Mobility report 2022

BUDAPEST

BKK BUDAPESTI KÖZLEKEDÉSI KÖZPONT

Data-driven decision-making at BKK Centre for Budapest Transport

Data is collected and analysed throughout the year

BKK puts a great emphasis on the collection and analysis of trip data for all travel modes in Budapest. If a sufficient amount of trip data is available, the company can make data- based decisions regarding service frequencies, timetable or network modifications. Information related to road traffic and micromobility greatly helps decision-making in connection with transport planning and a great variety of projects. Therefore since Spring 2021, a dedicated unit has been working with traffic data collection analysis at BKK.

Data collection in figures for the year 2022

934 pc
vehicles equipped with passenger counting devices

349 days
counting process in public transport

10 pc
local, complex modal split analyses

210 pc
traffic counter road cameras

86 hours
data analysis with analysis of camera images

5 pc
new data collection methods tested

740 pc
inductive loop detectors installed in road covers

18 locations
with cycling counting points

3 pc
data-related blog articles published on BKK's website

What happened in 2022?

In 2022, we further expanded the scope of collection, analysis and publication of traffic-related data. Throughout the year, we tested innovative methods, tried new data collection tools, which resulted in broading such transport modes and services, about which we collect data. Due to the continuous developments, we possess more and even more detailed information on various areas of the transport system.

New subpage on "Traffic data, diagrams" on BKK's website

All traffic data can be found at the same place: Monthly reports about transport and cycling, filterable and searchable diagrams, interactive maps.

Complex analyses with analysis of camera images

We started to make comprehensive analyses with camera images and even examine pedestrian traffic data with this method.

Analysis of WAZE users' data

We started publishing data related to traffic congestions and accidents out of the data reported by users.

Expanded vehicle fleet equipped with counting devices

In 2022, the public transport network was expanded with 200 new buses and trolleybuses equipped with the automatic passenger counter system.

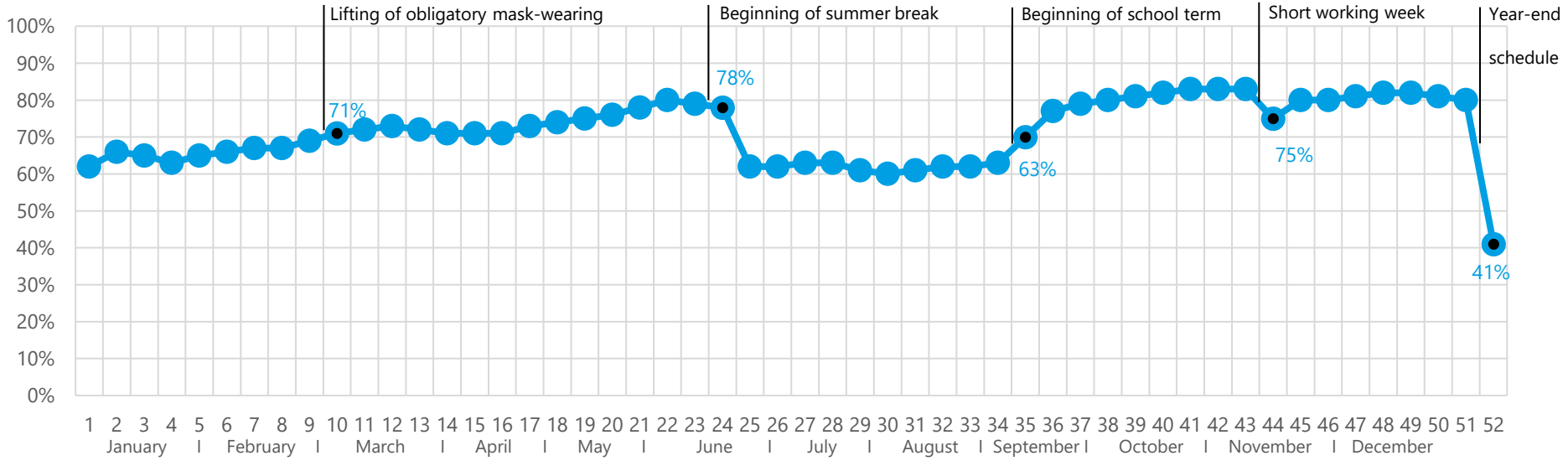
Data update of the Unified Transport Model (EFM)

The transport modelling system of BKK used for modelling various interventions was updated and developed.

Change in the average weekly number of trips on major bus lines in 2022

Changes in the average weekly passenger number of major bus lines between January-December 2022

100% = average passenger number of 2019 on major bus lines on a workday during school term [%] per week-breakdown



In 2022, the number of passengers/workday reached its maximum in October, when for three weeks

83% of traffic was characterised by the figure shown in the pre-pandemic year of 2019. Since the beginning of the pandemic, in March, 2020, this has been the busiest traffic period.

Average workday passenger number, 2022

3.27 million

boardings/workday

Average rate of workday traffic, 2022

77% (base year 2019)

Autóbuszvonalak összesített adatai

Please click here for more traffic data available at BKK's website.

Comprehensive survey on weekday passenger transport on metro line M2 in 2022

M2

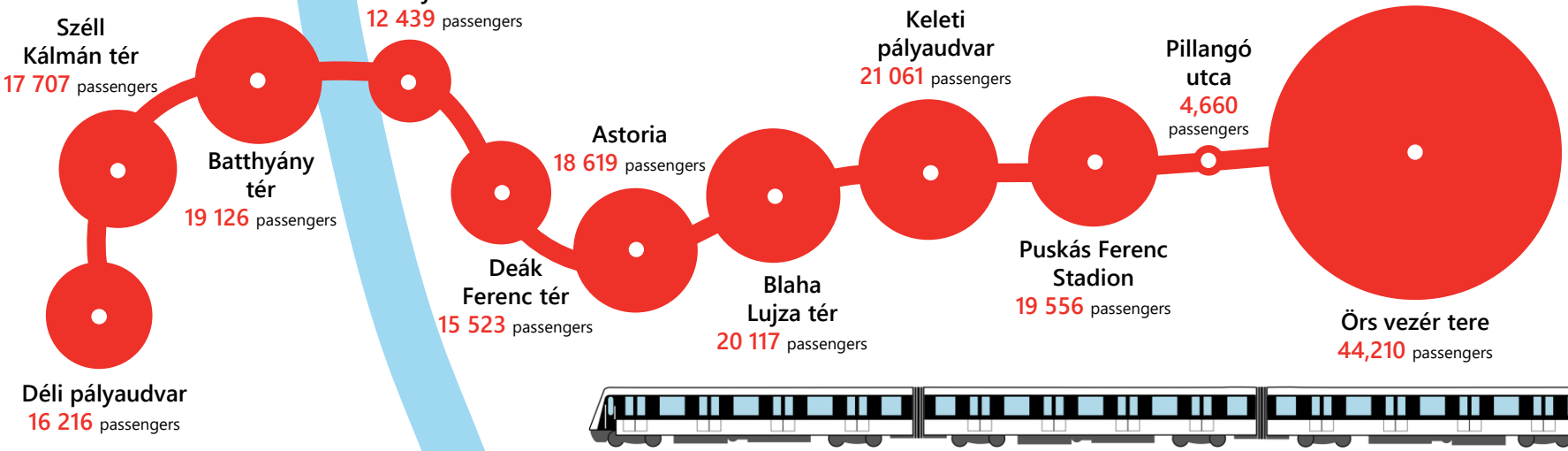
308 079

boarding passengers/weekday
2016

209 234

boarding passengers/weekday
2022

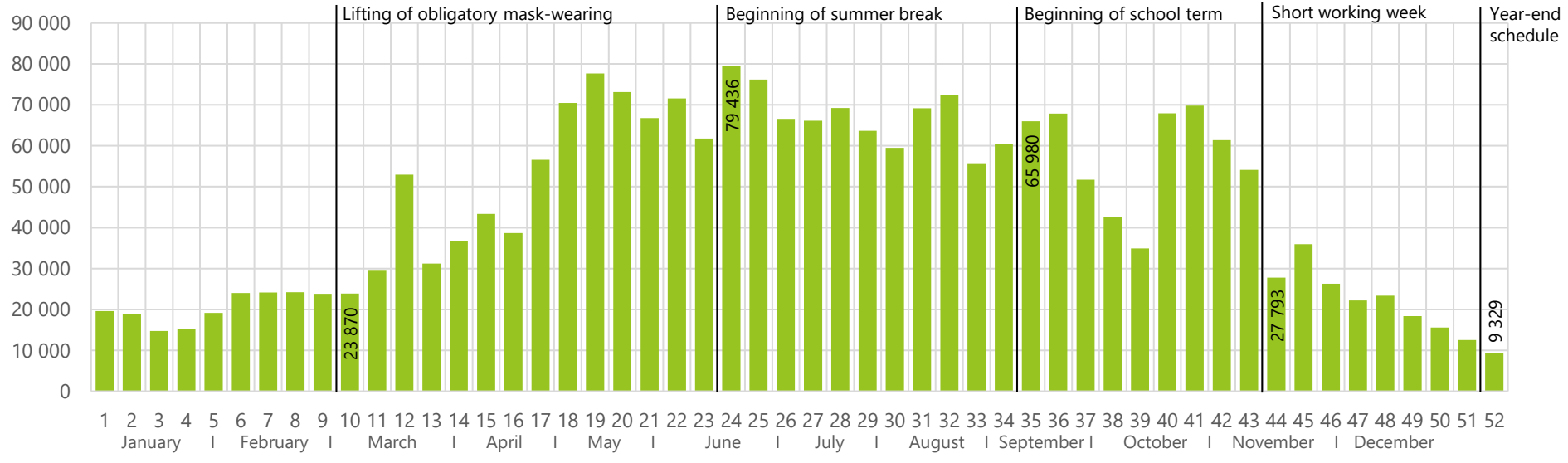
The comprehensive survey taken on metro line M2 about the average weekday passenger traffic was made in the autumn of 2022. Similarly to the trends of other metro lines in Budapest and in various European cities, the number of passengers of metro line M2 were significantly dropped, compared to the pre-pandemic figures, reaching less than 70% of the 2016 values. Furthermore, thanks to the recent network developments, the passenger utility rate of metro line M4 increased, which effects the traffic of metro line M2. As a result of the relaunch of the metro service on metro line M3 during Spring 2023, Budapest's metro system will be complete again, thus we can expect increasing passenger traffic on metro line M2 as well.



Changes in 2022 in the number of cyclists passing through 4 counting points

Changes between January and December, 2022 in the number of cyclists passing through 4 counting points

Bem tér; Hungária krt.; Weiss Manfréd út*; Árpád híd in aggregated [pc] weekly breakdown



**: due to reconstruction works, the counting point at Weiss Manfréd út is specified by mathematical method between weeks 32-52*

In 2022, the number of transits at the 4 counting points reached 2.3 million, just like in the previous years and cycling traffic was only 1% below the figures measured in 2021. The highest number of cyclists was recorded by the device at Bem tér, which accounted for 49.5% of the total number of registered passing cyclists. May was the month with the heaviest traffic with a daily passing number of 10,688 and a total passing number of 319,891. Furthermore, the day with the heaviest traffic was 14 June 2022, the day preceding the first day of the summer break.

Total number of transit, 2022

2 311 205 pc

The busiest traffic day, 2022

14 June

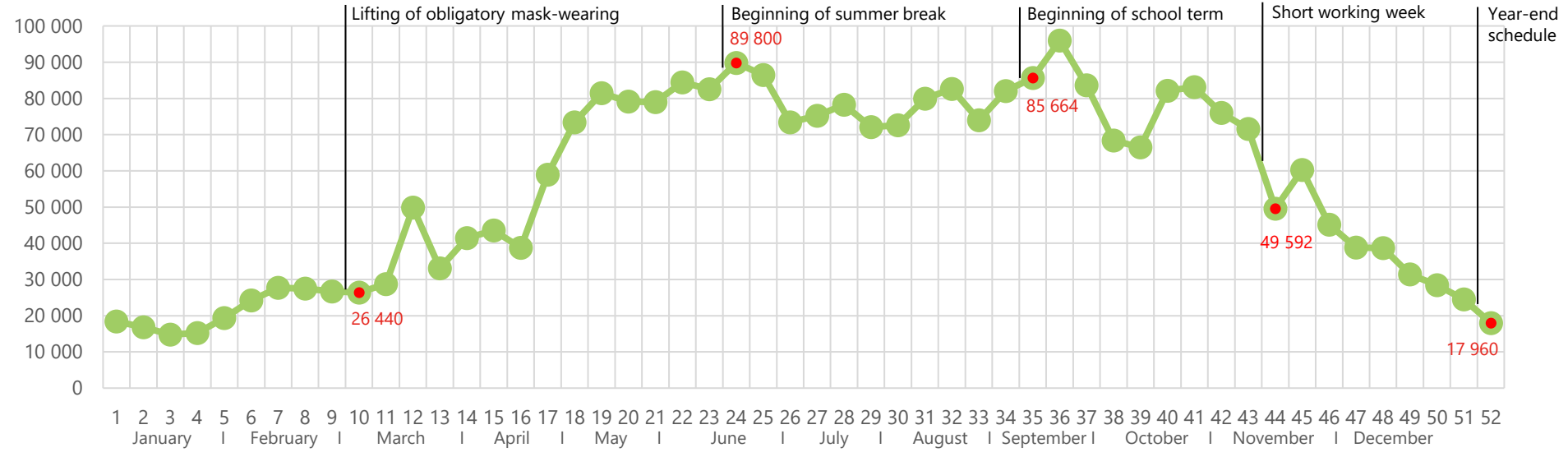
Kerékpáros mérőpontok adatai

Please click here for more traffic data available at BKK's website.

Number of MOL Bubi public bike trips in 2022

Number of MOL Bubi public bike trips between January – December 2022

[pc] in weekly breakdown



Following the renewal of the MOL Bubi service in May 2021, its success continued unstoppably even in 2022. On average, 8 thousand trips were made on a daily basis. The busiest day was 13 August with 16.388 trips. To meet the increased demands, 5 new docking stations were set up in district 8 in April, followed by another 10 docking stations in district 11 in May. Towards the end of the year, the service became available at further 4 spots in district 6, while two new docking stations opened at the renewed Blaha Lujza tér, meaning that the MOL Bubi bikes can now be picked up and returned at 177 docking stations.

Total number of trips, 2022

2 910 767 pc

Total distance taken, 2022

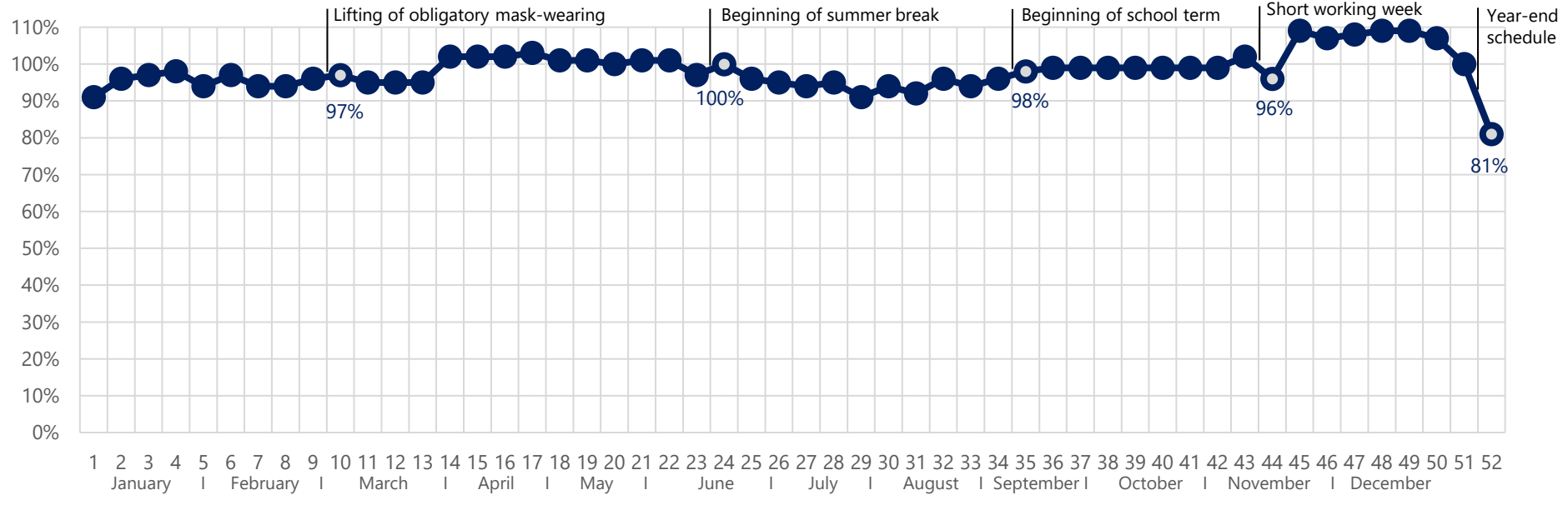
5,821,534 km

Please click here for more traffic data available at BKK's website.

Road traffic in 2022

Road traffic between January – December 2022

Values compared to the average working day value in the school term in 2019 [%]



In Q1 of 2022, the rate of Budapest's road traffic (vehicles running on the roads) was below the average rate of 2019. In Q2, we measured values over 100%, which decreased due to the summer break and increased again in the autumn school term and stabilised on the average level of 2019. From the beginning of November, the traffic volume increased at Budapest's examined counting points, exceeding the value of 2019 with circa 10%. In the middle of December, 2022, we measured the highest, daily average road traffic since the pandemic period.

The busiest working week, 2022

49th

The least busy working week, 2022

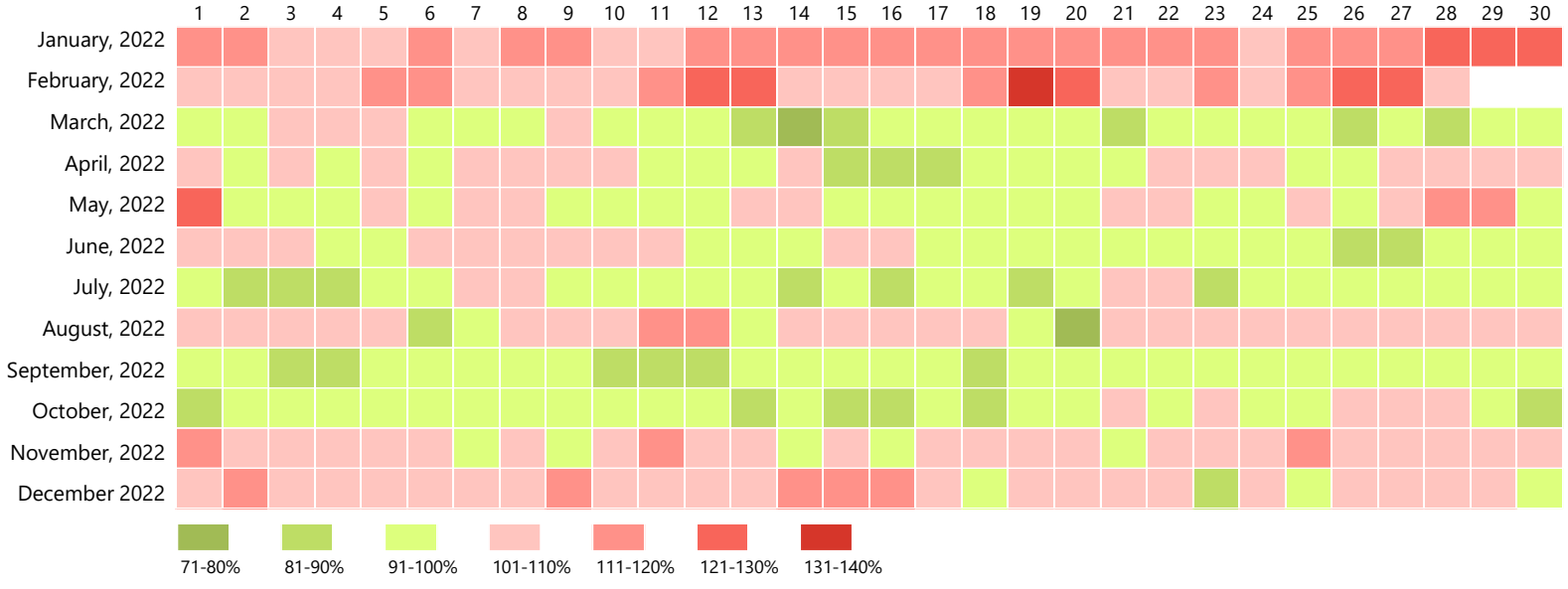
52nd

Please click here for more traffic data available at BKK's website.

Changes of road traffic on different days in 2022

Rate of road traffic on different days between 1 January – 31 December 2022

Compared to the value of the average day type (working day, Saturday, Sunday, public holiday) of the identical month in 2019 [%]



We also examined road traffic with another method. In the „road calendar", we compare the different day type of each month to the identical day time of the identical month of the 2019 base year.
In 2022, there were 178 days when traffic either decreased or stagnated, compared to the value of 2019. It is interesting that in November and even in the wintertime, road traffic was heavier almost every day, without any exception.

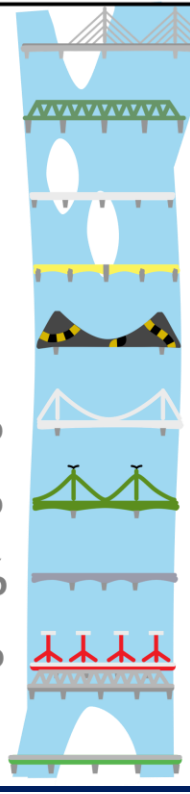
The greatest increase compared to 2019
+36% 19 February
The greatest decrease compared to 2019
-22% 31 October

Közúti forgalmi naptár

Please click here for more traffic data available at BKK's website.

Share of road traffic on Budapest's Danube bridges in 2019 and 2022
Redistribution of traffic across the bridges

	autumn 2019	spring 2022	change	autumn 2022	change	public transport services	dedicated cycling infrastracture	traffic lanes
Megyeri híd*	9%	11%	▲	10%	▼		✓	2x2
Újpesti vasúti híd	–	–	–	–	–		✓	–
Árpád híd	18%	17%	▼	17%	–		✓	2x3
Margit híd	9%	10%	▲	10%	–		✓	2x2
Lánchíd	4%	–	▼	–	–		✗	2x1
Erzsébet híd	11%	14%	▲	14%	–		✗	2x1 + 2x2
Szabadság híd	3%	2%	▼	2%	–		✗	2x1
Petőfi híd	13%	11%	▼	12%	▲		✗	2x2
Rákóczi híd, Déli össze-kötő vasúti Duna-híd	16%	18%	▲	18%	–		✓	2x2
Deák Ferenc híd*	17%	17%	–	17%	–		✓	2x4



*Based on the National Road Database of the Hungarian Public Road company

We examined the road traffic of Budapest's Danube bridges several times throughout 2022. We present the rate of crossings through the Danube bridges, bridge by bridge and even the changes made in the rate compared to the previous measures. The Chain Bridge, which has been closed due to the reconstruction works since 2019, the related designated bus lane at Hegyalja út and also the dedicated bus lane on Kiskörút (Small Boulevard), assisting the replacement of metro line M3 caused significant changes in terms of the transport system of Budapest. However, despite these changes,The two data collections made in 2022 do not show major deviations in the rate of use of the bridges.

Budapest's accident-related data in 2022

Budapest's accident-related data based on WAZE users' reports between January – December 2022

Reported major accidents aggregated as per area and date [pc]

The least major accidents in Budapest
based on WAZE users' reports, 2022

9 January
18 April
24 December
31 December

The Most major accidents in Budapest
based on WAZE users' reports, 2022

8 April
1 September
15 September
26 September

As a company being responsible for the mobility of the Hungarian capital, BKK Centre for Budapest Transport, meeting residents' expectations, is committed to mitigate the risk of Budapest's transport. Therefore, BKK regularly collects and analyses available data from various sources in relation to transport safety in Budapest. Since 2022, we have been monitoring even the data reported by WAZE users on a continuous basis.

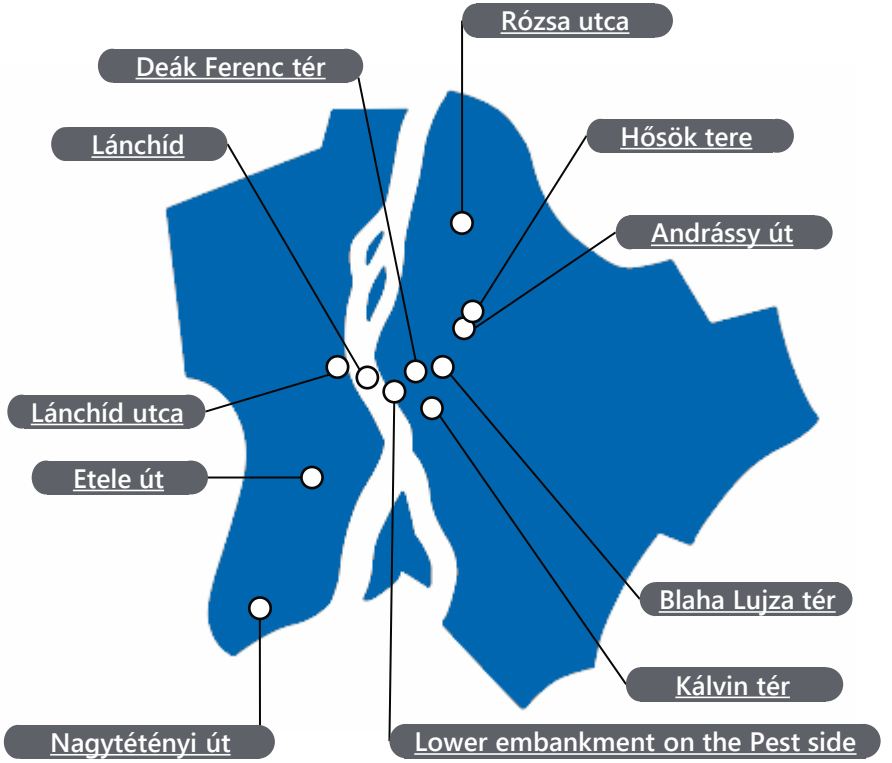
Please click here for more traffic data available at BKK's website.

We collect data even, by analysing camera images
the Data from the Sky software is presented

Data from Sky is a software specialised for analysing camera images, which we tested thoroughout 2022. After the successful pilot project, we applied at various locations to analyse cross-sectional traffic calculations. The software is suitable for analysing video recordings made by any device, whose parameters can be tailor-made to the given location following their uploading into the software. Throughout the analysis, Data from the Sky differentiates between different types of vehicles based on 7 categories and recognises not only the number of passing objects, but even their attributes, such as colours, speed, etc.

Locations under analysis of which camera images are taken by the Data from Sky software

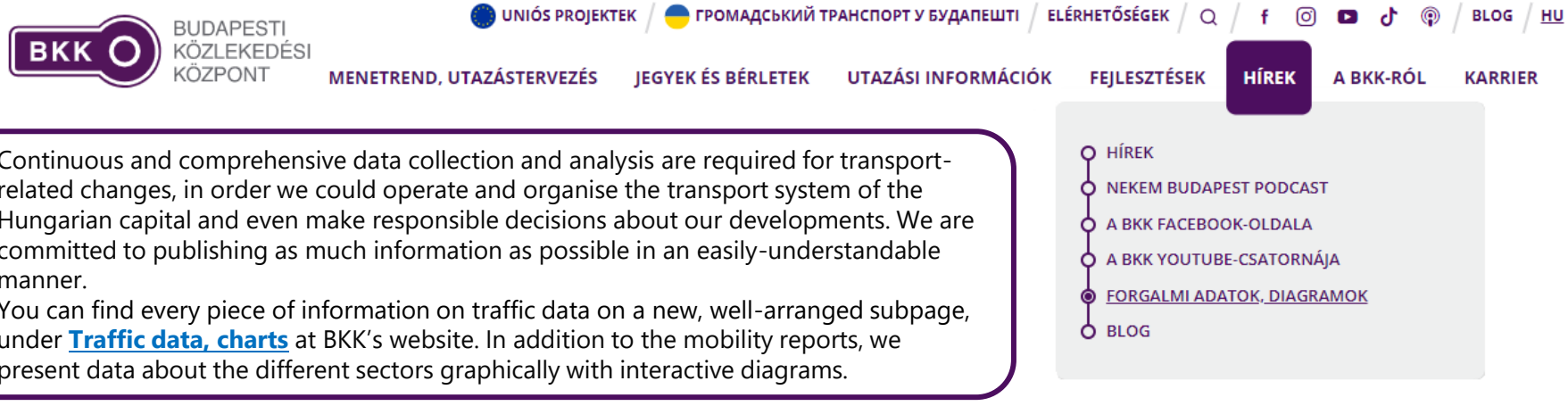
January – December 2022



Please click on the name of the locations to download our monthly reports and familirise yourself with our detailed analysis of that location.

Even more data

Each and every traffic data at the same place: online diagrams at BKK's website



Continuous and comprehensive data collection and analysis are required for transport-related changes, in order we could operate and organise the transport system of the Hungarian capital and even make responsible decisions about our developments. We are committed to publishing as much information as possible in an easily-understandable manner.

You can find every piece of information on traffic data on a new, well-arranged subpage, under **Traffic data, charts** at BKK's website. In addition to the mobility reports, we present data about the different sectors graphically with interactive diagrams.