results of the annual audits.**

The value of the indicator for 2024 was already published in the 2023 report, but in order to present the full set of indicators, the datasheets are published unchanged in the 2024 report.

A4

A4.4 | INFORMATION AND COMMUNICATION ACCESSIBILITY IN PUBLIC TRANSPORT

Definition

The indicator measures the accessibility of the digital interfaces of public transport services (the services of the MÁV Group and BKK).
The indicator is indexed on the basis of the different accessibility levels.

Calculation methodology

The website and the application are always audited in accordance with the latest WCAG standard, and on this basis their accessibility percentage is determined. (If no audit has been prepared, the websites may also be assessed using the https://www.experte.com/accessibility tool.)

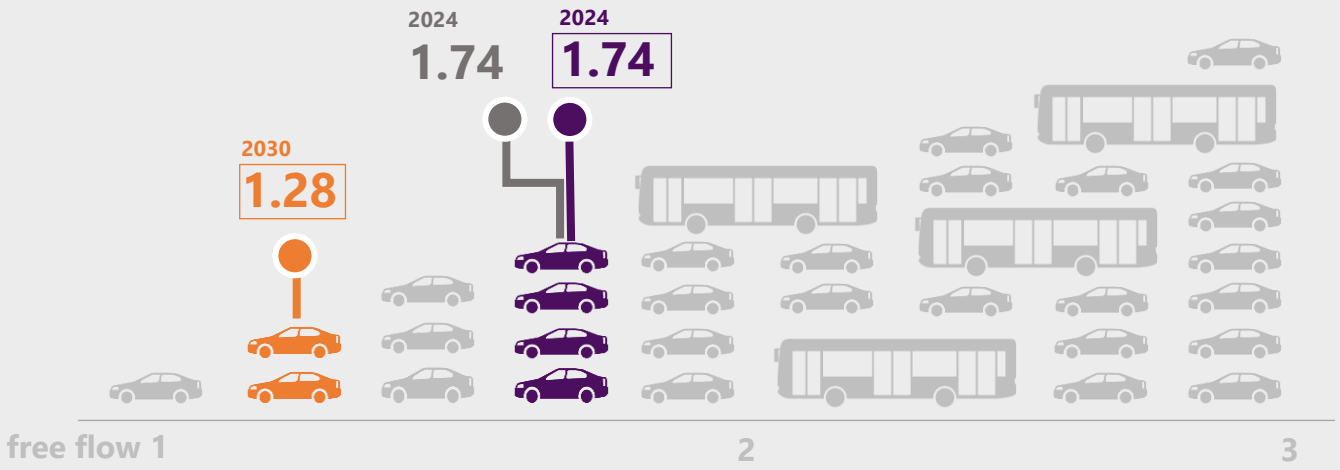
- The application audit is carried out by an external company or person. In the case of applications, during the audit we monitor the ratio of compliant/testable scores specified. (If a unified national application becomes available, the measurement does not need to be carried out separately for each service provider.)
- For websites, the https://www.experte.com/accessibility tool is used to monitor the average of the percentages provided.

Data source:	BKK, MÁV–HÉV Zrt. (including agglomeration data)
Responsible department:	Mobility Strategy and Planning, Transport Safety and Accessibility; Mobility Strategy BKK Communications, Digital Communications, Digital Channel Business Development

A5.1 | ROAD CONGESTION INDICATOR

The Budapest congestion indicator is more favourable for public transport corridors than the congestion values measured on road corridors.

2024 results



Unit of measurement:
Index showing the magnitude of traffic congestion in Budapest

Baseline value 2024
1.74

Actual value 2024
1.74

Target 2030
1.28

We already published the value of the indicator for 2024 in the 2023 report, but in order to present the full set of indicators, the indicator fiches are reproduced unchanged in the 2024 report.

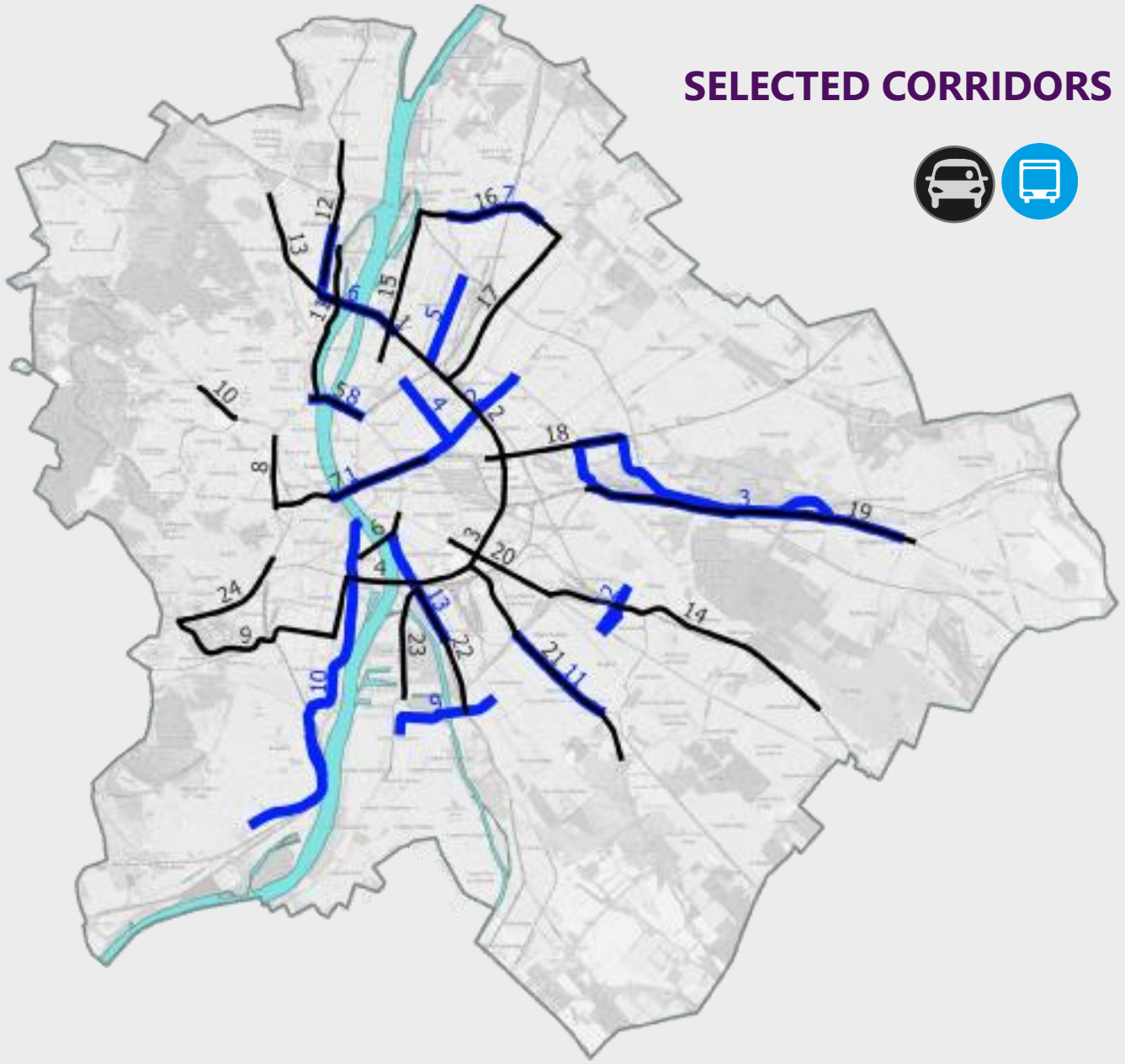
Evaluation and notes

The index presenting traffic congestion **consists of two main components: road traffic** and **public transport** congestion measured on selected corridors, aggregated after weighting by the traffic volumes of the respective corridors and by the modal split shares of car traffic/public transport. Building on the SUMI methodology, BKK developed the methodology for calculating the congestion indicator in the Budapest context using the road motor vehicle traffic and public transport data available to BKK, based on **public transport passenger traffic data** and **road motor vehicle traffic volume and speed data, continuously updated and available on an hourly basis, from several hundred locations in Budapest**.

The congestion indicator calculated using 2024 data takes a value close to its theoretical midpoint (2), meaning that Budapest's "level of congestion" is approximately 17% below the median congestion level of the European cities participating in the SUMI project (page 122). For public transport corridors, the Budapest indicator is 1.71, which is slightly more favourable than the value of 1.76 measured on road corridors.

When defining the **target value of 1.28**, we assumed that public transport on the corridors considered in the peak hour travels at free flow average speed, that is, here the value of the indicator would be 1, while on road corridors the peak-hour average speed does not change compared to the baseline value. We also assumed fulfilment of the 2030 modal split targets; therefore, the weight of public transport will be higher than at present. The **theoretical maximum of the indicator is 1,** which would mean that the peak-period average speed does not differ from the free flow average speed, whereas the indicator takes a value corresponding to congestion level 3 if the magnitude of traffic is such that the peak-period average speed on all corridors falls to one third of the free flow average speed.

SELECTED CORRIDORS



Sorszám	Közúti folyosók	Kezdőpont	Végpont
1	Hungária körút – észak	Flórián tér	M3-as bevezető
2	Hungária körút – északkelet	M3-as bevezető	Kerepesi út
3	Hungária körút – délkelet	Kerepesi út	Soroksári út
4	Hungária körút – dél	Soroksári út	Andor utca
5	Nagykörút – észak	Margit híd, budai hídfő	Nyugati pályaudvar
6	Nagykörút – dél	Bogdánffy út	Üllői út
7	Rákóczi út	BAH-csomópont	Keleti pályaudvar
8	Alkotás utca	Attila út	BAH-csomópont
9	Egér út	M1/M7-es bevezető	Andor utca
10	Szilágyi Erzsébet fasor	Budagyöngye	Szent János Kórház
11	Budai alsó rakpart – észak	Mozaik utca	Margit híd
12	Szentendrei út	Czetz János utca	Flórián tér
13	Külső Bécsi út	Pomázi út	Flórián tér
14	Ferihegyi gyorsforgalmi út	Határ út	Ferihegy vasútállomás
15	Váci út	Árpád út	Dózsa György út
16	Árpád út–Illyés Gyula út–Szentmihályi út	Váci út	M3-as bevezető
17	M3-as bevezető	Szentmihályi út	Kacsóh Pongrác út
18	Kerepesi út	Keresztúri út	Dózsa György út
19	Jászberényi út–Kőbányai út	Csabai út	Élessarok
20	Üllői út	Nagyvárad tér	Határ út
21	Nagykőrösi út	Szentlőrinci út	Könyves Kálmán krt.
22	Soroksári út	Topánka utca	Közvágóhíd között
23	Weiss Manfréd út	Teller Ede út	Közvágóhíd

Sorszám	Buszfolyosók	Kezdőpont	Végpont
1	Kossuth–Rákóczi-tengely	Döbrentei tér	Keleti pu.
2	Thököly út	Keleti pu.	Bosnyák tér
3	Keresztúri út–Jászberényi út–Pesti út	Örs vezér tere	Rákoskeresztúr városközpont
4	Dózsa György út	Thököly út	Vágány utca
5	Reitter Ferenc utca	Róbert Károly krt.	Kucsma utca
6	Szentendrei út	Kaszás dűlőtől	Göncz Árpád városközpontig
7	Árpád út–Szentmihályi út	Újpest-Városközpont	Régi Fóti út
8	Margit híd	Nyugati pu.	Budai hídfő
9	Csepel, Ady Endre út	Szent Imre tér	Topánka utca
10	Budafoki út–Nagytétényi út	Gellért tértől	Növény utcáig
11	M5-ös bevezető	Határ út	Használtcikk-piac
12	Délkelet-Pest haránt irányú kapcsolat: Hunyadi út–Báthory utca	Üllői út	Gyömrői út
13	Soroksári út	Boráros tér	Kén utca

A5

A5.1 | ROAD CONGESTION INDICATOR

Definition

Indicator based on the peak-period and off-peak average speeds of road-based public and individual transport, as well as on the number of peak-period trips.

Calculation methodology

We measure peak-period and off-peak average speeds in public transport and individual transport on a minimum of 20 road transport corridors and a minimum of 10 public transport representative corridors. The corridors must provide a representative picture of the city, and the public transport and individual transport corridors may be the same or different.
(The road corridors were designated with the involvement of transport professionals and civil society organisations.)

The number of peak-period trips is multiplied by the peak-period average speed, and this is then divided by the off-peak average speed.
In the case of motor vehicle traffic, the peak-hour average speed is the lowest average speed value of the corridor, while in the case of public transport it is the average speed value corresponding to the slowest travel time.

In order to determine an average value, this value is divided by the total number of peak-period road trips on the corridors and then weighted by the modal split ratio of motor vehicles and public transport modes relative to each other.
The resulting public transport and individual transport ratios are then added together.
As the indicator measures road congestion, rail-based transport modes are not included in the calculation; only rubber-tyred vehicle fleets are taken into account.

Data source: BKK, Directorate for Strategic Data Management and Knowledge Centre Data Analysis and Modelling Department

Responsible department: Directorate for Mobility Development, Mobility Strategy
BKK Mobility Management, Service Management, Service Monitoring

A5.2 THE SHARE OF DISRUPTIONS TO BASIC PUBLIC TRANSPORT SERVICES

The 2023 value was significantly influenced by the driver shortage typical of the rubber-tyred sectors, which was resolved by 2024.

2024 results

0.55%

0.58% (BKK Budapesti Közlekedési Központ)

0.29%* (MÁV CSOPORT)

	BKK				MÁV CSOPORT		
						Suburban bus	Suburban rail
2024	0,3%	1,6%	0,1%	1,4%	0,3%	No data	No data
2023	1,5%	2,7%	0,1%	1,5%	0,5%	No data	No data
2019	0,4%	2,9%	0,1%	1,5%	No data	No data	No data

Unit of measurement:
In seat-kilometres plan-actual variance, %

Baseline value 2019

BKK: 0,69%
MÁV Group: no data
Budapest: –

Actual value 2024

BKK: 0,58%
MÁV–HÉV: 0,29%
Budapest*: 0,55%**

Target 2030**

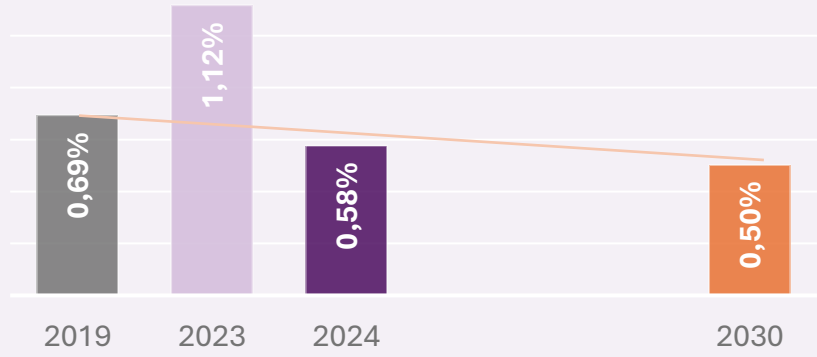
0,5%

* Data for 2023 and 2024 are available only for the HÉV sector.
** The calculation assumptions for the target value are explained on page 67.
*** The Budapest ratio does not include data for suburban buses and trains.

Evaluation and notes

This indicator measures service cancellations affecting service quality; our objective is to continuously reduce service cancellations. **The three main causes of service loss are traffic, staff-related and technical.** The five public transport sectors under review are affected to varying degrees: rail-based modes are less affected by adverse traffic conditions; at the same time, the impact of individual events is more significant due to the characteristics of the rail infrastructure. The indicator is strongly influenced by the technical condition of the vehicle fleet, as service cancellations occur primarily because of the inadequate technical condition of vehicles; therefore, fleet renewal is a very important task. **The 2023 value was significantly influenced by the driver shortage typical of the rubber-tyred sectors, which was resolved by 2024,** as is also visible in the indices. The indicator value can be further improved by resolving and eliminating problematic traffic situations (e.g. obstruction of inner-city trolleybus services by parked vehicles), as well as by upgrading the tram fleet.

Planned trend of the indicator through 2030



A5

A5.2 | THE SHARE OF DISRUPTIONS TO BASIC PUBLIC TRANSPORT SERVICES

Definition

The indicator is a measure of the reliability of the transport service (MÁV Group and BKK services), which expresses the fulfilment rate of public transport **performance calculated in kilometres as prescribed in the timetables.** With this indicator, we monitor **service reliability**.

Calculation methodology

The indicator is determined by measuring the share of cancelled service performance, by relating the total performance of **non-operated trips** to the **total performance of scheduled timetable trips** .
A trip is considered non-operated if it did not depart from the terminus at all, or only partially completed its route, and was not replaced by another vehicle.
The determination of the indicator (depending on the availability of data) covers all land-based modes. These include the bus, trolleybus, metro and tram modes operating under BKK order, as well as the suburban railway (HÉV), commuter trains and bus modes forming part of the MÁV Group. The assessment includes the performance of all trips in the given mode during the reference period (full sample).

Parameters considered for determining target values

For determining the 2030 target value, we assumed that
- for the BKK modes:
  - traffic-related causes decrease slightly, by 5%;
  - causes attributable to staff shortages decrease from the high 2023 level to the 2019 level, considered a baseline period;
  - for technical causes, improvement can be assumed due to the vehicle procurements planned in the vehicle strategy, therefore, technically, for achieving the target average age planned in the vehicle strategy for 2030, we took into account the trip cancellation indicators of the current modern vehicle types.
- for the MÁV Group modes:
  - in the HÉV mode, vehicle development is no longer realistic by 2030

Data source: BKK, MÁV–HÉV Zrt.

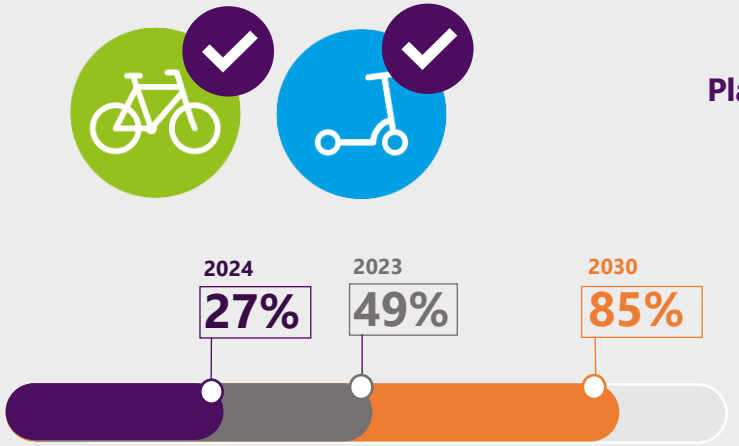
Responsible department: BKK Mobility Management, Service Management, Service Monitoring

BUDAPESTI KÖZLEKEDÉSI KÖZPONT

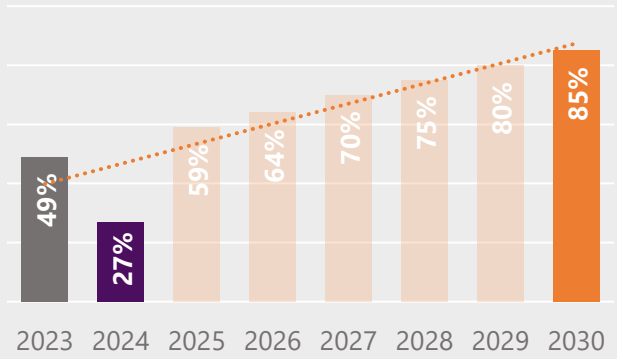
A5.3 AVAILABILITY OF BUBI AND SHARED MICROMOBILITY DEVICES

Growing use could no longer be adequately matched by the servicing and logistics support, and development of Bubi 3.0 began.

2024 results



Planned development of the indicator until 2030



Unit of measurement:
%

Baseline value 2023
49%
Bubi temporal availability **48%** on **52%**-of the inhabited area

Actual value 2024
27%
Bubi temporal availability **11%** on **42%**-of the inhabited area

Target 2030
85%
Temporal availability **90%** on **80%**-of the inhabited area

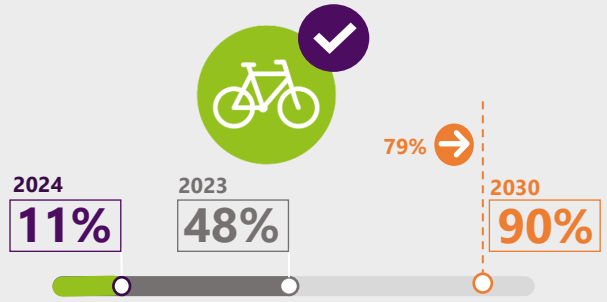
Evaluation and notes

The objective is for the widest possible user group to have access to shared micromobility across the largest possible area of Budapest with adequate availability in terms of both coverage and density, and also time. **The public bike-sharing system awaited users in 2024 with 1667–2303 available bicycles at 216 docking stations.**

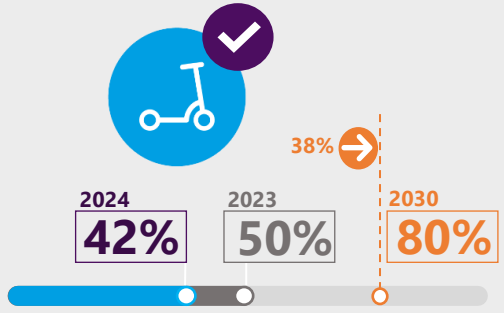
By 2024, the indicator value shows a **significant decline** compared with the 2023 baseline value; both the territorial coverage of private operators and the temporal availability of Bubi decreased.
The Bubi availability decline was caused by the fact that the number of rentals increased from 3.4 million to 3.65 million, the number of stations rose from 199 to 216, and the **servicing and logistics support could no longer adequately keep pace with the growing use.**
Furthermore, since June 2023 there has been no possibility to procure new bicycles. In addition, the incentives in the current contractual bonus-malus system for the operator providing servicing support were much more oriented towards minimising service failures (SLA), and were not based on an approach aimed at customer experience.
In the future, **it is also recommended to develop a new business model through the renewal of the Bubi service.**

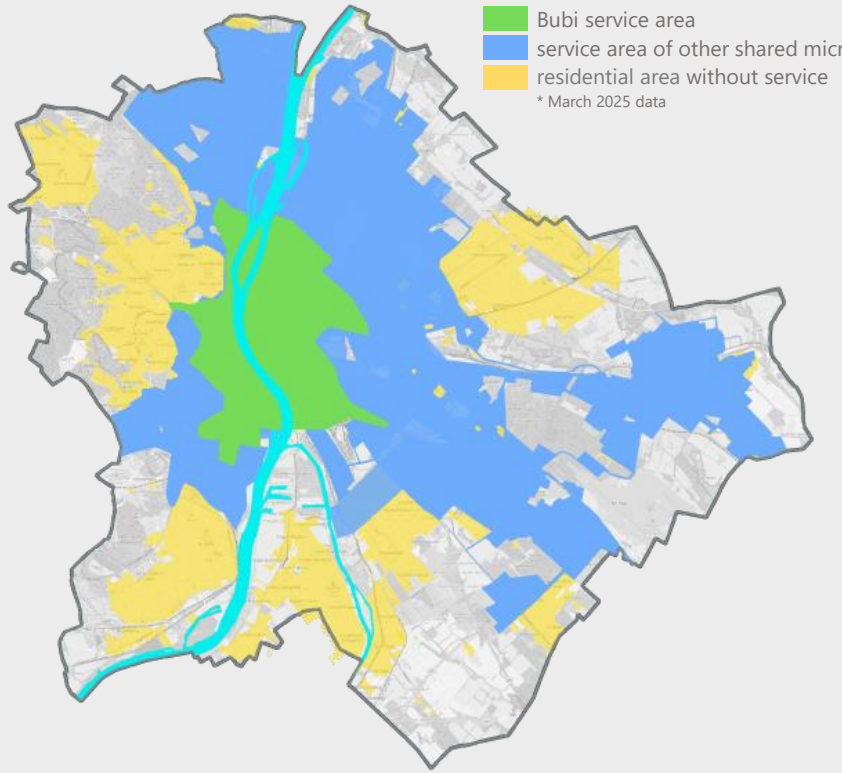
The planned extension of the territorial coverage of shared micromobility services at the most important Budapest hubs is described by the *A7.1 Mobility integration indicator* on page 73.

Share of Bubi stations where, except for 1 day, bicycles were available every day at the station beyond the grace period applicable to the given station plus 56 minutes



Spatial availability of other shared micromobility devices within the territory of Budapest





What measures would be needed to improve Bubi availability?

In terms of human resources and material conditions

- Regular condition checks and periodic inspections for every bicycle
- Faster processing of fault reports, immediate forwarding of user notifications to the service team
- Ensuring a larger stock of spare parts so that the most frequently replaced components are always available

In logistics and operations

- Analysis of traffic data and seasonal trends, application of forecasts and predictive models for more efficient bicycle distribution
- Deployment of more transport vehicles (e.g. smaller electric vehicles), to enable more flexible bicycle rebalancing
- A more predictable regulatory environment supporting planning
- Flexible expansion of station capacity based on actual demand, in cooperation with the relevant partners
- Municipal and local cooperation
- Provision of workshops and storage facilities near busier areas, to enable faster servicing
- Provision of access permits for more efficient logistics operations
- Establishment of new stations and the expansion of existing ones in line with local needs, in municipal cooperation

In the area of security

- Enhanced protection against bicycle theft, as these incidents directly reduce availability

In summary, the three main points that could significantly increase temporal availability:

- speed in bicycle logistics
- faster servicing
- cooperation framework with stakeholders.

A5.3 AVAILABILITY OF BUBI AND SHARED MICROMOBILITY DEVICES

A5

Definition

The indicator consists of two components: the temporal availability of MOL Bubi, and the spatial availability of other shared micromobility devices. In the case of **Bubi** we measure the **reliability of the service, while for other** shared **micromobility devices we consider the size of the service area** .

Calculation methodology

With this indicator, we monitor the possibility of using shared bicycles and shared micromobility devices: we calculate a **%** value derived from the average of two ratios.

1. The number of stations where there was not more than 1 day on which, beyond the grace period plus 56 minutes applicable to the given station, there was no bicycle available (rolling value), i.e. with the exception of 1 day, a bicycle was available every day within the grace period plus 56 minutes applicable to the given station.

2. For other shared micromobility devices, the size of the area (km^2), which falls within the service area of at least one shared micromobility operator active in Budapest, divided by the total area of Budapest.

Availability of Bubi and shared micromobility $= \frac{\frac{BX}{BM} + \frac{T}{BT}}{2} \times 100$ where

BX: number of Bubi bicycle stations where a bicycle was available every day – beyond the grace period (pc)
BM: number of Bubi stations in the year under review
T: size of the area that falls within the service area of at least 1 operator
BT: area of Budapest

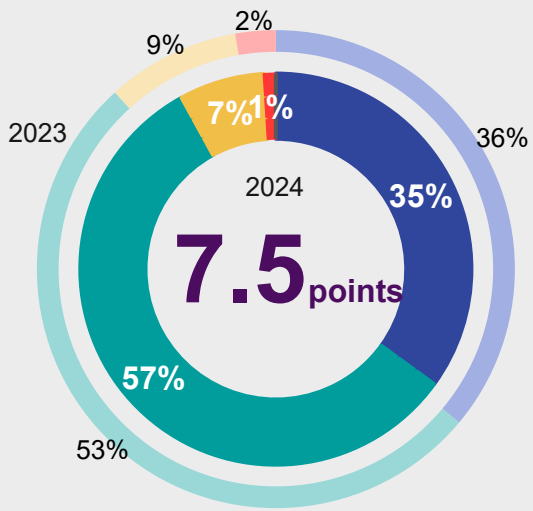
Data source: BKK, own Bubi data, and in the case of LIME and TIER, data received via API connection (application programming interface)

Responsible department: BKK Digital Channels Operations, Mobility Strategy and Shared Mobility

A6.1 | CUSTOMER SATISFACTION INDICATOR

Overall customer satisfaction has improved by +0.4 points since 2023.

Results for 2024



Satisfaction with public transport	2022	2024	
Overall satisfaction	7,2	7,6	▲+0,4
Accessibility*	7,5	7,7	▲+0,2
Passenger information	7,5	7,6	▲+0,1
Staff	7,2	7,5	▲+0,3
Speed	7,3	7,7	▲+0,4
Reliability	7,2	7,5	▲+0,3
Safety	7,1	7,5	▲+0,4
Comfort	6,7	7,3	▲+0,6
Price level	6,2	7,4	▲+1,2

▼/▲ = difference compared to the 2022 survey

Base: public transport users, n = 1000

■ Completely satisfied ■ Rather satisfied ■ Not satisfied ■ Not at all satisfied

* In the customer satisfaction survey, the accessibility assessment refers to the adequacy of the public transport network, the location of stops, and ticket purchasing options.

Unit of measurement:
Index showing the proportion of passengers satisfied with public transport in Budapest

Baseline value 2022
7.2

Actual value 2024
7.5

Target 2030
8.0

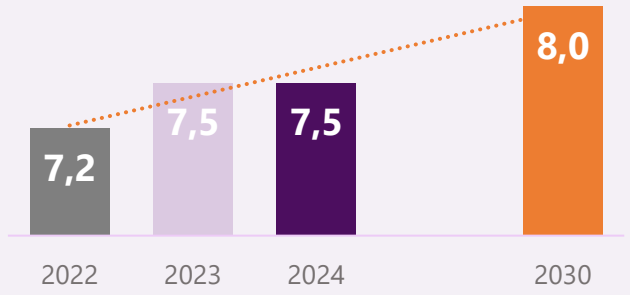
Evaluation and notes

Passengers using public transport are satisfied with BKK's services in every respect. Compared with the 2022 base year, **satisfaction with comfort rose by 8.2 per cent, whilst satisfaction with pricing** rose by 16.2 per cent. The former is due to ongoing vehicle procurement, whilst the latter is attributable to the signing of the metropolitan area cooperation agreement in March, which has resulted in a significant reduction in pass prices, particularly for those living in the metropolitan area.
Overall satisfaction has improved by +0.4 points since 2023, bringing **the overall customer satisfaction index to 7.5**. The index measures the combined opinions of both frequent and occasional users of public transport.

A 2023 SUMI survey examined customer satisfaction levels in European capital cities; the results are broadly in line with our own findings, and we find ourselves in the middle of the pack.

By achieving the **target score of 8**, **Budapest would move into the top third of cities with the best public transport.**

Planned trend of the indicator through 2030



BKK BUDAPESTI KÖZLEKEDÉSI KÖZPONT

A6

A6.1 | CUSTOMER SATISFACTION INDICATOR

Definition

The indicator measures customers' satisfaction with public transport services (MÁV Group and BKK services). The passenger satisfaction index is governed by Decree 20/2012. (III. 14.) of the Budapest Metropolitan Assembly (Appointment Decree), as well as the Annual (public service) contract and Annex 3 thereto.

Calculation methodology

The indicator is based on a questionnaire survey. The specified topics must be assessed on a 4-point scale in accordance with the EU SUMI methodology, to which predefined weights are also assigned [completely satisfied (4) = 10; rather satisfied (3) = 6.66; rather dissatisfied (2) = 3.33; not at all satisfied (1) = 0]. The percentage distribution of responses 1–4 for each topic is multiplied by the specified weights, and the **average of the figures obtained for each topic** will be **the indicator**.
The topics examined in the survey are: Price level; Safety; Comfort; Speed; Accessibility*; Passenger information; Employees and Reliability.

* In the customer satisfaction survey, the assessment of accessibility refers to the suitability of the public transport network, the location of stops and the ticket purchasing options.

Research methodology

The customer satisfaction survey measures the satisfaction of public transport users (1000 persons), car users (1000 persons), and users of active and micromobility modes (1000 persons). The customer satisfaction indicator is calculated based on the responses of public transport users (frequent and occasional users).
The individual traveller samples are representative by gender, age and region (6 Budapest and 4 agglomeration territorial units).

The index can range between 0 and 10 points under the EU methodology: 10 points if everyone were completely satisfied (would assign a rating of 4), 0 points if no one were satisfied (would assign a rating of 1).

In addition to the index, the results are also analysed according to the TOP2 methodology, which shows the share of responses 3 and 4, i.e. the proportion of satisfied customers.

Data collection takes place annually, in October of the reference year, and the publication of the research findings is scheduled for the beginning of the following year. The data from the 2024 survey were presented in February 2025.

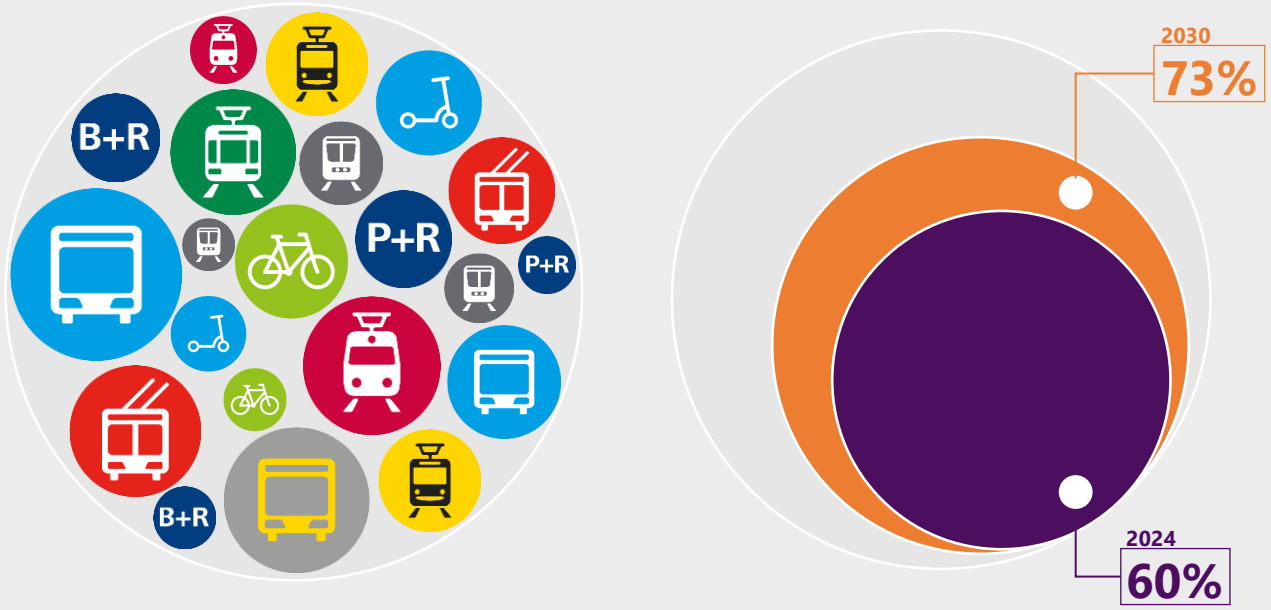
Data source: BKK

Responsible department: BKK Customer Experience and Analysis

A7.1 DEGREE OF MOBILITY INTEGRATION

Typically, enabling a shift to cycling would be needed at most locations for mobility integration to move closer to the target value.

Results for 2024



Unit of measurement:
%

Baseline value 2024
60%

Actual value 2024
60%

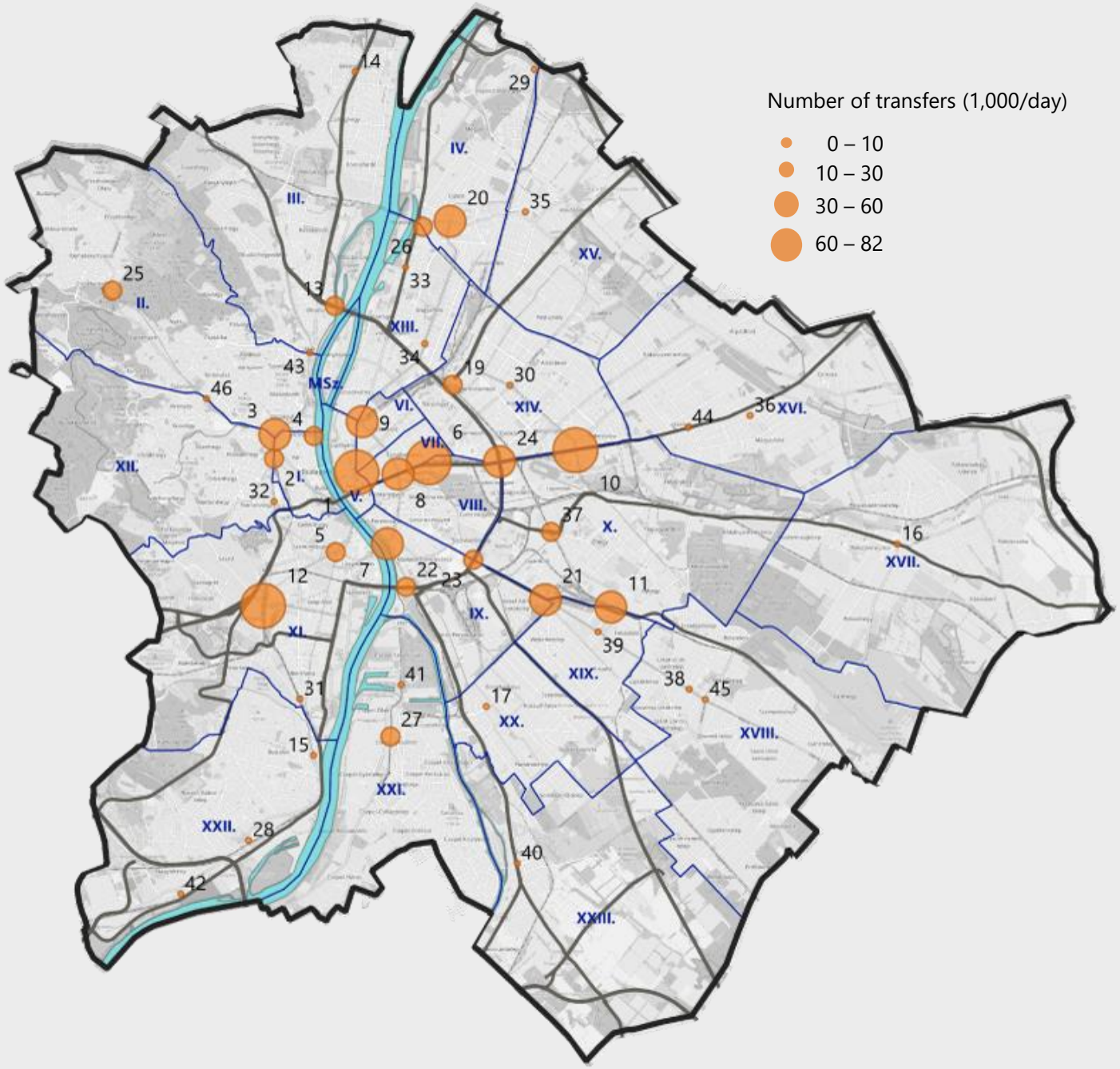
Target 2030
73%

Evaluation and notes

In line with the compact city approach, this indicator monitors the level of mobility provision in centres. Urban centres and major transfer hubs are places where travellers can switch from one mode of travel to another with minimal, reasonably short walking (maximum 500 metres) or waiting time. The more transport modes are available at a node, the higher the level of multimodal integration.
In the designated 46 Budapest nodes, we examined the presence of 10 transport modes.

1. Regional bus
2. Train or suburban railway line H6, H8, H9
3. Metro or suburban railway line H5/ H7
4. Tram
5. Local bus
6. MOL Bubi bike station
7. Mobi-point or shared e-scooter
8. P+R
9. B+R
10. Car sharing (MOL Limo, GreenGo Wigo)

The average multimodality of all examined nodes is 60%, while the average for nodes with long-distance transport connections (where either regional bus, rail, or P + R is available) is 66%.
At least 3 transport modes are available at 4 nodes, and **in 2024, Kelenföld városközpont is the only location where all 10 transport modes are available.** Among the nodes with long-distance connections, Soroksár Hősök tere and Nagytétény Kastélypark are the local centres with the greatest functional deficiencies. Typically, enabling a shift to cycling would be needed at most examined locations for the degree of mobility integration to move closer to the target value.



For the definition of the indicator, a detailed centre system assessment was prepared, during which 46 locations were identified that, based on spatial planning documents, have a city-centre role, are existing or planned for development; have a local or secondary-centre function, or are major transport hubs where significant transfer demand occurs.

As a result of the assessment, the following Budapest locations were identified to explore the degree of multimodal integration.

1.	Deák tér	24.	Puskás Ferenc Stadion
2.	Déli pu.	25.	Hűvösvölgy
3.	Széll Kálmán tér	26.	Újpest-Városkapu
4.	Batthyány tér	27.	Csepel városközpont, Szent Imre tér
5.	Móricz Zsigmond körtér	28.	Budatétény Campona
6.	Keleti pu.	29.	Káposztásmegyer
7.	Boráros tér	30.	Bosnyák tér
8.	Blaha Lujza tér	31.	Albertfalva vasútállomás
9.	Nyugati pu.	32.	Hegyvidék – MOM
10.	Örs vezér tere	33.	Gyöngyösi utca / Duna Pláza
11.	Kőbánya-Kispest KÖKI	34.	Angyalföld, Béke tér
12.	Kelenföld vasútállomás Kelenföld, Etele tér	35.	Rákospalota városrészközpont, Hubay Jenő tér
13.	Szentlélek tér	36.	Erzsébetliget, Mátyásföld – Mátyás király tér
14.	Békásmegyer	37.	Kőbánya alsó / Szent László tér
15.	Budafok, Városház tér	38.	Pestszentlőrinc központ, Kossuth tér
16.	Rákoskeresztúr városközpont	39.	Kispest, Kossuth tér
17.	Pesterzsébet városközpont (Gubacsi híd–Török Flóris utca)	40.	Soroksár, Hősök tere
18.	Árpád híd Göncz Árpád városközpont	41.	Csepel Víziváros, szabadkikötő
19.	Mexikói út MillFAV-végállomás	42.	Nagytétény Kastélypark
20.	Újpest-Központ	43.	Óbuda, Újlak–Kolosy tér
21.	Határ út	44.	Sashalom H
22.	Közvágóhíd, MÜPA	45.	XVIII ker., Szarvascsárda tér
23.	Népliget	46.	Budagyöngye, Akadémia park

		Multimodal node location	1	2	3	4	5	6	7	8	9	10	Number of availabl e modes	Multimodality Ratio	
			Regional bus	Rail H6,H8, H9	Metro H5,H7	Tram	Local bus or trolley bus	MOL Bubi station	Mobi-point or shared scooter service	P+R	B+R	Car sharing		Base value	Target
1	CITY CENTER	Deák Square	NO	NO	YES	YES	YES	YES	YES	NO	NO	YES	6	60%	60%
2		Deli pu.	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	9	90%	90%
3		Széll Kálmán tér	YES	NO	YES	YES	YES	YES	YES	NO	NO	YES	7	70%	80%
4		Batthyány Square	NO	YES	YES	YES	YES	YES	YES	NO	NO	YES	7	70%	70%
5		Móricz Zsigmond körtér	NO	NO	YES	YES	YES	YES	YES	NO	NO	YES	6	60%	60%
6		Garrett Pure.	NO	YES	YES	YES	YES	YES	YES	NO	YES	YES	8	80%	80%
7		Boráros Square	NO	NO	YES	YES	YES	YES	YES	NO	NO	YES	6	60%	60%
8		Blaha Lujza tér	NO	NO	YES	YES	YES	YES	YES	NO	NO	YES	6	60%	60%
9		Western Railway Station.	NO	YES	YES	YES	YES	YES	YES	NO	YES	YES	8	80%	80%
10	DESIGNATED BRANCH CENTRES	Örs vezér tere	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	9	90%	100%
11		Kőbánya-Kispest KITCHEN	YES	YES	YES	NO	YES	NO	YES	YES	YES	YES	8	80%	90%
12		Kelenföld railway station Kelenföld - Etele tér	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	10	100%	100%
13		Holy Spirit Square	NO	NO	YES	YES	YES	YES	YES	NO	YES	YES	7	70%	70%
14		Békásmegyer	YES	NO	YES	NO	YES	NO	YES	YES	NO	YES	6	60%	80%
15		Budafok, Városház tér	NO	YES	NO	YES	YES	NO	NO	YES	YES	YES	6	60%	80%
16		Rákoskeresztúr city center	YES	NO	NO	NO	YES	NO	YES	NO	NO	YES	4	40%	60%
17		Pesterzsébet city center (Gubacsi Bridge – Török Flóris Street)	YES	YES	NO	YES	YES	NO	YES	NO	NO	YES	6	60%	90%
18		Árpád Bridge, Göncz Árpád city center	YES	NO	YES	YES	YES	YES	YES	NO	NO	YES	7	70%	80%
19	MAJOR TRANSPORT HUBS MOST TRANSFERS	Mexikói út MillFAV terminus	YES	NO	YES	YES	YES	YES	YES	YES	NO	YES	8	80%	100%
20		Újpest Centre	YES	NO	YES	YES	YES	NO	YES	NO	NO	YES	6	60%	80%
21		Határ út	YES	NO	YES	YES	YES	NO	YES	YES	YES	YES	8	80%	90%
22		Public Slaughterhouse, MÜPA Budapest	YES	YES	YES	YES	YES	YES	YES	NO	NO	YES	8	80%	100%
23		Nepliget	YES	NO	YES	YES	YES	YES	YES	YES	NO	YES	8	80%	100%
24		Puskás Ferenc Stadium	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	9	90%	100%
25		Hűvösvölgy	NO	NO	NO	YES	YES	NO	YES	YES	NO	YES	5	50%	60%
26		Újpest-Városkapu	YES	YES	YES	NO	YES	NO	YES	YES	YES	YES	8	80%	90%
27		Csepel city center, Szent Imre Square	YES	NO	YES	NO	YES	NO	NO	YES	YES	YES	6	60%	80%
28	SECONDARY CENTRE TO BE DEVELOPED, WITH A LACK OF FUNCTION, LOCAL CENTRE	Budatétény Campona	YES	YES	NO	NO	YES	NO	NO	YES	NO	YES	5	50%	70%
29		Káposztásmegyer	YES	NO	NO	YES	YES	NO	YES	NO	NO	YES	5	50%	90%
30		Bosnian Square	NO	NO	NO	YES	YES	NO	YES	NO	NO	YES	4	40%	60%
31		Albertfalva Railway Station	NO	YES	NO	YES	YES	NO	YES	NO	NO	YES	5	50%	80%
32		Hegyvidék – MOM	NO	NO	NO	YES	YES	YES	YES	NO	NO	YES	5	50%	50%
33		Gyöngyösi utca / Duna Plaza	NO	NO	YES	NO	YES	NO	YES	NO	YES	YES	5	50%	60%
34		Angyalföld, Béke tér	NO	NO	NO	YES	YES	YES	YES	NO	NO	YES	5	50%	50%
35		Rákospalota District Centre, Hubay Jenő Square	YES	NO	NO	NO	YES	NO	YES	NO	NO	YES	4	40%	40%
36		Erzsébetliget, Mátyásföld – Mátyás király tér	YES	YES	NO	NO	YES	NO	NO	NO	YES	YES	5	50%	80%
37		Kőbánya alsó / Szent László tér	NO	YES	NO	YES	YES	NO	YES	NO	NO	YES	5	50%	70%
38		Pestszentlőrinc Centre, Kossuth Square	NO	NO	NO	YES	YES	NO	YES	NO	NO	YES	4	40%	40%
39		Kispest, Kossuth Square	NO	NO	NO	YES	YES	NO	YES	NO	NO	YES	4	40%	50%
40		Soroksár, Heroes' Square	YES	YES	NO	NO	YES	NO	NO	NO	NO	NO	3	30%	50%
41		Csepel Water City, free port	NO	NO	YES	NO	YES	NO	NO	NO	NO	YES	3	30%	80%
42		Nagytétény Castle Park	YES	YES	NO	NO	YES	NO	NO	NO	NO	NO	3	30%	50%
43		Óbuda, Újlak–Kolosy tér	NO	NO	YES	YES	YES	YES	YES	NO	NO	YES	6	60%	60%
44		Sashalom H	NO	YES	NO	NO	YES	NO	NO	NO	YES	NO	3	30%	70%
45		XVIII. district, Szarvascsárda tér	YES	NO	NO	YES	YES	NO	YES	NO	NO	NO	4	40%	60%
46		Budagyöngye, Academy Park	YES	NO	NO	YES	YES	NO	NO	YES	NO	YES	5	50%	60%
													5,98	60%	73%

In the table, the cells shaded orange indicate the planned changes required to achieve the target value.

Following the assessment of the modal functions of the selected centres, and based on the BMT, the BAVS, as well as micromobility projects (Bubi 3.0, B+R developments), we identified where there are currently missing functions whose implementation is included in the long-term plans.

Taking the planned developments into account, we defined the multimodal integration **73% target value** for the total of 46 locations.

Naturally, the objective is not for every mode to be available at every node, as, for example, central urban locations are already well accessible. However, the multimodality of the designated sub-centres and local centres requires development in most locations.
The summary of the development objectives clearly shows that, through simpler infrastructure development, **by supporting active modes, developing Bubi 3.0 and B+R, and introducing shared e-scooter services, substantial improvement in multimodality can be achieved.**
The objectives include the construction of numerous P+R car parks and, that car-sharing services should be available at every multimodal node.

Compared with similar assessments in European cities, the value of 60% can be considered good, approximately 8% above the median value.

#	Title of the SUMI indicator
#1	Affordability of public transport services for the poorest Affordability of public transport for the poorest group
#2	Physical and audiovisual accessibility in public transport Accessibility of public transport for mobility-impaired groups
#3	Transport-based air pollution (PM2.5) Air pollutant emission
#4	Resident involvement in traffic noise pollution Noise hindrance
#5	Road Safety Index – fatalities Road deaths
#6	Temporal and spatial access to public transport Access to mobility services
#7	Quality of public spaces indicator Quality of public spaces
#13	GHG emissions from transport Greenhouse gas emissions
#14	Road congestion indicator Congestion and delays
#16	Active mobility opportunities Opportunity for active mobility
#17	**Degree of mobility integration** **Multimodal integration**
#18	Customer satisfaction index Satisfaction with public transport
#20	Active mode risk level Traffic safety active modes

A7

A7.1 DEGREE OF MOBILITY INTEGRATION

Definition

With the indicator, in line with the approach of the compact city, we monitor the level of mobility supply of the subcenters in proportion to the defined maximum set of elements (10 modes of transport).

Calculation methodology

The indicator was designed to measure the number of transport modes available at multimodal interchanges, rather than the level of connectivity of the transport network.
In the first step, we defined the transport modes under review and their number:

1. Regional bus
2. Trains / H6, H8, H9
3. Metro / H5, H7
4. Tram
5. Local bus
6. MOL Bubi Station
7. Mobi-point or shared e-scooter service
8. P+R
9. B+R
10. Car sharing (MOL Limo, GreenGo Wigo)

Subsequently – based on knowledge of spatial planning and transport development plans – we identified the locations to be assessed. In the case of Budapest, based on spatial and development plans, as well as the transfer frequency of the interchanges, we identified 46 locations. For each location, we identified the transport modes available there in 2024 and the planned transport modes. The delimitation of the locations **around the public transport stop with the same name**, is understood as within its 500-metre catchment area (approx. walking distance of 1 bus stop).

The actual annual value of multimodal integration under review is given by the average of the ratios of the modes available in the centres to all modes.

The target value **must** be calculated by jointly taking into account the number of planned and existing modes in the centres. **The target value of multimodal integration is given by the average of the ratios of the planned modes in the centres to all modes.**

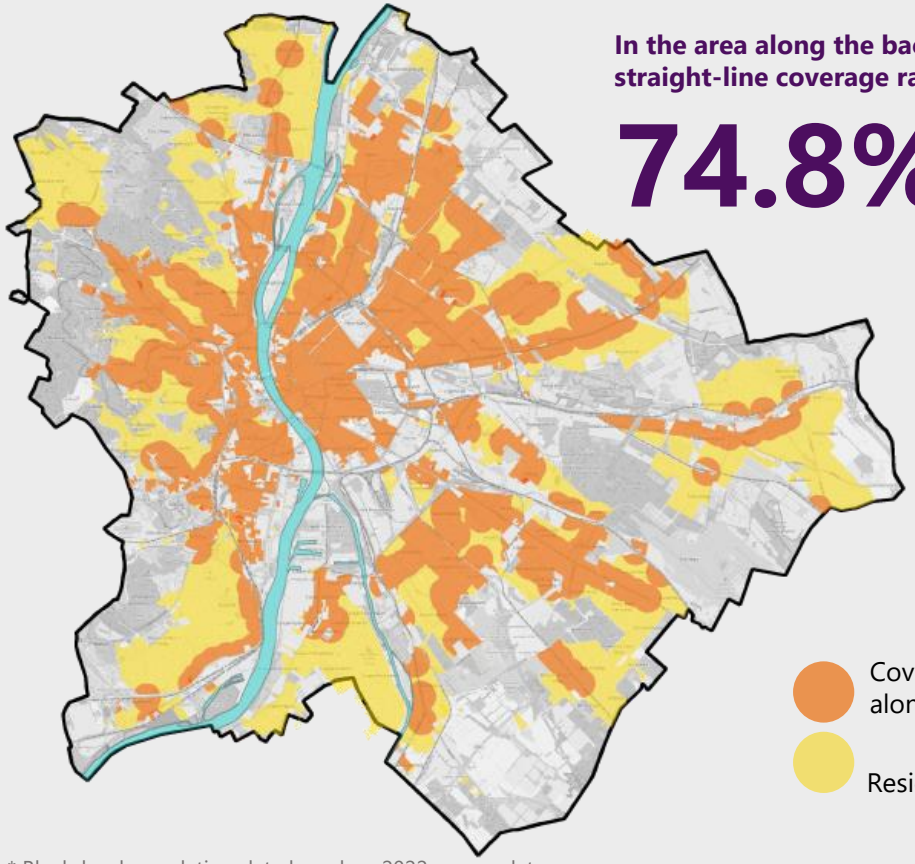
Data source: BKK

Responsible department: BKK Mobility Development, Mobility Strategy

A7.2 SPATIAL ACCESSIBILITY OF THE PUBLIC TRANSPORT BACKBONE NETWORK

The main principle of network development is to provide competitive services on as much of the backbone network as possible.

2024 results



In the area along the backbone network, within in a 500 meter straight-line coverage radius, live 1 260 173 people,*

74.8% **of the Budapest population.**

Coverage within a 500 metre straight-line radius along the backbone network

Residential area

* Block-level population data based on 2022 census data.

Unit of measurement:	Baseline value 2024	Actual value 2024	Target 2030
%			
500 metres	74.8%	74.8%	74.8%
1000 metres	91.2%	91.2%	91.2%

Evaluation and notes

The development of the public transport network is also essential to ensure that the competitiveness of Budapest and its wider region continues to increase. One important indicator of the efficiency of the network is the spatial accessibility of the high-capacity, so-called backbone network connections. A further important network development objective is to ensure that the service provided on the backbone network is competitive with individual private car use to the greatest possible extent. The elements of the backbone network are presented on page 79, while the competitive public transport index is presented on pages 21–24.

The indicator **shows the share of Budapest residents who live within 500 or 1,000 metres of the backbone network.** It can be stated regarding the physical accessibility of public transport in Budapest that the values of 74.8% and 91.2% within 500 metres and 1,000 metres walking distance respectively are good. In order to encourage more people to use public transport, network development projects should therefore primarily target the competitiveness of the service.

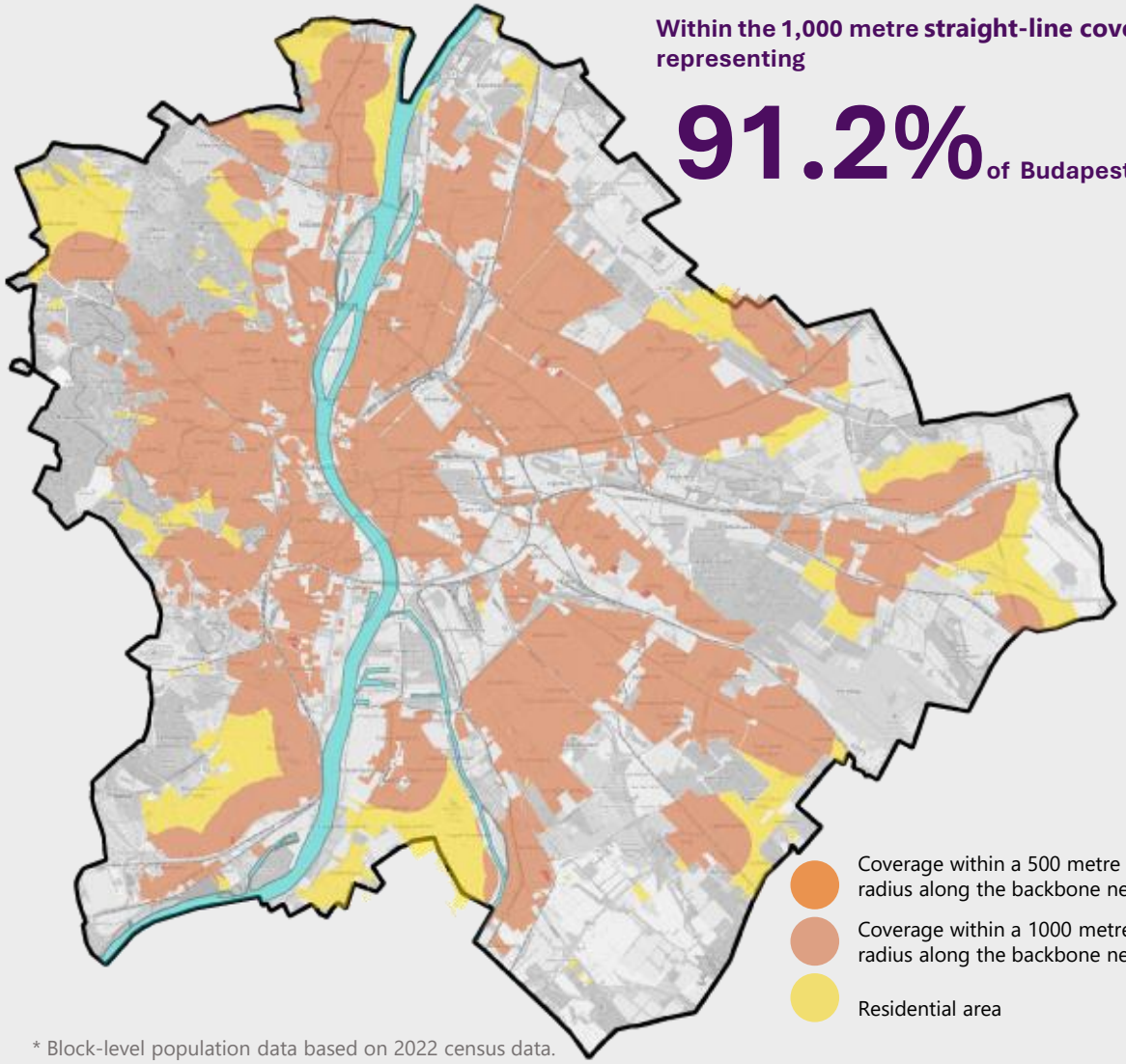
The high-coverage backbone network defined for 2024 is considered as the target value from the perspective of expanding competitive public transport services: the **development principle is to provide competitive services on as much of the backbone network as possible.** In 2024, competitive public transport services are available on 58.6% of the backbone network for some 738,706 people within a 500-metre catchment area (page 23).

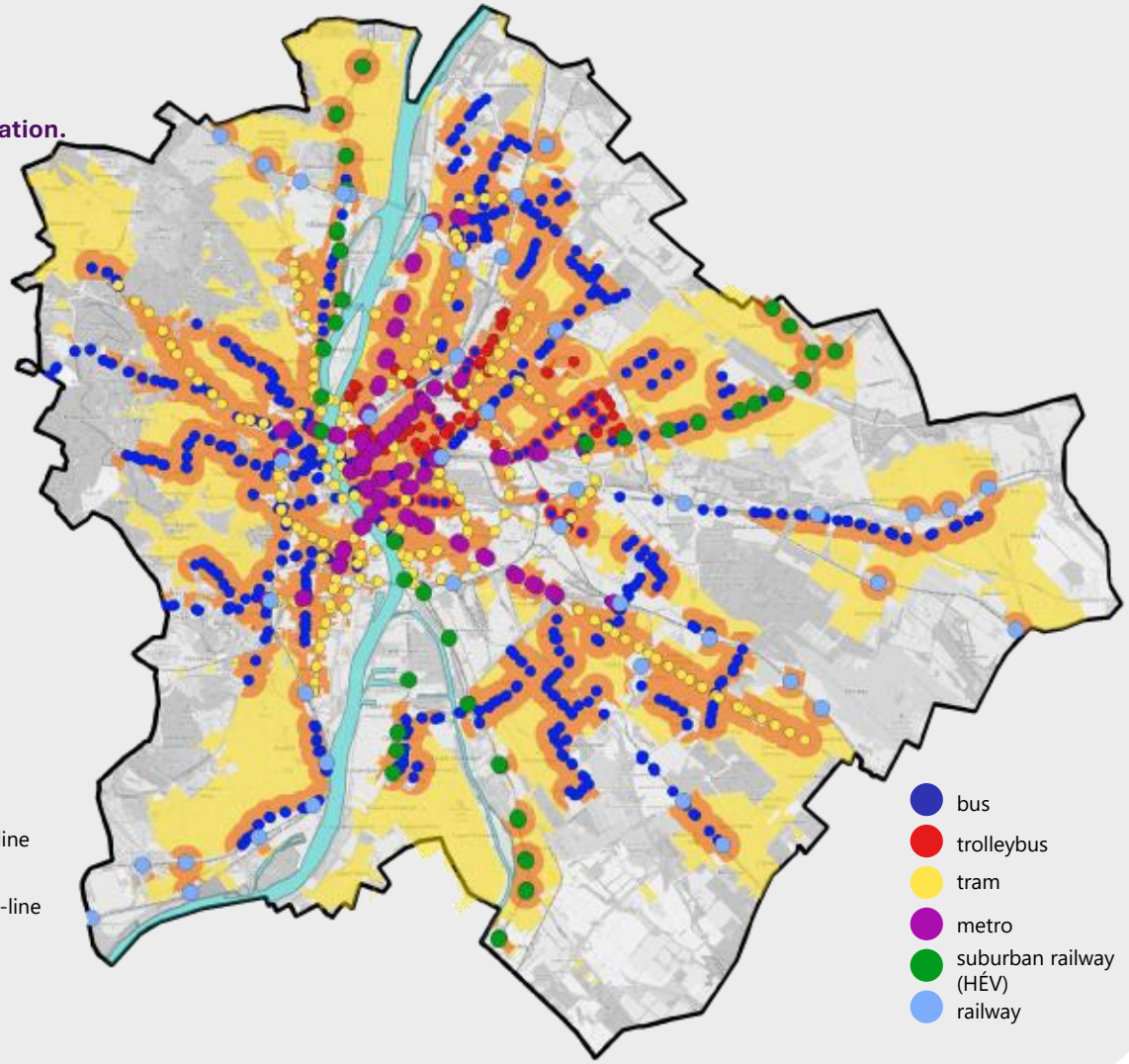
Direct distance from network [m]	Population* within the coverage area [persons]	Spatial availability of backbone network [%]
500	1 260 173	74.8
1000	1 537 325	91.2

A7.2 SPATIAL ACCESSIBILITY OF THE PUBLIC TRANSPORT BACKBONE NETWORK

Within the 1,000 metre straight-line coverage radius, live 1 537 325 people*, representing

91.2% **of Budapest population.**





* Block-level population data based on 2022 census data.

A7

A7.2 SPATIAL ACCESSIBILITY OF THE PUBLIC TRANSPORT BACKBONE NETWORK

Definition

The indicator shows the spatial availability of high-capacity public transport backbone network elements among the entire population of Budapest. The elements of the public transport backbone network play a key role in the transport of the capital due to their convenience and speed. The coverage of the backbone network was interpreted in terms of 500 and 1000 meters walking distance from the stops to calculate the indicator. With the indicator, we determined the proportion of Budapest residents who live within the given distances from the stops of the public transport backbone network.

Methodology of calculation

On the defined public transport backbone network, we designate the defined stops with the help of GIS tools (QGIS). Circles with a radius of 500 and 1,000 meters are drawn around the marked stops. Within the coverage area thus designated, the number of inhabitants is determined: L500 and L1000 [persons]

Spatial accessibility indicators of the public transport backbone network:

$\frac{L\,500}{Cap}$ and [%] $\frac{L\,1000}{Cap}$

L500 and L1000 [people] = number of inhabitants within a radius of 500 and 1000 meters of the stops of the backbone network.
Cap = population of Budapest [person]

Data source: BKK

Responsible department: BKK Mobility Development, Mobility Strategy

Elements of the public transport backbone network

- All railway halts and train stations in Budapest
- The suburban railway and metro stations
- The following tram lines:
  - Small Boulevard (47, 49)
  - Grand Boulevard (4, 6 full lines)
  - Hungária ring (1 full line to Kelenföld)
  - Outer ring (3, 62 and 62A common stops only)
  - Pest embankment (2 – the entire line)
  - Buda embankment (19, 41)
  - Hűvösvölgy Line (56, 61)
  - Bartók Béla út (inner, inwards from Móricz Zs. krt.) (19, 41, 47, 49, 56)
  - Fehérvári út (17, 41, 47, 56 to Budafok depot)
  - Alkotás Street, Villányi Road (17, 61)
  - Frankel Leó út–Bécsi út (17, 19, 41)
  - Lehel utca–Béke út (14 to Rákospalota – Újpest vasútállomás)
  - Üllői út (50)
  - Keleti-Soroksári út (23, 24)
  - Népszínház Street between Magdolna Street and Blaha L. Square
- All bus and trolleybus stops where an average of 10 or more vehicles stop per hour between 6 a.m. and 8 p.m. on weekdays, except for separate terminuses

A7.3 SPATIAL ACCESSIBILITY OF CONNECTED CYCLE MAIN NETWORK ELEMENTS

Our objective is not only to increase the extent of the network, but also its continuity, so that it is accessible to as many Budapest residents as possible.

Results for 2024

Within the 500-metre straight-line radius along continuous cycle main network, 1.115.608 people*live, representing

66.2% **of Budapest population.**

* Block-level population data based on 2022 census data.

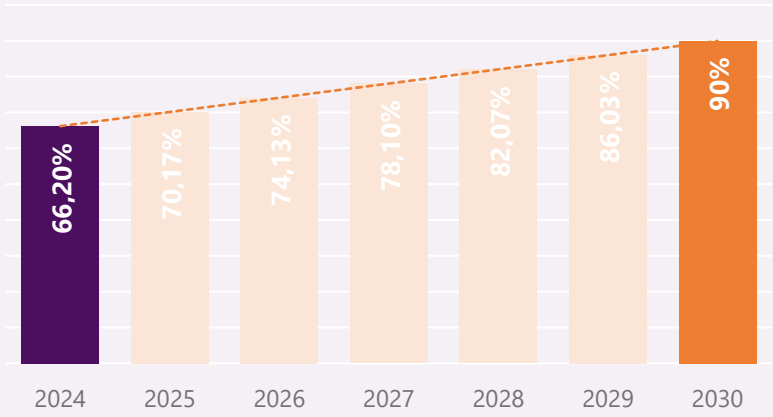
Unit of measurement:	Baseline value 2024	Actual value 2024	Target 2030
%	66.2%	66.2%	90%

Evaluation and notes

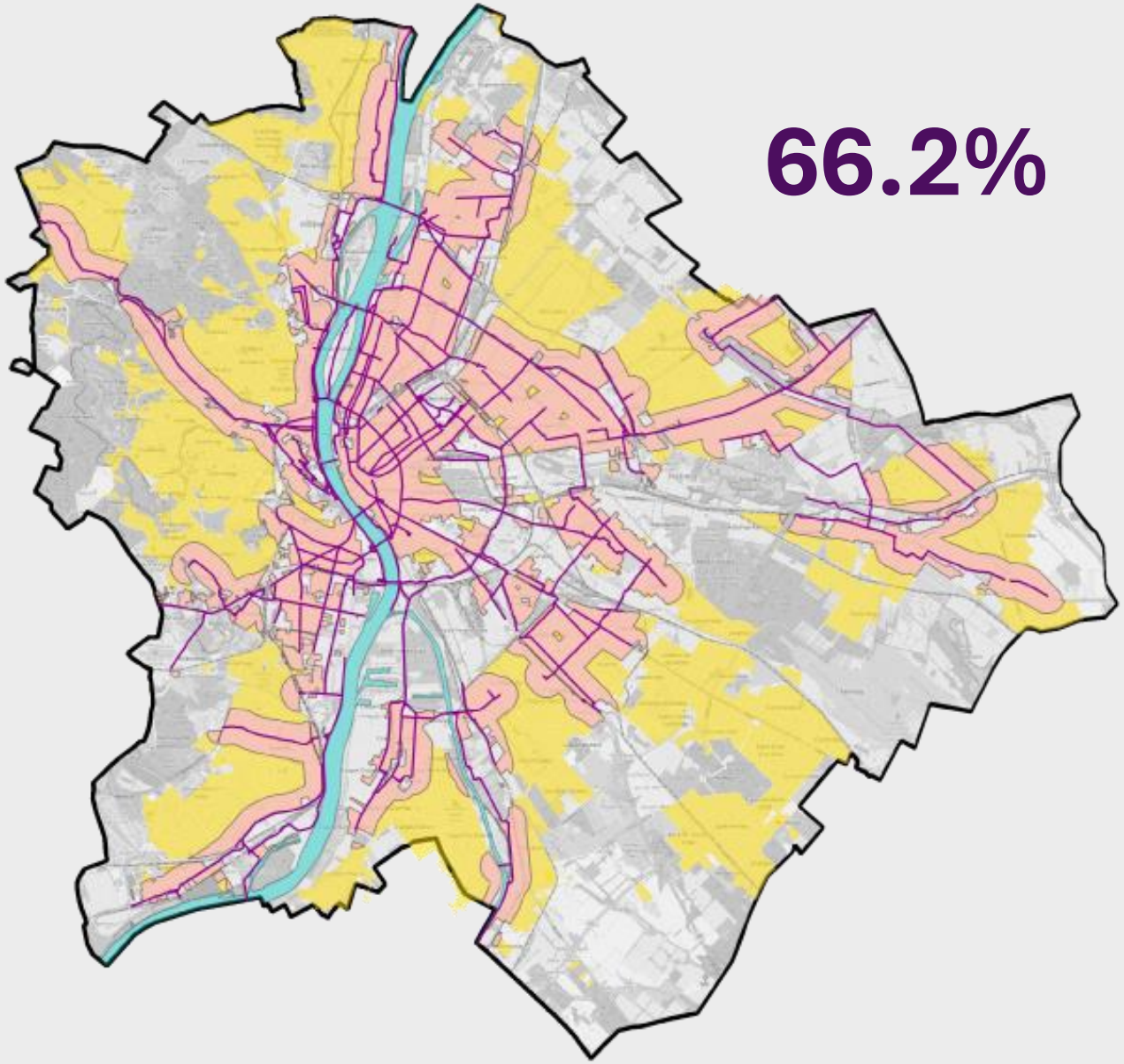
The Budapest Cycling Main Network Plan presents the current status of the cycling transport network, its comfort levels, traffic, cyclability and the factors hindering cycling traffic. The plan identifies the main network that Budapest intends to implement in the long term to increase the modal share of cycling in line with the objective of the Budapest Mobility Plan.

In the case of cycling, in addition to the comfort level of the network, it is also particularly important that the route should be continuous. Our objective is therefore not only to increase the extent of the network, but also its continuity, so that cycling infrastructure is available close to the place of residence for as many Budapest residents as possible.

Planned trend of the indicator through 2030



A7.3 SPATIAL ACCESSIBILITY OF CONNECTED CYCLE MAIN NETWORK ELEMENTS



66.2%

The core indicator measures the spatial accessibility of the continuous elements of the **comfort level 1–3 network** (existing, usable cycling infrastructure) among the population of Budapest, from among the comfort levels defined in the Cycling Main Network Plan. (The definition of the comfort levels can be found on page 95 in the presentation of the *Share of the cycling main network with an adequate service comfort level"* indicator.)

We consider those network elements to be continuous where there is a missing, impassable or **unsafe-to-cycle section of comfort level 4–5 less than 200 metres long**.

Overall, it can be stated that **two-thirds of Budapest's population* live in the vicinity of a usable primary cycling network,** because within 500 metres they can reach cycling infrastructure that is connected to the rest of the city.

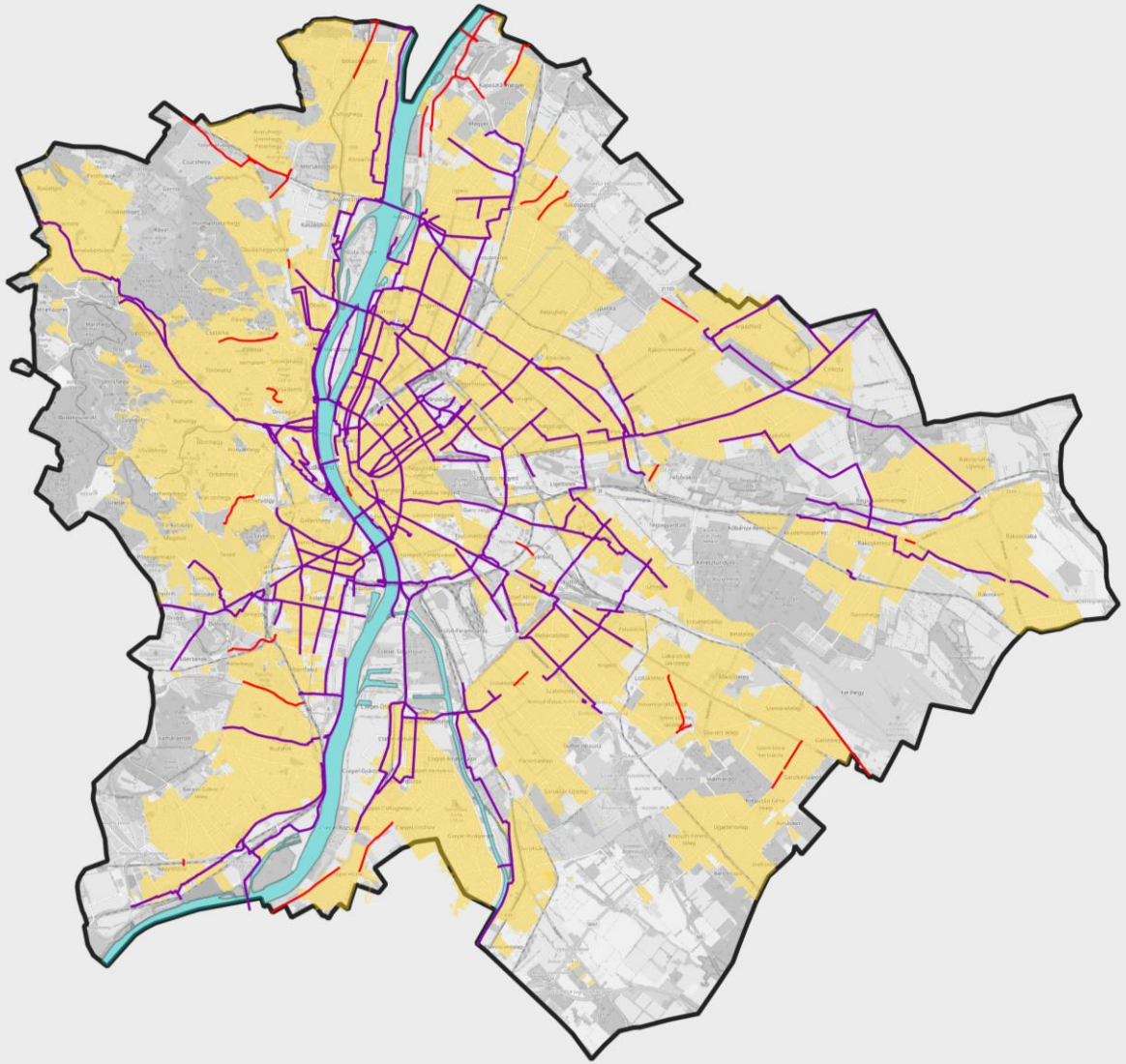
Cycling use is significantly impaired if a person can only access disconnected network elements in their residential environment and cannot safely reach their workplace or nearby centres.
Where the continuous network has already been developed, it may still be a problem that secure bicycle parking is not provided in nearby housing estates.

The spatial accessibility of the continuous cycling network and the increase of its use can be supported by closing the gaps and developing level 1–2 or, temporarily, level 3 primary network elements, as well as by targeted projects for the implementation of bicycle parking in housing estates.

- Continuous main cycling network with comfort levels 1–3
- Coverage of the continuous main cycling network within 500-metre straight-lineradius in residential areas
- Residential area

* Block-level population data based on 2022 census data.

CONNECTED CYCLING MAIN NETWORK ELEMENTS, COMFORT LEVELS 1 - 3



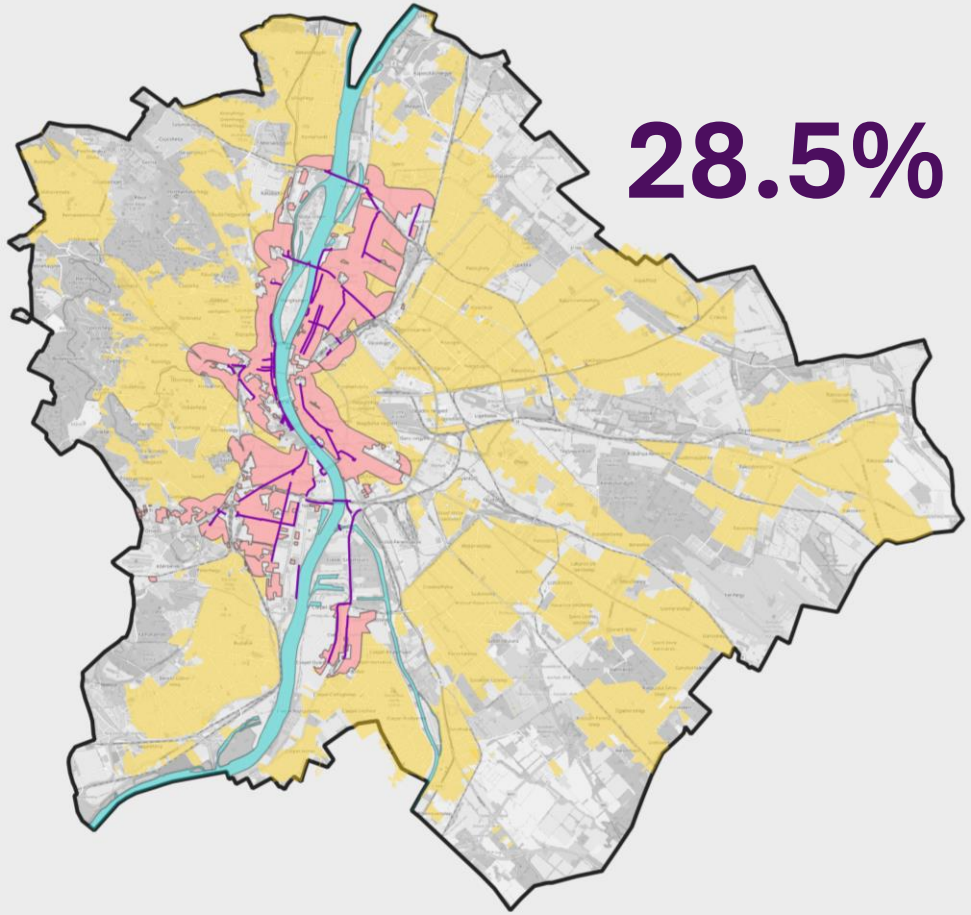
The ideal spatial accessibility of the contiguous safe cycling network can be increased by closing gaps and developing high-comfort primary network elements.

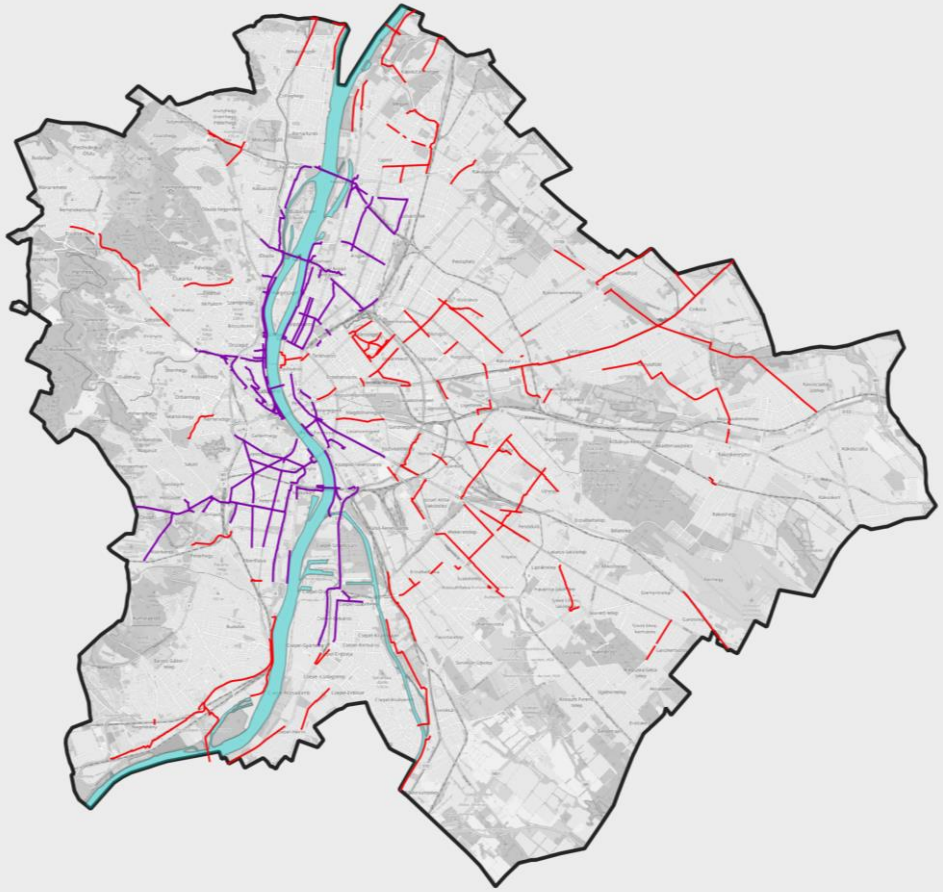
There is a significant difference in development needs between the inner and outer areas: in the city centre and in areas close to the Danube, the most important intervention is generally only a change of function, the reallocation of the cross-section; outside Hungária Boulevard, however, substantial network expansion is required. This means not only increasing the comfort level of existing facilities, but also the creation of entirely new alignments. To eliminate missing links and barriers and to reconnect areas cut off from one another (e.g. by railway tracks), however, new bridges, crossings, etc. are required.

During preparation of the Cycling Primary Network Plan, a detailed survey was carried out on the cycling habits of Budapest residents. The respondents confirmed that for cycling the **most important priority is to create a continuous, unbroken, contiguous primary network** as soon as possible and across the widest possible area, even with more modest means. At the same time, level 3 cycle paths do not provide a sufficient sense of safety for many people to cycle.

- Connected main cycling network with comfort levels 1–3
- Detached elements of the level 1–3 cycling main network located more than 200 metres from the contiguous sections
- Residential area

CONNECTED MAIN CYCLING NETWORK ELEMENTS, COMFORT LEVELS 1 - 2





We also examined the extent of the spatial accessibility of the network at comfort levels 1 and 2 only, assuming that level 3–5 is considered a "gap".
Within a **500-metre-straight-line radius coverage area 480,659 inhabitants*, 28.5% of Budapest's population, live alongside the connected main cycling network at comfort levels 1 and 2.** The analysis clearly shows that the highest-quality contiguous primary cycling network covers the most densely populated inner-city central area and the residential areas close to the Danube .

* Block-level population data based on 2022 census data.

- Connected main cycling network at comfort levels 1–2
- Disconnected elements of the comfort level 1–2 main cycling network that are located more than 200 metres from the contiguous sections
- Residential area
- Coverage within a 500-metre straight-line radius of the connected main cycling network, comfort level 1-2, within residential areas

A7

A7.3 | SPATIAL ACCESSIBILITY OF CONNECTED CYCLE MAIN NETWORK ELEMENTS

Definition

The indicator shows the spatial accessibility, among the population of Budapest, of the connected elements of the Cycling Main Network Plan defined in it among the comfort levels **comfort levels 1–3** (existing, usable cycling infrastructure). **We consider network elements to be connected if there is a section of comfort level 4–5 of less than 200 metres in length between them** (not safely cyclable, missing or impassable**).** With this indicator, we monitor the proportion of the population living in the immediate vicinity of the cycling main network, at a maximum distance of 500 metres from it, relative to the total population of Budapest.

Calculation methodology

We identify the connected sections of the cycling main network of comfort levels 1–3, then **using GIS tools** (QGIS) assign the coverage **area** within a distance of **500-500 metres** from the network sections as the centre line. Within the coverage area thus delineated, we determine the population (Lökp). We compare the population determined within the coverage area to the total population, thereby obtaining an accessibility percentage.

Spatial accessibility of the connected cycling main network:

$$\frac{Lökp}{Cap} \quad [\%]$$

Lökp = population within the coverage area
Cap = population of Budapest [persons]
The definition of the comfort levels is described in detail in the calculation of the indicator *K1.2.1 Proportion of the cycling main network with an appropriate level of service comfort* .

Data source: BKK

Responsible department: BKK Mobility Development, Mobility Strategy

A7.4 SHARE OF COMMUTERS FROM OR TO THE SUBURBS BY PUBLIC TRANSPORT

Significant improvement on the 2023 value of 30.6% is the objective based on the target set by the Budapest Agglomeration Railway Strategy (BAVS).

2023 results

2019	2023	2030	2040
34%	31%	35%	60%

Unit of measurement:
% public transport share, trips/day

Baseline value 2019
33.9%
with EFM 1.2 passengers/vehicle occupancy

Actual value 2023
30.6%
with EFM 1.2 passengers/vehicle occupancy

Target 2030
35%

BAVS target 2040
60%

The available underlying data for the indicator have not been updated since the publication of the 2023 report, therefore the indicator factsheet is published unchanged in the 2024 report.

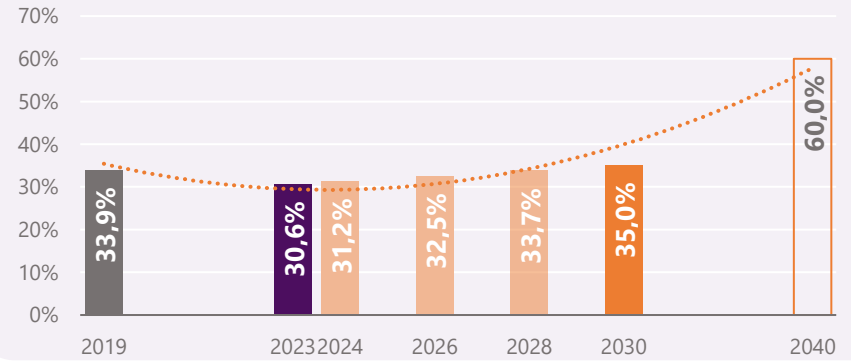
Evaluation and notes

Between the 2019 and 2023 surveys, several factors had a significant impact on travel patterns. The population of the agglomeration increased, whilst – partly because of the Covid-19 pandemic – the proportion of commuters using public transport decreased. In addition, a survey was conducted as part of the EFM update to assess mode choice preferences for journeys between the agglomeration and Budapest, which refined the parameters of the model's mode choice functions. The aim is to significantly improve on the **30.6% figure for 2023**: in line with the ambitious target set out in the Budapest Agglomeration Rail Strategy (BAVS), we would like to increase this **to almost double by 2040**.

To achieve the feasible 35% target for 2030, it would be important to implement the extension of the Southern Circular Railway, the reconstruction of commuter train lines 71 and 142 and the suburban railways, as well as the fleet, which would, in turn, help to reduce commuter traffic on the roads. Another important measure could be public transport prioritisation and, in certain cases, an increase in the capacity ordered.

To achieve the **60% target set for 2040**, it will be necessary to implement the medium- and long-term projects set out in the BAVS.

Planned trend of the indicator through 2040



BUDAPESTI KÖZLEKEDÉSI KÖZPONT

A7

A7.4 | SHARE OF COMMUTERS FROM OR TO THE SUBURBS BY PUBLIC TRANSPORT

Definition

In Budapest transport, **commuting from the agglomeration** plays a significant role. The indicator shows, for trips crossing the boundary between Budapest and the agglomeration, when people travel from the suburban area to Budapest or from Budapest to the suburban area, **what percentage of these trips are made by public transport,** and what percentage by private car.

Measurement methodology

The indicator is produced on the basis of calculable traffic performance values in the Unified Traffic Model (EFM). We sum the number of public transport trips that take place from the suburban area to Budapest or from Budapest to the suburban area and then divide this by all boundary-crossing trips (public transport and private car).
For the calculation of the indicator, we used the updated Unified Traffic Model Strategic Version 07 (EFM SV07). SV07 does not yet include the results of the 2024 household survey, therefore, the relationships derived from it are not yet reflected in this version. However, it does include the results of the agglomeration travel preference survey, which were used to refine mode choice for trips taking place between Budapest and the agglomeration.
Based on SV07, the share of trips from the agglomeration to Budapest made by public transport (inbound) is 31%, while in the opposite direction (outbound) it is 30.19%. In the indicator, the average of the two values is taken into account (the difference is technical in nature due to the model's operating mechanism, and the average of the two values can be regarded as authoritative).

Data source: BKK

Responsible department: Strategic Data Management and Knowledge Centre Directorate
Data Analysis and Modelling Department

A7.4 | SHARE OF COMMUTERS FROM OR TO THE SUBURBS BY PUBLIC TRANSPORT

RECOMMENDATIONS FOR THE DEVELOPMENT OF AGGLOMERATION TRANSPORT BASED ON THE SUMP

Short- and medium-term actions:

- Substantial extension and capacity expansion of the bus network from agglomeration settlements towards Budapest, so that it provides a real and convenient alternative to individual car use. With traffic management solutions, priority for buses should be ensured where justified (bus lanes, signal priority). The Municipality of Budapest continuously strives to prioritise both urban and agglomeration bus services within the city boundary.
- Increasing the spatial accessibility of high-capacity public transport services that are significant for suburban traffic by optimising the feeder bus network and improving coordination with rail-based public transport, potentially complemented by demand-responsive transport. Feeder access can be further strengthened by supporting shared and private micromobility feeder access.
- Accelerated implementation of the HÉV developments already prepared or planned. Increasing the frequency of HÉV services within the limits set by the infrastructure and rolling stock fleet.
- Ensuring better access to existing agglomeration public transport stops and stations by active mobility and micromobility and creating new stops.
- Supporting car-sharing/carpooling systems, and developing the supporting application in order to increase the current average occupancy of private cars of 1.2-1.3 persons, so that fewer private cars are needed to transport the same number of people. In combination with the establishment of adequate enforcement, the measure may be combined with regulatory tools that – in the case of multi-lane roads – allocate one lane to higher-occupancy cars (carpool lane).
- Implementation of the immediate and short-term (deliverable by 2030) suburban rail developments identified in the Budapest Agglomeration Railway Strategy (BAVS).
- P+R and B+R parking facilities should be created in large numbers in agglomeration areas, as close as possible to the origin and destination points of trips, with the cooperation of agglomeration municipalities and the government. Near the city boundary and in more central areas of Budapest, increasing P+R capacity is recommended only in exceptional cases. In areas without rail-based connections, P+R parking can be created if an adequate quality and quantity of bus services are provided.
- B+R-type developments supporting micromobility feeder access – because they typically require less space and have higher cost-efficiency – should be given priority over P+R-type developments.

Long-term developments:

- Implementation of the suburban rail developments designated by the Budapest Agglomeration Railway Strategy (BAVS).
- Extension of metro lines not covered by the BAVS to the city boundary or beyond. For line M3, preparatory steps should be continued, and for line M4 they should be initiated.
- Implementation of the missing tangential road and public transport links in the outer zone and in the area around the city boundary, in order to prevent unnecessary through-traffic from burdening the inner and transitional zones of the city.

COMPLEMENTARY INDICATORS

2024 REPORT

COMPLEMENTARY INDICATORS

THE COMPLEMENTARY INDICATORS WERE GROUPED ALONG STRATEGIC OBJECTIVE 11 OF THE BMT.
THE ANNUAL REPORT CONTAINS THE SUPPLEMENTARY INDICATORS HIGHLIGHTED IN GREEN (7/15).

CODE	BMT OPERATIONAL OBJECTIVE	Complementary indicators for the operational objective
1.1	LIVEABLE PUBLIC SPACES	K1.1.1 Proportion of liveable streets K1.1.2 Land use diversity indicator K1.2.3 Proportion of transport areas per population K1.1.4 Quality of public spaces indicator **K1.1.5 Share of fully accessible stops**
1.2	INTEGRATED NETWORK DEVELOPMENT	**K1.2.1 Share of the main cycling network with adequate service comfort level** K1.2.2 Citylogistics loading space concentration
1.3	EASILY INTEROPERABLE REGIONAL SYSTEMS, CONVENIENT MODE-SWITCHING POINTS	K1.3.1 Number of transfer points P+R and B+R K1.3.2 Transfer time in public transport
2.1	STATE-OF-THE-ART, LOCALLY ZERO-EMISSION VEHICLES	**K2.1.1 Share of purely electric passenger cars and goods vehicles registered in Budapest**
2.2	CUSTOMER-FRIENDLY VEHICLE DEVELOPMENTS	**K2.2.1 Share of public transport services provided by modern, accessible vehicles**
3.1	SHAPING TRANSPORT CULTURE AND HABITS	**K3.1.1 Passenger security perception indicator**
3.2	INTEGRATED MOBILITY SERVICES	K3.2.1 Degree of MaaS integration **K3.2.2 Level of satisfaction with customer information services**
3.3	HARMONISED URBAN SERVICES	**K3.3.1 Rate of fare-system integration**

K1.1.5 | SHARE OF FULLY ACCESSIBLE STOPS

The 2024 indicator value is practically stagnating; the new stops created as a result of network infrastructure developments are only partially accessible.

2024 results

18.58%*

* stop-number-weighted average

18.47%*

					Suburban bus	Suburban rail
2024	12,44%	47,90%	63,11%	26,09%	No data	No data
2023	12,53%	47,90%	61,17%	26,09%	No data	No data
2030	25%	60%	85%	26%	No data	No data

Unit of measurement:
%

Baseline value 2023
BKK: 18,53%
Budapest: 18,64%

Actual value 2024
BKK: 18,47%
Budapest: 18,58%

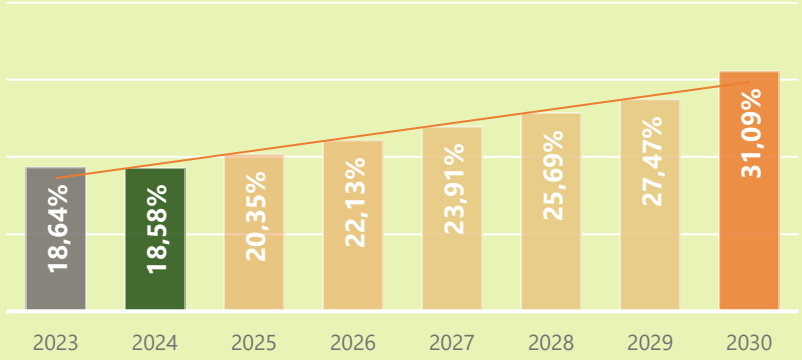
Target 2030
BKK: 31,17%
Budapest: 31,09%

Evaluation and notes

The indicator shows the stop-number-weighted average of the share of fully accessible stops across public transport sectors.
Those stops and metro stations are considered **fully accessible that are accessible without barriers, and where devices meeting the visibility requirements, tactile paving, and the audible passenger information system have also been installed.** The indicator shows only the physical and audiovisual accessibility of stops; barrier-free access between platform and vehicle was considered in the calculation of indicator *A4.3 Physical and audiovisual accessibility in public transport* (page 57).

The 2024 indicator value is practically stagnating; the 0.06% decrease in the bus and trolleybus sector is because the new stops created as a result of network infrastructure developments are only partially accessible, and the number of stops equipped with audible passenger information has not increased.
In the metro sector, the increase in the indicator value is the result of the barrier-free pedestrian connection established during the underpass refurbishment associated with the Határ út station opened in 2024.

Planned trend of the indicator through 2030



CHANGE IN THE INDICATOR BY SECTOR

Vehicle	Year	All stops [pcs]	Number of stops equipped with an audible passenger information system	Number of accessible stops	Percentage of completely barrier-free stops	Full accessibility as a percentage of the target by sector
	2023	3878	486 12,53%	3275 84,45%	12,53%	50,13%
	2024	3906	486 12,44%	3387 86,71%	12,44%	49,77%
	2030	-	25%	100%	25%	
	2023	643	308 47,90%	322 50,08%	47,90%	79,83%
	2024	643	308 47,90%	322 50,08%	47,90%	79,83%
	2030	-	60%	100%	60%	
	2023	103	103 100,00%	63 61,17%	61,17%	71,96%
	2024	103	103 100,00%	65 63,11%	63,11%	74,24%
	2030	-	100%	85%	85%	
	2023	69	35 50,72%	18 26,09%	26,09%	100,00%
	2024	69	35 50,72%	18 26,09%	26,09%	100,00%
	2030	-	-	-	26,09%	

In order to achieve the 2030 target value, the accessibility of stops must be improved at a faster pace; the 2024 value of 18.58% is 2 percentage points lower than the proportionately planned target. For determining the target value, we took the following sectoral targets into account:

- **In the bus and trolleybus sector it can be expected that** 100% of stops should be accessible.
  The indicator for audible passenger information primarily refers to the audio description of digital displays (text-to-speech). **Our target is for 25% of bus stops to be equipped with digital displays and audible passenger information.** (100% coverage is not expected, partly because the current traffic situation is also accessible to visually impaired passengers on vehicles and in the BudapestGO app as well.) In the case of bus and trolleybus stops, the **target value** for full accessibility **is 25%.**
- **In the tram sector** – similarly to the bus and trolleybus sector – it can be expected that every (100%) stop should be accessible, and 60% of them should provide audible passenger information. The accessibility indicator for tram stops has a **target value of 60%.**
- **In the metro sector** station accessibility needs to be improved; however, due to the high costs and the long planning and implementation period, it is not realistic for every stop to be accessible within 5 years. Considering the investment programme of the Budapest Mobility Plan, if the M1 metro development is completed by 2030, an accessibility level of 85% can be achieved in this sector. The accessibility indicator for the metro sector is therefore **set at 85%.**
- In the case of **suburban rail (HÉV)** it is not realistic for development to be completed by 2030, therefore in this sector we take the target value to be identical to the current actual value, 26.09%.

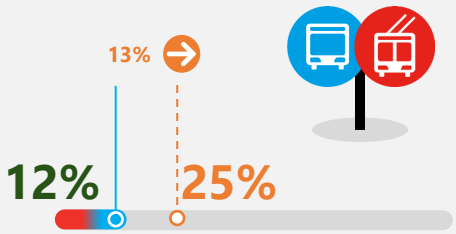
Taking the sectoral targets into account, the 2030 target value for the share of fully accessible stops also equipped with audible passenger information is 31.09%.

One important measure of the forthcoming Pedestrian and Accessibility Strategy is the establishment of accessible connections to public transport stops.

K1.1.5 | SHARE OF FULLY ACCESSIBLE STOPS

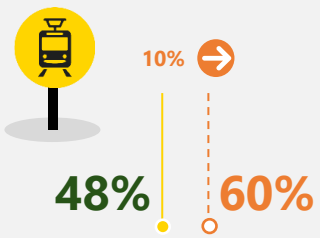
What needs to be done by 2030 in each public transport sector for the share of fully accessible stops to reach the target value?

In the trolleybus and bus sector



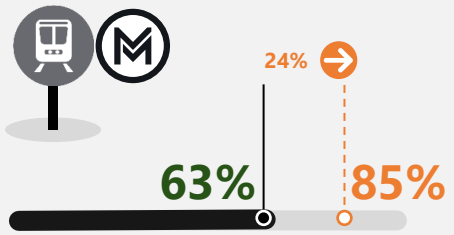
To achieve the sectoral target value, more substantial development is required in the physical accessibility of stops. All 3,878 bus and trolleybus stops must be accessible without barriers, and to reach the target value, **about 1,000 more stops would also need to have audible passenger information**.

In the tram sector



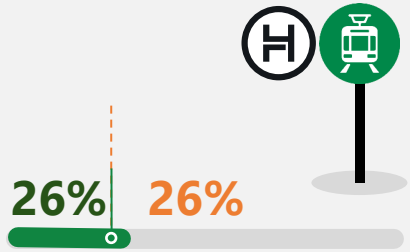
To achieve the sectoral target value, more substantial development is required in the physical accessibility of stops. Of the 643 tram stops, 386 more would need to be accessible in both respects compared with the current 308. **To reach the target value by 2030, the full accessibility of 78 stops is therefore required.**

In the metro sector



To achieve the metro sector target value, **development of the M1 vehicles and infrastructure is required,** and the barrier-free accessibility of the platforms of metro lines M1 and M2 must also be improved.

In the suburban rail (HÉV) sector



We did not receive information in the reporting year, 2024, on the scheduling of HÉV developments up to 2030, therefore we calculated with **26%** as the value. If the owner confirms implementation of the planned developments, we will revise the target value accordingly.

SHARE OF PARTIALLY ACCESSIBLE STOPS WHERE PHYSICAL ACCESSIBILITY IS ENSURED

The indicator value improved slightly by 2.4% in 2024 compared to the 2023 baseline year.

Results for 2024

80.3%*

*stop-number-weighted average

81.1%*

	BKK				MÁV CSOPORT	
					Suburban bus	Suburban rail
2024	86,71%	50,08%	63,11%	26,09%	No data	No data
2023	84,45%	50,08%	61,17%	26,09%	No data	No data
2030	100%	100%	85%	-	No data	No data

Unit of measurement:
%

Baseline value 2023
BKK: 79.2%
Budapest: 78.4%

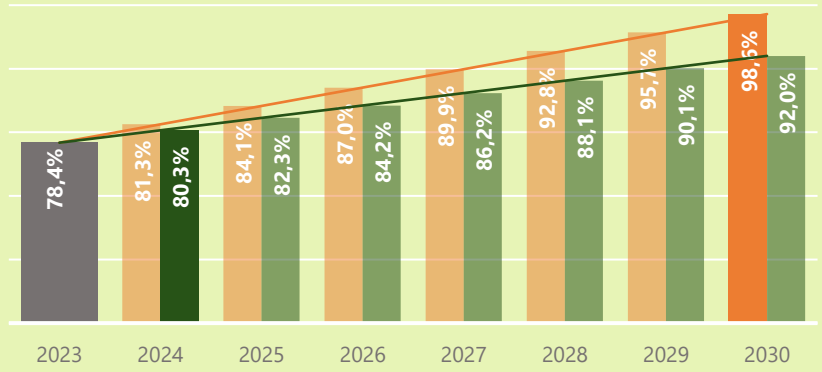
Actual value 2024
BKK: 81.1%
Budapest: 80.3%

Target 2030
BKK: 99.7%
Budapest: 98.6%

Evaluation and notes

The primary role of accessible infrastructure is to ensure ease of use for all user groups. For new and rebuilt infrastructure, as well as modern vehicles, **accessible design is a basic requirement.**
The sub-indicator shows the stop-number-weighted average share of partially accessible stops across the public transport sectors. With this indicator, we examined to what extent the stops of the different public transport sectors can be accessed barrier-free by wheelchair, and whether tactile paving has been installed.
Despite recent developments, a significant part of the capital's transport system is still not accessible. The greatest shortfall is in the rail-based sectors. Existing transport surfaces, especially in the surroundings of stations, stops and terminuses at public transport facilities, need to be improved in a phased manner on the basis of a comprehensive equal opportunities review.

The planned evolution of the share of partially accessible stops and the deviation of the current trend from the target up to 2030



K1.1

K1.1.5 | SHARE OF FULLY ACCESSIBLE STOPS

Definition

The indicator is an equality-related measure of the service quality of public transport. The indicator shows the proportion of fully accessible public transport stops and metro stations relative to all stops and metro stations.

Calculation methodology

Those stops and metro stations may be considered **fully accessible if they are accessible without barriers and are equipped with devices that comply with visibility requirements**, **with tactile paving and an audible passenger information system also provided,** as follows

- **bus and trolleybus stop**: it must be possible to leave the platform via a hard-surfaced, step-free pavement to a dropped kerb on the same side within 100 metres, where, after crossing the carriageway, the hard-surfaced pavement or platform on the other side of the intersected carriageway can be reached via a similar dropped kerb on the opposite side.
- **tram stop**: if the platform is 26 centimetres high above the rail head along a length appropriate to the vehicles, and ends in a ramp on at least one end, from the bottom of which, at the same level as the rail head, the opposite hard-surfaced pavement can be reached across the rails at grade and across the parallel carriageway via dropped kerbs.
- **metro station**: in addition to an escalator, the passenger can leave the platform to the pavement level alongside the station on a step-free walking route using a lift, incline lift or ramp.

If one of the above conditions is not met, the stop is only partially accessible.

Share of fully accessible stops by sector: TAMH = [MIN (AMH; HMH;)] / MH

TAMH: number of fully accessible stops
MH: total number of stops
HMH: number of stops equipped with an audible passenger information system
AMH: number of physically accessible stops

For public transport as a whole, the value of the indicator is given by the weighted average of the sectoral fully accessible stops, weighted by sectoral stop numbers.

Data source: BKK, MÁV–HÉV Zrt.

Responsible department: BKK Mobility Strategy and Planning, Transport Safety and Accessibility; Mobility Strategy

K1.2.1 SHARE OF THE MAIN CYCLING NETWORK WITH ADEQUATE SERVICE COMFORT LEVEL

Compared to the 2019 baseline year, by the end of 2024 the share of cycling infrastructure with an adequate comfort level improved by ~5% (46 km) to ~27% .

2024 results

COMFORT LEVEL	TECHNICAL CONDITION	2024 CURRENT LENGTH (KM)	COMFORT LEVEL RATIO 2024 (%)
1	**The theoretical design and technical condition of the public space / independent bicycle traffic facility is good, no development is necessary.**	**128**	**27%**
2	**The theoretical design is good, but development is needed: pavement renovation, development of existing junction designs, minimum width according to the NDA must be achieved.**	**116**	
3	Theoretical design is not good: a change of type is necessary; significant abbreviations can be used; poorly designed nodes.	145.5	16%
4	The conditions for safe cycling are not given: a common surface with car traffic, the allowed/actual speed is at least 50 km/h.	463.5	51%
5	Physically missing or impassable section (e.g. breaking through a missing bridge, tunnel or currently closed area).	63	7%

Unit of measurement: %

Baseline values

2019: 22% 198 km

2021: 23% 209 km

Actual value 2024

27% 244 km

Target 2030

56% 512 km

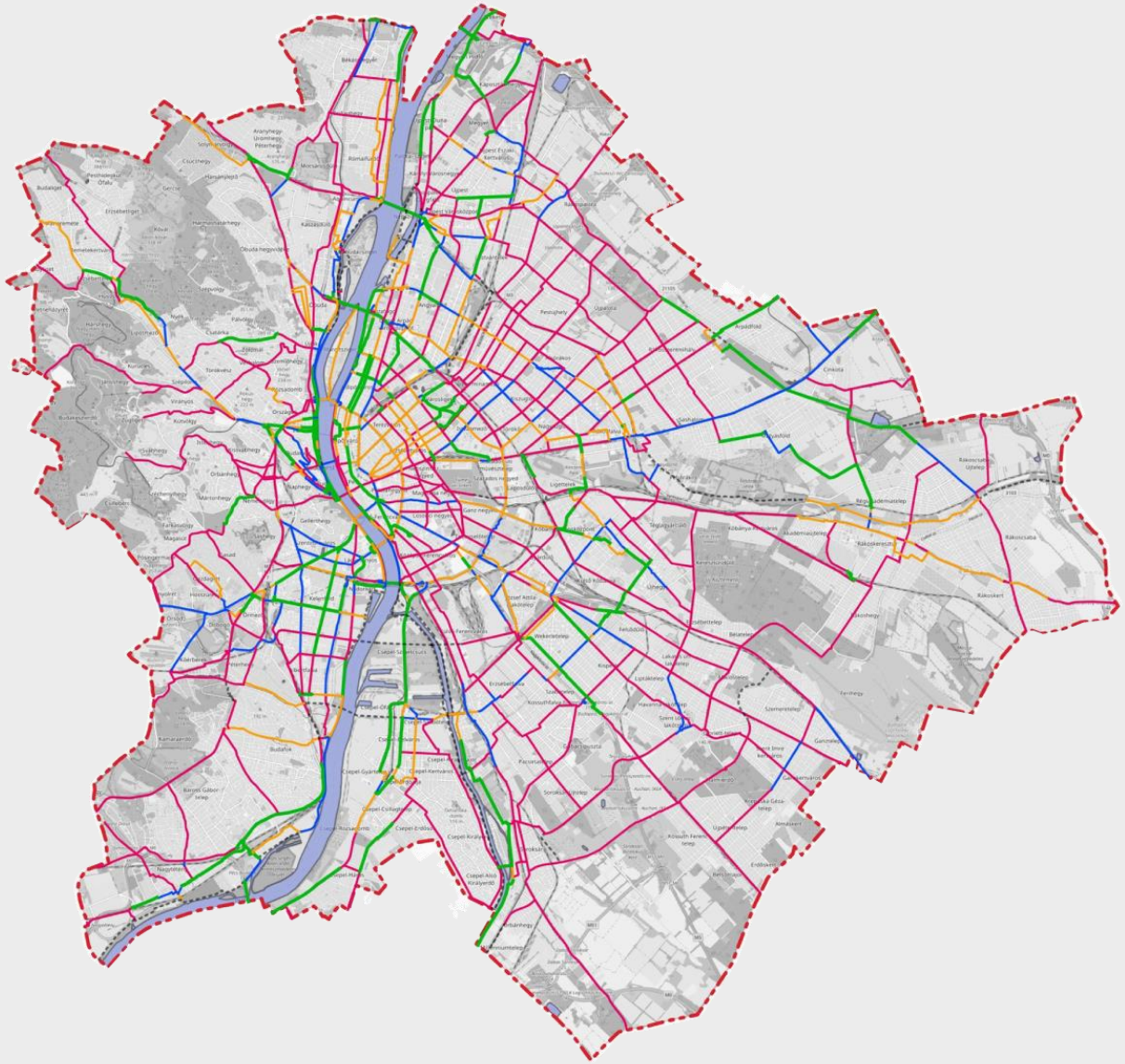
Evaluation and notes

The planned main cycling network of the capital has a total length of 915 km.
In the 2019 baseline year, the share of comfort levels 1 and 2 was 198 km, i.e. 22%.

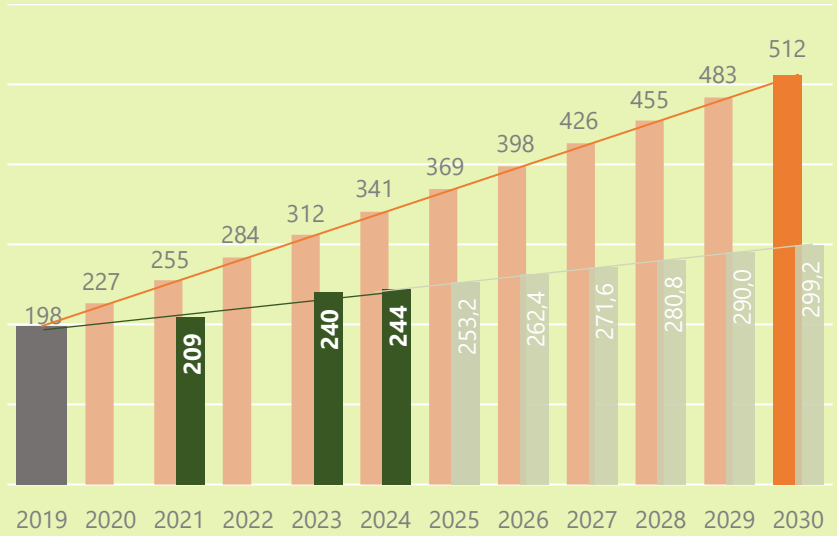
Compared to the 2019 baseline year, by the end of 2024 the share of cycling infrastructure with an adequate comfort level improved by ~5% (46 km) to ~27% , which, compared to the 2023 indicator value, represents a slowing increase of only 1% (4 km).

In order to achieve the target set for 2030, an average annual **~45 kilometres** would need to be added to the level 1 and level 2 comfort network. If the network with the appropriate standard continues to be developed only at the 2024 rate of 4 km/year, then instead of the 56% target set for 2030, only 33% of the network (299 km in length) will have cycling infrastructure with an adequate comfort level.

SERVICE COMFORT LEVELS OF THE MAIN CYCLING NETWORK



Planned trend of the indicator through 2030



Legend

- Lb1 conceptual design and technical condition of the main cycling network element are both good
- Lb2 conceptual design of the main cycling network element is good, its technical condition requires improvement
- Lb3 the conceptual design of the main cycling network element is inadequate, significant changes are required
- Lb4 main cycling network element is not safe for cycling
- Lb5 missing or impassable main cycling network element

K1.2.1 SHARE OF THE CYCLING MAIN NETWORK WITH AN APPROPRIATE SERVICE COMFORT LEVEL

Definition

The main network can be classified into 5 comfort levels; the indicator shows the share of network elements in service comfort levels 1 and 2 within the cycling main network compared to the total network. The classification criteria were developed on the basis of the BKK Cycling Main Network Plan, namely: 1: the conceptual design and technical condition of the main network element are both good; 2: the conceptual design of the element is good, while its technical condition can be improved; 3: the conceptual design of the element is not good and significant changes are required; 4: the main network element cannot be cycled safely; 5: missing / impassable main network element.

Calculation Methodology

BKK continuously monitors the cycling main network and the comfort levels of its elements, updating its database year by year using the QGIS geographic information software.
Share of main cycling network elements with comfort levels Lb1 and Lb2 in Budapest:

$$\frac{Lb1 + Lb2}{Lbn},$$

where
Lb1 = total length of main cycling network elements with service comfort level 1 [km]
Lb2 = total length of main cycling network elements with service comfort level 2 [km]
Lbn = total length of the main cycling network [km]

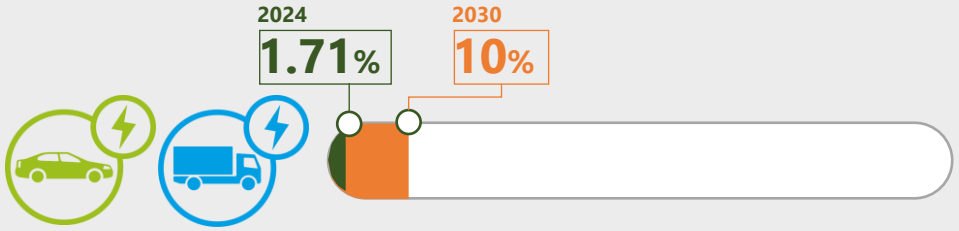
Data source: BKK Cycling Main Network Plan (bkk.hu)

Responsible department: Continuous data updates are carried out by the Mobility Development Directorate of BKK.

K2.1.1 | SHARE OF PURELY ELECTRIC PASSENGER CARS AND GOODS VEHICLES REGISTERED IN BUDAPEST

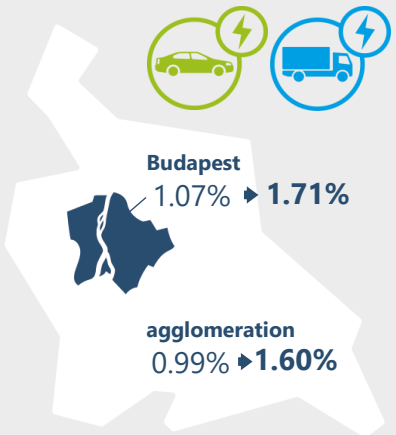
The indicator value increased from 1.07% in 2023 to 1.71% in 2024 for passenger and goods vehicles in Budapest.

2024 results



	BUDAPEST	BUDAPEST AND AGGLOMERATION	BUDAPEST	BUDAPEST AND AGGLOMERATION
2023	1.56%	1,45%	0.59%	0.54%
2024	2.43%	2.43%	0.98%	0.86%

Change in the index between 2023 and **2024** in Budapest and the agglomeration



Unit of measurement: %

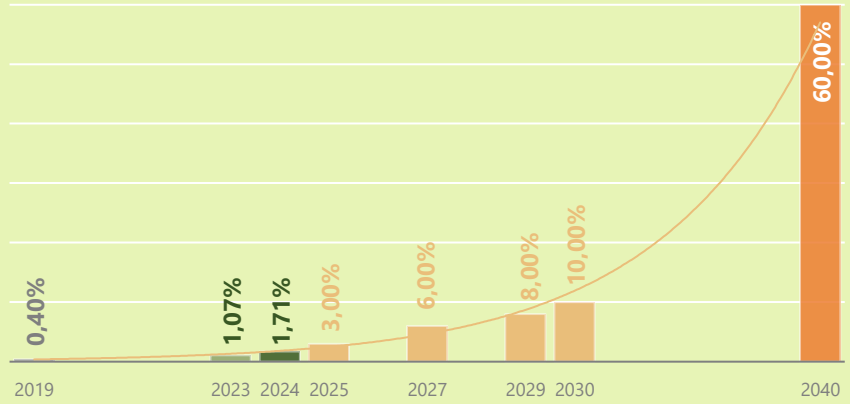
- Baseline value 2019: 0.4%
- Actual value 2024: 1.71%
- Target 2030: 10%
- Target 2040: ~ 60%

Assumed values required to achieve the climate neutrality targets planned for 2040: identical passenger car and goods vehicle shares within the Budapest vehicle fleet; share of electric motor vehicles by category: passenger car: 55%, J1: 90%, J2-J3: 60%, J4: 55%, bus: 50%.

Evaluation and notes

Vehicles with green number plates (purely electric, range-extender electric, plug-in hybrid and other zero-emission vehicles) have been present in road traffic since 2015; their number in the capital was 8,205 at the end of 2019 (source: Ministry of the Interior).
According to the objectives of the European Union, by 2030 at least 30% of newly registered motor vehicles must be purely electric. Forecasts indicate that by 2030, 10-15% of the total motor vehicle fleet in the EU will be purely electrically powered.
The indicator value increased from 1.07%-to **1.71% in 2024 for passenger and goods vehicles in Budapest,** which can be considered very significant. If the rate of growth continues to develop this favourably, the EU target set for 2030 may be achievable.

Planned trend of the indicator until 2040



BKK BUDAPESTI KÖZLEKEDÉSI KÖZPONT

K2.1.1 | SHARE OF PURELY ELECTRIC PASSENGER CARS AND GOODS VEHICLES REGISTERED IN BUDAPEST

Definition

The indicator shows the share of the purely electric passenger car fleet and goods vehicle fleet registered in Budapest within the total passenger car/goods vehicle fleet.

Calculation methodology

We receive the vehicle fleet data from the data provision by the Ministry of the Interior.
For defining the indicator, we calculate the percentage share of purely electric passenger cars and goods vehicles in Budapest relative to the total number of passenger cars and goods vehicles, then average the two values.
The calculation can also be carried out for the agglomeration.

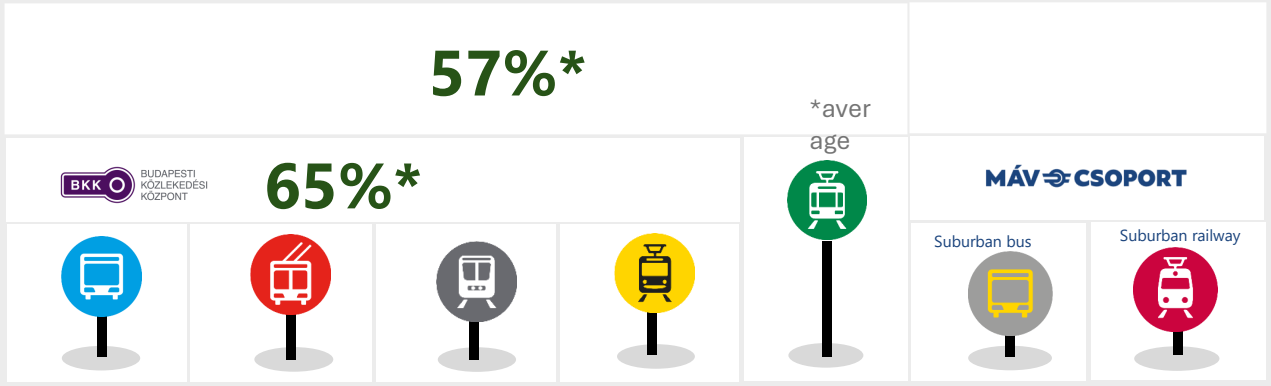
Data source: Ministry of the Interior

Responsible department: BKK Directorate for Mobility Development; Mobility Strategy

K2.2.1 SHARE OF PUBLIC TRANSPORT SERVICES PROVIDED BY MODERN, ACCESSIBLE VEHICLES

The most modernised public transport fleet is that of trolleybuses. Compared to the previous year, the proportion of services provided with modern vehicles increased by 5% points.

2024 Results



2024	91,7%	93,1%	45,1%	47,3 %	0%	No data	No data
2023	91,7%	88.0%	47,8%	47,2%	0%	No data	No data
2022	83,5%	61,4%	59,4%	45,7%	0%	No data	No data
2030	100%	100%	97%	60%	0%	No data	No data

Unit of measurement:

% capacity-kilometre performance ratio

Baseline value 2022

BKK: 67%
Budapest: 58%

Actual value 2024

BKK: 65%
Budapest: 57%

Target 2030

BKK: 88%
Budapest: 77%

Evaluation and notes

To calculate the BMT *Customer-Friendly Vehicle Developments* indicator that monitors the achievement of the operational goal, we take into account three aspects:

- **low-floor design**
- **air conditioning equipment**
- **on-board passenger cabin camera**

This indicator is not affected by whether the platforms are accessible without barriers. Physical accessibility is taken into account in the *A4.3 Basic indicator Physical and Audiovisual Accessibility in Public Transport.*

The indicator contains the values for the services of BKK and MÁV-HÉV.

In the case of the metro and tram sectors, the proportion of services provided with modern vehicles is lower than in the tire sectors, because

- trains on metro lines M1 and M3 are not air-conditioned
- only 30% of the tram fleet can be considered modern (Combino and CAF trams)
- the vehicles of metro lines M4 and M2 can be considered modern

The most modernised public transport vehicle fleet is that of trolleybuses, where the proportion of services provided with modern vehicles increased by about 32 percentage points in 2024 compared to the base value and by 5 percentage points compared to the previous year.

Progress of the indicator by sector

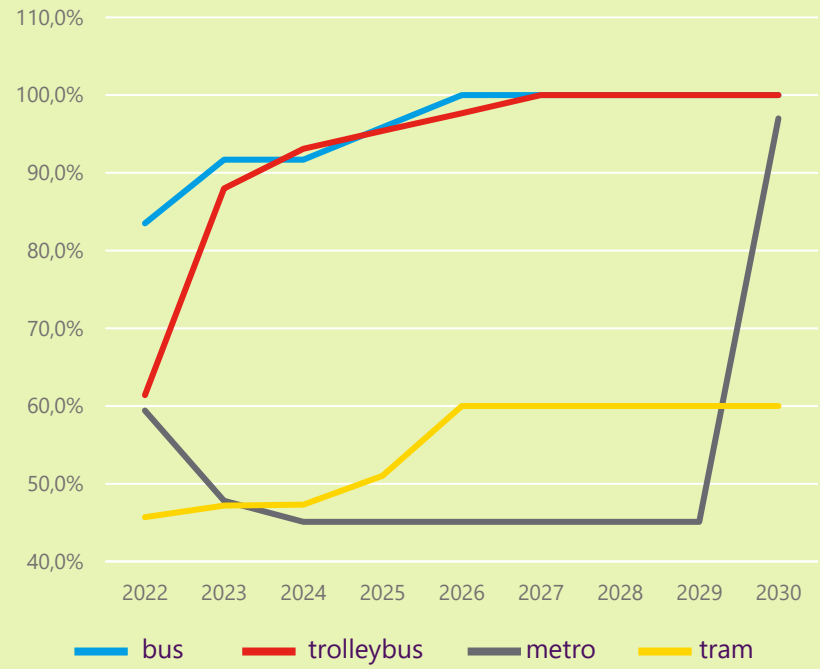
In the **bus sector,** the improvement in the indicator is linked to the modernisation of the BKV bus fleet, given that from the external operator the BKK now procures **only** (according to the definition) **services operated with modern vehicles.** With the entry into service of BKV's new maxi-midi buses from 2025 Q4, the buses currently still considered non-modern can also be withdrawn from operation, thereby increasing the sector indicator to 100% thus improving the sector indicator.

In the **trolleybus sector** the Škoda–Solaris trolleybuses, through continuous procurement, raised the indicator **by 2024 to above 93%** . The indicator can be further improved by withdrawing the remaining high-floor and low-floor vehicles without air-conditioning, **the putting into service of the base quantity of the planned trolleybus procurement can ensure 100% modernisation of the trolleybus sector fleet.**

In the **metro sector** compared to the previous year(s), the **increase in the share of non-modern performance on Metro Line M3** (2024 is the first full year of operation after replacement bus services ended) **worsened** the sector indicator. The annual performance of M3 itself increased by 12%, and its share within the sector increased by 2.7%. This indicator can be improved through the **air-conditioning of lines M1 and M3,** the implementation of the latter is assumed by 2030. Accordingly, the indicator will change significantly only once, which – in the absence of a precise schedule – we assign to 2030.

In the **tram sector** the current value has stabilised with the latest CAF vehicle procurement, and **can be further improved through the vehicle procurements planned for 2025–26 (a further 51 CAF trams), to 60%.** No further improvement in the indicator can be assumed within the 2030 time horizon.

Planned trend of the indicator until 2030



K2.2.1 SHARE OF PUBLIC TRANSPORT SERVICES PROVIDED WITH MODERN, ACCESSIBLE VEHICLES

Definition

Vehicles may be considered modern if they are low-floor and equipped with air conditioning and, from the perspective of passenger safety, with on-board passenger compartment cameras. The indicator is the sector-level aggregation of a metric derived from the spatial and temporal coverage of services provided with modern vehicles. Expressed as a percentage, the indicator shows the share of completed services provided with modern vehicles compared to all services.

Calculation methodology

The annual performance of vehicles considered modern according to the above definition, measured in statistical seat-kilometres, was divided by the annual total performance of the given sector for the reporting year, also measured in statistical seat-kilometres. The statement does not include the performance of BKK's heritage vehicles.

Parameters considered for determining the target value

To determine the target value, the following **sectoral targets** were taken into account based on BKK's vehicle strategy and the current government development plans:

- **bus, trolleybus 100%** (through renewal of the trolleybus fleet)
- **metro 97%** (with full air conditioning of the M3 trainsets)
- **tram 60%** (entry into service of additional CAF trams)
- **HÉV 0%** (development of the HÉV vehicles is no longer realistic by 2030).

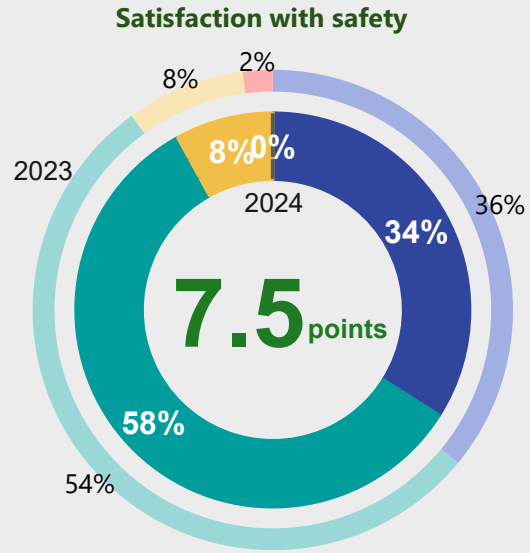
Data source: BKK, MÁV–HÉV Zrt.

Responsible organisational unit: BKK Mobility Directorate Service Management, Service Monitoring

K3.1.1 | PASSENGER SECURITY PERCEPTION INDICATOR

Compared to the baseline year, the satisfaction score with safety increased by +0.4 points.

2024 results



Factors determining the feeling of security	2022	2024	
Beggars	38%	-*	
People with an unpleasant smell	48%	42%	▼-6%
Presence of suspicious, suspicious, rowdy persons	38%	37%	▼-1%
Drunk, aggressive passengers	38%	40%	▲+2%
Pickpocketing	33%	31%	▼-2%
Bad traffic culture	24%	20%	▼-4%
Technical condition of vehicles	18%	16%	▼-2%
Virus risk	18%	12%	▼-6%
Harassment	9%	16%	▲+7%

▼ / ▲ = difference compared to the 2022 survey

* removed from the measured aspects

Base: public transport users, n = 1000

Completely satisfied | Rather satisfied | Not satisfied | Not at all satisfied

Unit of measurement:

Index indicating satisfaction with the safety of public transport in Budapest

Baseline value 2022	Actual value 2024	Target 2030
7.1	7.5	8.0

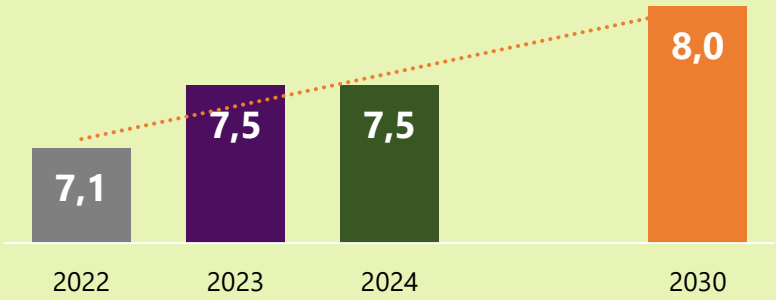
Evaluation and notes

Compared to the baseline year, the satisfaction score with safety increased by +0.4 points in 2024.

This value is essentially the same as the 2023 value. The joint ticket inspections by Public Space Supervision and Budapest Police, as well as the continuous extension of front-door boarding, are likely to be in the background. As a result, the presence of people with unpleasant odours is becoming a less disturbing factor, just as the significance of the challenges posed by the virus risk is also increasingly decreasing.

A significant negative aspect, however, is that harassment was mentioned 7% more often in our 2024 survey than in the baseline-year survey.

Planned trend of the indicator through 2030



K3.1.1 | PASSENGER SECURITY PERCEPTION INDICATOR

Definition

The extent of passenger protection perceived by customers. The data are derived from the safety component of the customer satisfaction survey. The indicator is based on a questionnaire survey. The European Union does not specifically require monitoring of this indicator, but similarly to the K.3.2.2 Customer Information Indicator, the monitoring system separately tracks this component as well.

Calculation methodology

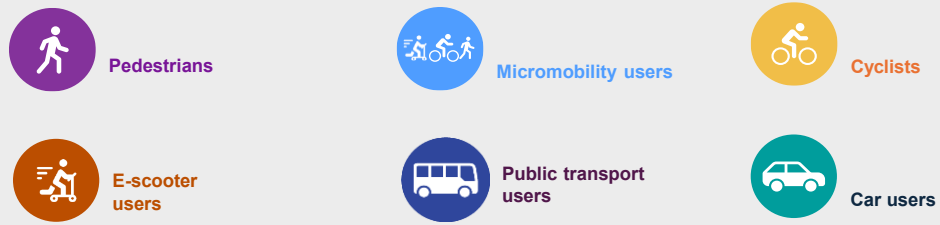
The indicator is the *A6.1 Customer Satisfaction Indicator* safety component. The indicator is based on a questionnaire survey. The specified topic (satisfaction with the safety of public transport in Budapest) must be assessed on a 4-point scale in accordance with the EU SUMI methodology, with predefined weights assigned to it: very satisfied (4) = 10; rather satisfied (3) = 6.66; rather dissatisfied (2) = 3.33; not at all satisfied (1) = 0. The percentage distribution of responses 1–4 is multiplied by the specified weights, and the average of the resulting figures is the indicator. (The factors determining safety are the share of mentions given in response to the question "What affects your sense of safety?" among all surveyed public transport users.)

Research methodology

The customer satisfaction survey measures the satisfaction of public transport users (1,000 persons), car users (1,000 persons), and users of active and micromobility modes (1,000 persons). The customer satisfaction indicator was calculated on the basis of the responses of public transport users (frequent and occasional users). The individual user samples are representative by gender, age and region (6 Budapest and 4 agglomeration territorial units).

Based on the EU methodology, the index can range between 0 and 10 points: 10 points if everyone were completely satisfied (would assign a value of 4), and 0 points if no one were satisfied (would assign a value of 1).

In addition to the index, the results are also analysed according to the TOP2 methodology; this shows the share of satisfied customers, i.e. the proportion of responses 3 and 4.



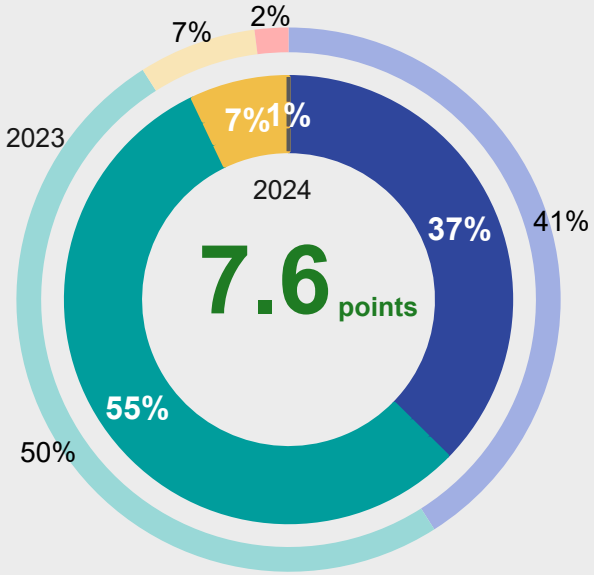
Data source: BKK

Responsible department: BKK Customer Experience and Analysis

K3.2.2 LEVEL OF SATISFACTION WITH CUSTOMER INFORMATION SERVICES

Our customers are basically satisfied with BKK's passenger information

2024 Results



Satisfaction with information channels	2022	2024	
Digital information boards	91%	93%	▲+2%
BKK Info	-	92%	
On-board information	88%	89%	▲+0,1
Information in the customer centres	90%	92%	▲+2%
Online information	90%	91%	▲+0,1
Press communication	-	90%	
Billboards at stops	89%	91%	▲+2%
BudapestGO application	91%	93%	▲+2%
Timetable information	90%	92%	▲+2%
Information in the underpasses	85%	89%	▲+4%

▼/▲ = deviation from the 2022 measurement

Base: public transport units, n = 1000

Completely satisfied | Rather satisfied | Not satisfied | Not at all satisfied

Unit of measurement:
Index showing satisfaction with customer information on public transport in Budapest

Base value 2022	Actual value 2024	Target 2030
7.5	7.6	8.0

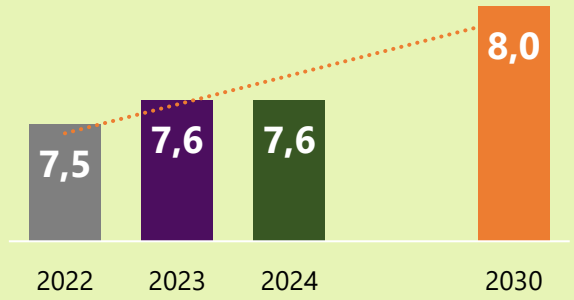
Evaluation and notes

Our customers are basically satisfied with BKK's passenger information. The customer information index reached 7.6 points in 2024, and based on the TOP2 methodology, **the proportion of 'rather satisfied'** or **'completely satisfied' customers is high in all categories surveyed:** above 89%.

The renewal of timetable information continued in 2024. The placement of the renewed timetable boards and the expansion and renewal **of the information interfaces of the BudapestGO application** have essentially been completed.

However, in order to reach **a value of 8 in customer information satisfaction**, we need to increase the proportion of fully satisfied people – this has decreased by 4% points compared to 2023, even if the proportion of satisfied people increased by 1% point overall. In order to achieve this goal, we need to increase the proportion of digital information, which is continuously achieved with the purchase of new vehicles and FUTÁR 2.0.

Planned trend of the indicator through 2030



BKK BUDAPESTI KÖZLEKEDÉSI KÖZPONT

K3.2.2 | LEVEL OF SATISFACTION WITH CUSTOMER INFORMATION SERVICES

Definition

The quality of information as perceived by customers. The data are sourced from the customer satisfaction survey. The indicator is based on a questionnaire survey. The European Union does not specifically require the monitoring of this indicator, but similarly to the K.3.1.1 Passenger safety perception indicator, the monitoring system also tracks this component separately.

Calculation methodology

The indicator is the *A6.1 Customer satisfaction indicator* passenger information component, which is based on a questionnaire survey. The specified topic (satisfaction with customer information in Budapest public transport) must be rated on a 4-point scale in accordance with the European Union SUMI methodology, to which predefined weights are also assigned: very satisfied (4) = 10; rather satisfied (3) = 6.66; rather dissatisfied (2) = 3.33; not at all satisfied (1) = 0. The percentage distribution of responses 1–4 is multiplied by the specified weights, and the average of the resulting values will be the indicator. (Satisfaction with information interfaces is based on a similar survey question, but instead of the weighted average above, it represents the combined share of respondents selecting 3 or 4, i.e. the overall proportion of satisfied respondents.)

Research methodology

The customer satisfaction survey measures the satisfaction of users of public transport (1,000 persons), cars (1,000 persons), active and micromobility modes (1,000 persons). The customer satisfaction indicator was calculated based on the responses of public transport users (frequent and occasional users). The individual user samples are representative by sex, age and region (6 Budapest and 4 agglomeration territorial units).

The index may take a value between 0 and 10 points according to the EU methodology: 10 points if everyone were fully satisfied (would give a value of 4), 0 points if no one were satisfied (would give a value of 1).

In addition to the index, the results are also analysed according to the TOP2 methodology; this shows the share of responses 3 and 4, i.e. the proportion of satisfied customers.

Data source: BKK

Responsible department: BKK Customer Experience and Analysis

K3.3.1 | RATE OF FARE-SYSTEM INTEGRATION

Fare integration of public transport services has been achieved for passes

AVAILABILITY OF FARE PRODUCTS VALID FOR SEVERAL SERVICE PROVIDERS		PUBLIC TRANSPORT PROVIDER				
		BKK	MÁV–START	MÁV–HÉV	VOLÁNBUSZ	VOLÁNBUSZ
Base value: from 2019 to 30/04/2023: state before the Hungary Pass/County Pass	Ticket	B	-	B	B^0	-
	Pass	B	A^1, B separately	A^1, B separately	A^1, B separately	A^1, B separately
From 01/05/2023 to 29/02/2024: Hungary Pass and County Pass exist, but they are not yet valid in Budapest's local transport	Ticket	B	-	B	B^0	-
	Pass	B	A^2, B separately	A^2, B separately	A^2, B separately	A^2, B separately
Status after 01/03/2024: Hungary Pass and County Pass are also valid in local transport in Budapest	Ticket	B	A^3	A^3, B separately	A^3, B separately	A^3
	Pass	Integrated product A + B	Integrated product A + B	Integrated product A + B	Integrated product A + B	Integrated product A + B
Target value: tickets, day tickets and passes that can be used uniformly in Budapest and the agglomeration	Ticket	Integrated product A + B	Integrated product A + B	Integrated product A + B	Integrated product A + B	Integrated product A + B
	Pass	Integrated product A + B	Integrated product A + B	Integrated product A + B	Integrated product A + B	Integrated product A + B

The baseline data of the indicator have not changed since the publication of the 2023 report; the indicator datasheet is republished unchanged in the 2024 report.

Evaluation and notes

From 1 May 2023, with the introduction of the Hungary and County Passes, a major step forward was made in terms of fare community in the agglomeration, because the previous pilot projects were replaced by fare integration of passes. As of 1 March 2024, the zone-based transport system (national, county, Budapest) was implemented, through which BKK and the Ministry of Construction and Transport form a joint fare portfolio. With this, a further step forward was taken: the validity of the pass system was extended to the territory of Budapest, therefore **fare integration of public transport services has been achieved for passes. However, setbacks occurred for tickets:** the validity of single tickets was restricted to within the administrative boundary of Budapest, and suburban single tickets can now only be purchased from the driver.

Legend

Degree of integration (definition of levels is provided on the following page):

No integration | Level I | Level II | Level III | Level IV: full integration

A: in the agglomeration
B: in Budapest
0: BKK ticket valid over the full line length
1: only **pilot projects:** South Buda zone pass, Dunaharaszti zone pass, joint pass along railway line 80a (the latter also included the Budapest sections of MÁV and regional VOLÁN services), and reciprocal pass acceptance agreements in a limited area
2: the integrated agglomeration pass also includes the Budapest sections of MÁV–START and regional (yellow) VOLÁNBUSZ services
3: County24, Hungary24 day ticket: also includes the Budapest sections of MÁV–START, MÁV–HÉV, regional (yellow) and agglomeration (blue) VOLÁNBUSZ services

K2.2

K3.3.1 | RATE OF FARE-SYSTEM INTEGRATION

Definition

Joint fare product purchase and implementation of fare integration across sub-sectors. The indicator **in a matrix** shows the level of integration of the unified fare system.

Calculation methodology

The table presents the steps leading to the establishment of a unified fare and fare integration. In the table, every service provider whose integration is unified at the given level must be marked in accordance with the legend. A new service provider (e.g. carsharing) should be included among the columns only if integration is meaningful with at least one of the service providers already displayed.

Assessment: the different integration levels must be distinguished by colour coding

Level 0 = no integration: status before the Budapest Transport Association (BKSZ)
Level I = rudimentary integration: some fare products are shared (e.g. Budapest-pass)
Level II = partial integration: fare integration among mobility service providers with a significant market share (e.g. outside Budapest, fare integration has been implemented in the agglomeration: MÁV and VOLÁN use a common pass)
Level III = advanced integration: fare integration of public mobility service providers in relation to a given significant fare product (e.g. common pass or ticket fare; currently the service provider in Budapest also accepts national fare products; BKK also accepts national fare products)
Level IV = full integration: all public transport services across the city region can be purchased with a common fare

Data source: BKK

Responsible department: BKK Mobility Management Directorate Service Management, Mobility Development Directorate Mobility Strategy

EUROPEAN CITY INDICATORS, BENCHMARK

2024 REPORT

EUROPEAN CITIES' SUMP INDICATORS AND OBJECTIVES – COMPARATIVE ANALYSIS

CITIES	GENERAL COMPARATIVE DATA				MODAL SPLIT		
	POPULATION [PERSON]	**AREA** [KM^2]	**NUMBER OF PT TRIPS** [M PERS/YEAR] 2023	**MOTORISATION** CAR/1,000 INHABITANTS [2024]	**INTERPRETATION / DESCRIPTION** (based on the number of trips)	**TIME HORIZON**	**TARGET**
Budapest	**1 685 209**	525	727	429	share of sustainable transport modes increasing the share of active mobility (pedestrian and cycling only)	2030	min. 80% min. 30%
Vienna	2 005 760	415	381	364 (2023)	share of sustainable transport modes	2030	min. 85%
Tallinn	461 602	159	257	No data available (national: 524)	share of sustainable transport modes	2035	min. 70%
Ljubljana	297 575	164	199	n. a.	share of sustainable transport modes	2027	min. 67%
Stockholm	995 574	188	270	195	share of sustainable transport modes	2030	min. 80%
Rome	2 746 984	1 285	436	629 (2021)	share of sustainable transport modes	2030	min. 52% (2019: 37%)
Madrid	3 422 416	604	242	597	share of sustainable transport modes (based on number of journeys) increasing the share of active mobility (pedestrian and cycling only)	2030	min. 75% min. 18%
Prague	1 397 880	496	300	734	share of sustainable transport modes		currently about 75%, the goal is to maintain this
Barcelona	1 611 822	100	230	453	share of sustainable transport modes	2030	min. 85%

EUROPEAN CITIES' SUMP INDICATORS AND OBJECTIVES – COMPARATIVE ANALYSIS

CITIES	TRAFFIC						SECURITY	
	PURPOSE	TIMEFRAME / TARGET	PURPOSE	TIMEFRAME / TARGET	PURPOSE	TIMEFRAME / TARGET	PURPOSE	TIMEFRAME / TARGET
BUDAPEST	reduce congestion	2030: -30%	construction of a main cycling network	2030: min. 512 km	reduce disruption to public transport	2030: max: 0.5%	reducing injuries and deaths from road traffic incidents	VisionZero: 2030: 50% 2050: 0
VIENNA	reduce traffic crossing the municipal border	2030: -50%	increasing the share of non-fossil fuelled vehicles in the registration of new vehicles	2030: 100%			reducing the number of deaths related to road traffic incidents	VisionZero: 2025: 0 people
TALLINN	reduce travel time between hubs	2035: max. 20 minutes	increasing the proportion of pupils in public education schools attending school independently, hobby schools and training institutions	2035: 90%			reducing the number of road traffic fatalities related to injuries	VisionZero: 2035: 0 people
LJUBLJANA	49% of the population should have quick access to the city centre by public transport	2030: up to 30 minutes	increasing the length of cycle paths; currently 230 km	continuous growth			reducing injuries and deaths from road traffic incidents	VisionZero: 2030: 50% 2050: 0
STOCKHOLM	reducing greenhouse gas emissions from transport	Compared to 2010 -80% by 2030	reducing car traffic	compared to 2017 -30% by 2030	increasing the share of electric cars	2030: 80%		
ROME	replacement with low- and zero-emission vehicles	2030	construction of a new bicycle path	304 km to 2030	ZeroEmission zone with congestion charge, access gates around the city center	2025–2030 will be introduced	reducing injuries and deaths from road traffic incidents compared to 2019	VisionZero: 2030: 50% 2050: 0
MADRID	reducing the average travel time spent on public transport	2030: -32,5%	reducing traffic congestion	2030: -10%	expansion of the bus lane network	2030: 250 km away		VisionZero: 2030: -50%
PRAGUE	increasing the share of low- and zero-emission fuels	2030: 30%	increasing the proportion of cyclists	2030: 5%				
BARCELONA	reduce car use	2030: -25%					reducing the number of fatalities and serious injuries in road traffic incidents	compared to 2024 by 2030: -50%

INDICATORS AND OBJECTIVES OF SUMP IN EUROPEAN CITIES – COMPARATIVE ANALYSIS

CITIES	CLIMATE / ENVIRONMENT						ACCESSIBILITY	
	PURPOSE	TIMEFRAME / TARGET	PURPOSE	TIMEFRAME / TARGET	PURPOSE	TIMEFRAME / TARGET	PURPOSE	TIMEFRAME / TARGET
BUDAPEST	reducing CO_2 emissions	2030: -40%	reducing the use of transport energy	2030: -25% compared to 2023 base value	reduction of air pollution from transport (PM2.5)	2030: -20% compared to the 2023 base value	increasing the physical and audiovisual accessibility of public transport	2030: 88%
VIENNA	reducing CO_2 emissions per capita in the transport sector	2030: -50% 2040: -100%	increasing the share of non-fossil fuelled vehicles among newly registered vehicles	2030: 100%	commercial traffic will be largely CO2-free within the boundaries of the municipality	2030: 100%	increasing the accessibility of the transport system	2025: 100%
TALLINN	reducing greenhouse gas emissions from transport	2030: -40%					making sidewalks, public transport stops, bicycle network accessible to everyone	2023: 100%
LJUBLJANA	climate neutrality	2030					n. a.	
STOCKHOLM	climate-neutral city	2030	covering parking spaces with electric charging stations	2028: 100%	a city free of fossil fuels	2040	n. a.	
ROME	reduction of GHG emissions compared to 1990	2030: -55%	reduction of PM2.5 emissions	2020–2029: -10% From 2030: -45%	increasing the share of renewable energy sources in transport	2030: 22%	n. a.	
MADRID	reducing CO_2 emissions	compared to 1990: -65% by 2030	share of zero-emission vehicles of the Madrid Transport Company (EMT) fleet	32% by 2027			n. a.	
PRAGUE	reducing CO_2 emissions	-25% by 2030 compared to 2010					n. a.	
BARCELONA	reducing greenhouse gas (GHG) emissions	2030: -50%					n. a.	

VIENNA

Smart City Strategy Vienna 2022 scwr_klima_2022_web-EN.pdf

Vienna's transport objectives

Traffic

- The share of environmentally friendly modes of transport (including shared mobility options) in Vienna increases to 85% by 2030, and to well above 85% by 2050.
- The number of privately owned motor vehicles falls to 250 by 2030 (per 1000 inhabitants), while the number of publicly accessible parking spaces also gradually declines.
- A 50% reduction in the volume of cross-boundary traffic by 2030.
- Making commercial traffic within the city boundary largely CO_2-free by 2030.

Urban development

- Vienna supports and implements the "15-minute city" concept: short distances to services, vibrant mixed-use neighbourhoods, and the redesign of streets to create more space for active mobility, public transport and pleasant places to stay.

Sustainability

- Per capita CO_2 emissions from the transport sector decrease by 50% by 2030 and by 100% by 2040.
- Per capita final energy consumption in the transport sector decreases by 40% by 2030 and by 70% by 2040.
- The share of non-fossil-fuel-powered vehicles in new vehicle registrations reaches 100% by 2030.

Picture:https://www.wien.info/en/see-do/discover-vienna/tours-guides/environmentally-friendly-345200

BUDAPESTI KÖZLEKEDÉSI KÖZPONT

TALLINN

Tallinn 2035 Development Strategy Mobility | Tallinn 2035 Development Strategy

Public transport

- Planning and development of a new route network (including the establishment of the service level).
- Planning and development of convenient public transport transfer points to connect different forms of mobility.
- Reducing transfer times required for mobility.
- Improving the accessibility of public transport according to universal design.
- Making public transport vehicles attractive (lighting, cleanliness, appropriate interior climate).
- Making public transport stops user-centred and weatherproof, installing real-time information systems at stops.

Active mobility

- Creating cycling and micromobility systems in cooperation with the private sector.

Sustainability

- Expanding the charging system for electric vehicles in cooperation with the private sector.
- Introducing sustainable transport and mobility in public institutions and private companies.
- Increasing the share of environmentally sustainable public transport vehicles and developing the supporting infrastructure.

Urban development

- Implementing the “last-mile service” through the testing of autonomous vehicles.

LJUBLJANA

Ljubljana SUMP 2019 Published in Hungarian: The SUMP of the Ljubljana urban region | Mobilissimus

Strategic objectives

Walking and cycling

- Good connections through the cycling network.
- A higher share of trips made by bicycle.
- Development of intermodal hubs for pedestrians and cyclists.

Public transport

- Infrastructure development for public transport.
- Modernisation of the public transport vehicle fleet.
- Development of the public transport control system.

Motorised transport

- Optimised car traffic.
- Comprehensive regulation of stationary traffic.
- Greater safety, and the reduction of urban emissions and noise pollution.

Freight transport and logistics

- Efficient (transiting) freight transport with the least possible adverse impact on local residents.
- Establishment of sustainable logistics in city centres.
- Support for modern and environmentally friendly logistics centres.

Sustainable mobility planning

- More coherent and more targeted governance at different levels (vertically and horizontally).
- Coordination of sustainable mobility planning across sectors (transport, spatial planning, economic development, etc.).
- Education, awareness-raising and public participation.
- Improving financing conditions and making rational use of resources.

STOCKHOLM

Stockholm 07. 2025.

REFOCUS_RegionalSnapShot_2_Stockholm.pdf

Sustainability

The objective is for the city to **become climate-positive by 2030,** meaning that biological carbon sequestration exceeds remaining emissions.

- Phase-out of fossil fuel use by 2040.
- 50% reduction in consumption-related emissions by 2030.

Traffic

- A **30% reduction in car trips** by 2030.
- Reduce the focus on **car speed and capacity.**

Urban development

- Create streets and public spaces where people enjoy spending time.
- Transform transport hubs into **meeting places.**
- Public transport should be given greater priority on the primary road network.
- **Create new buildings and ground-floor spaces,** which connect the city; create new spaces that complement, for example, suburban spaces.
- Increase the attractiveness of **existing transport corridors** .
- **Waterfront corridors development**.
- Ensure connectivity over motorways with **new crossings** .
- Potential for developing corridors through **widening sidewalks** .

ROME

Public transport

- Integration of public transport with more sustainable “last-mile” solutions, such as bike-sharing.
- Planning and implementation of new public transport infrastructure (metro and tram) to improve public transport and the vehicle fleet renewal.
- Redesign of the network and infrastructure for the introduction of new electric buses.
- Introduction of advanced technologies in the city mobility management centre.
- 100-kilometre extension of the cycling network.
- Creation of new bicycle parking facilities and mobility hubs.

Urban planning

- Redesign of the urban space to promote 30 km/h zones.
- Improvement of pedestrian access to public transport stops.
- Provision of new mobility services at multimodal hubs with convenience services such as Park & Ride facilities.

Sustainability

- Introduction of schemes encouraging support for multimodality.
- Leveraging the capacity of mobility managers, institutions and schools to promote sustainable mobility habits, including cycling and bike-sharing.
- Reduction of private car use in the city centre (23 km^2) through the introduction of an environmental charging scheme.
- Establishment of a low-emission zone, including the city centre and its semi-peripheral surroundings (156 km^2).

- Increase in sustainable transport modes to 52% by 2030.
- From 2025, procurement of public transport vehicles will be limited to zero-emission vehicles only.
- By 2030, establishment of a zone (e.g. historic city centre) that can be accessed exclusively by “zero-emission” vehicles.

Giving people what they want: Rome’s SUMP and its participatory co-creation process - European Commission

MADRID

Madrid

Madrid SUMP 2022

Public transport

By 2030, Madrid will expand **its bus lane network to 250 kilometres,** while introducing "green corridors" that enable metro-like speeds and include segregated platforms for buses. The objective is that by 2025 **60 kilometres of green corridors** will be in place.

The city promotes the **expansion of the metro network** (Lines 3, 5, 7 and 11, as well as new lines) and introduces high-occupancy vehicle lanes at all major road gateways to the city.

Active mobility

By 2050, 35 kilometres of **new cycle lanes** are planned, together with 20,000 parking spaces for bicycles and **personal** micromobility vehicles.

Sustainability

The sustainable urban mobility plan also encourages the uptake of less polluting vehicles, starting with the city's own public transport fleet, operated by EMT (Madrid Municipal Transport Company). The **EMT fleet** will be one-third **zero-emission** by 2027.

Logistics

The document envisages the introduction of five micro-platforms in car parks near restricted-access areas so that by 2030 all loading and unloading bays will be smart. The city expects that by 2030 it will **double, increasing to 15,000** the current number of **loading and unloading bays;** its objective is to guarantee access to e-commerce, while eliminating irresponsible parking by delivery vehicles.

Safety

The annual average number of fatalities in road traffic incidents **will be reduced by 50%.**

PRAGUE

Prague

Sustainable mobility | Prague mission

"P+" Prague Sustainable Mobility Plan

Public transport

- The planned extension of the tram network by up to 10 kilometres by 2030 will contribute to achieving the objectives of the climate plan. The number of passengers carried could increase by more than several tens of millions per year.
- Instead of the current rolling stock of the suburban rail network, carriages with higher-capacity ones should be provided for the purpose of maintaining the growth in the number of passengers carried on PID trains in Prague, and reaching 230,000 passengers carried per day by 2030.

Active mobility

- Construction of new cycle paths and expansion of the existing ones, so that they gradually become separated from other modes of transport. In parallel, implement measures that reduce the barriers to the development of the capital's cycling and walking infrastructure.
- The main cycle routes are to be developed according to general standards, separated from other modes of transport, with speed limited to 30 km/h, and road markings adjusted to ensure the permeability of two-way cycle paths. The aim is to connect the cycle paths into a unified network.

Urban development

- Extension of paid parking zones to other parts of the city, and timely introduction of the new road pricing system.
- Support for the construction of at least 10,000 charging stations accessible to all; primarily in public, barrier-free garages, in P+R car parks, and in parking areas close to frequently visited buildings.

Sustainability

- From August 2021, Prague purchases only buses that have zero emissions or hybrid propulsion.
- By 2030, up to 30% of total traffic in the Czech capital should be covered by low- and zero-emission fuels in order to reduce pollutant emissions.

BARCELONA

Barcelona

Barcelona SUMP 2018–2024

Microsoft PowerPoint - 230330_Barcelona SUMP.pptx

Public transport

- Increase the share of sustainable modes of transport: walking (+7.5%), public transport (+15.7%) and cycling (+129%), as well as reduce the share of private cars (-25%).
- Expand and improve the urban and suburban public transport network and promote the construction of new and pending infrastructure.
- Transition to safe, efficient and sustainable mobility services focused on users, using information technologies, the internet and data management.

Active mobility

Develop cycling infrastructure, including secure parking, facilitating easy transfer to other modes of transport(s), and ensuring that pedestrians, car users, scooter users and cyclists are all safe.

Accessibility, sustainability

- Guarantee the right to mobility by increasing and improving the accessibility and safety of areas used by pedestrians.
- Regulate the use of motorised vehicles, promote the transition to clean energy, regulate parking, and foster efficiency and sharing.
- Extend logistics regulation and improve sustainability, efficiency and territorial integration.

BARCELONA

Key steps

Public transport

- Extending bus lanes to connect metropolitan areas and reach intermodal bus and rail stations.
- Expansion of bus lanes (+70 km) and increase of on-demand bus services.
- Public taxi application and increasing the number of taxi micro-stops.
- Improving the accessibility, comfort and safety of the metro.
- Investing in vertical mobility in mountainous neighbourhoods.
- In the future, instead of having your own car, a professional system (apps, rental bikes, frequent buses) should help.

Active mobility

- Extension of pedestrian streets (+32 km).
- 100% accessibility of sidewalks: there should be no obstacles, motorcycles, bicycle lanes.
- Expansion of sharing of bicycles and electric scooters in the metropolitan area.
- Expansion of the bicycle lane network (+40%).

Logistics

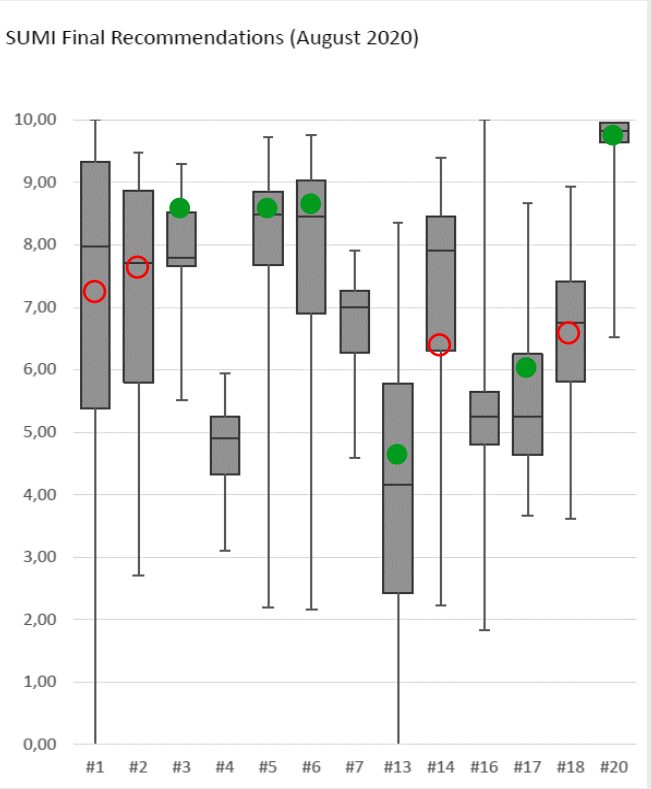
- Logistics regulation and the establishment of a logistics microcenter in each district.
- Introduction of a last-mile tax for wholesalers.

Urban development, sustainability

- Regulation of 90% of on-street parking.
- 30 km/h speed limit in the city, except for main connecting roads.
- Encouraging zero-emission vehicles and introducing Low Emission Zones (LEZs).

ANALYSIS OF THE INDICATORS OF THE CITIES PARTICIPATING IN THE SUMI PROJECT

Summary of the indicator results of the cities participating in the SUMI project (for those indicators for which at least 10 cities provided finalised background calculations).



#	SUMI indicator
#1	A közösségi közlekedési szolgáltatások megfizethetősége a legszegényebbek számára Affordability of public transport for the poorest group
#2	Fizikai és audiovizuális akadálymentesség a közösségi közlekedésben Accessibility of public transport for mobility-impaired groups
#3	Közlekedési eredetű levegőszennyezettség (PM2,5) Air pollutant emission
#4	Lakossági érintettség a közlekedési zajártalom tekintetében Noise hindrance
#5	Közúti közlekedésbiztonsági index – halálos áldozatok Road deaths
#6	Időbeli és térbeli hozzáférés a közösségi közlekedéshez Access to mobility services
#7	Közterületek minősége mutató Quality of public spaces
#13	Közlekedési eredetű ÜHG-kibocsátás Greenhouse gas emissions
#14	Közútitorlódás-mutató Congestion and delays
#16	Aktív mobilitási lehetőségek Opportunity for active mobility
#17	Mobilitási integráció mértéke Multimodal integration
#18	Ügyfél-elégedettségi mutató Satisfaction with public transport
#20	Aktív módok kockázati szintje Traffic safety active modes

The black vertical lines marked on the box plot extend between the minimum and maximum scores achieved by the 46 SUMI cities. The upper and lower edges of the grey box indicate the upper and lower quartiles of the score distribution (interquartile range), i.e. the grey box covers the 50% of all scores that are closest to the median. The median of the indicator values is shown by the horizontal black line within the grey box. The Budapest values of those indicators that we present in the 2023–24 report are marked, depending on where the Budapest value is located relative to the median, with a green dot ● above the median, or with a red circle ○ below the median.

The core idea of the SUMI project, implemented between 2017–2019, was to develop a harmonised set of indicators for mobility planning, thereby providing cities with a useful tool for identifying the strengths and weaknesses of their mobility system, as well as for focusing on the areas requiring improvement. The indicators selected in SUMI were based on the indicators previously developed by the World Business Council for Sustainable Development (WBCSD). These were further developed within the European project; with funding from the European Commission, DG MOVE, technical support on sustainable urban mobility indicators was provided to 46 European cities, where the indicator set was tested. In selecting the cities, efforts were made to involve at least two cities of different sizes from each available country: in Hungary, the indicators were tested in Budapest and Szeged under the coordination of Mobilissimus Kft.

In designing the SUMI indicator set, a balance had to be struck between accuracy and usability, taking into account considerations of data collection, quality and timeliness, the intelligibility for policymakers and the general public, as well as the availability of HR resources and the financial resources that could be devoted to data collection. In the development and further refinement of the SUMI indicators, the **objective was to closely link the indicators to the SUMP concept and process, by linking them directly to SUMP objectives** in the successive stages of planning:

- during the initial identification of transport problems;
- during the assessment of options;
- during the evaluation period of monitoring.

The harmonised, commonly used set of European indicators, tested and proven, is suitable for comparing the mobility parameters of SUMP planning for European-level comparative analyses, and for assessing progress towards sustainability objectives.

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IMPRINT

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