

# Mobility report 2021





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

## Data is collected and analysed throughout the year

BKK places special emphasis on the collection and analysis of trip data for all travel modes in Budapest. If a sufficient amount of trip data are available, the company can make data based decisions regarding service frequencies, timetables or network modifications. Information relating to road traffic and micromobility greatly helps decision-making in connection with transport development and a variety of projects. Therefore, from the spring of 2021 onwards, there has been a department at BKK tasked with traffic data analysis.

BKK's service operators, such as the in-house Budapest Transport Company (BKV), ArrivaBus, and Budapest Közút (road operator) along with its own employees have continuously provided support in this project. We would like to thank them and our partners for their year-long cooperation.

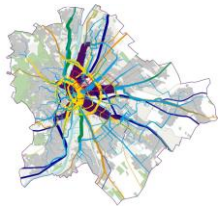
### Data collection in figures for the year 2021



**728**  
vehicles equipped  
with passenger  
counting devices



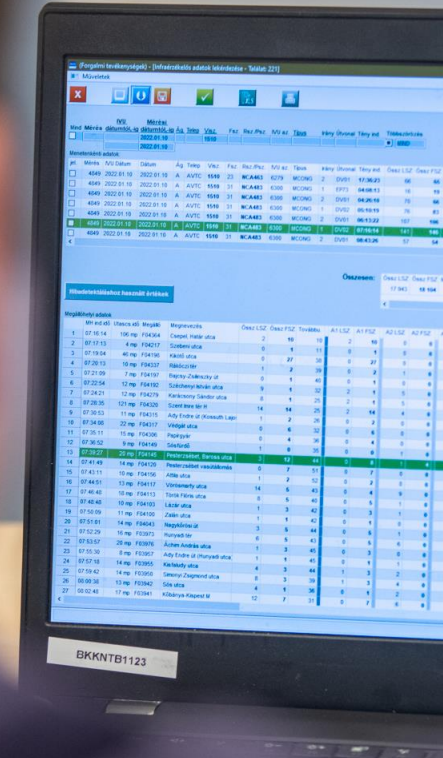
**342** days  
of counting



**80%**  
of the lines involved in  
the passenger counting  
process

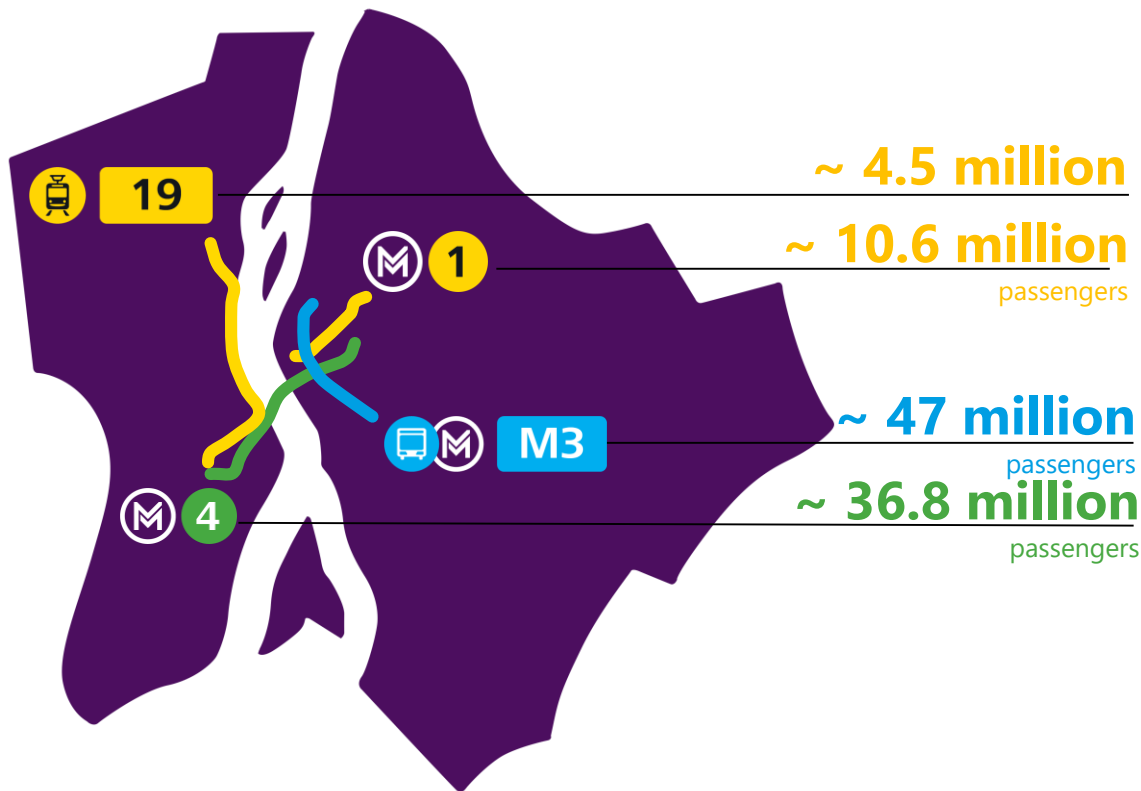


**387**  
on-site counting  
through observation





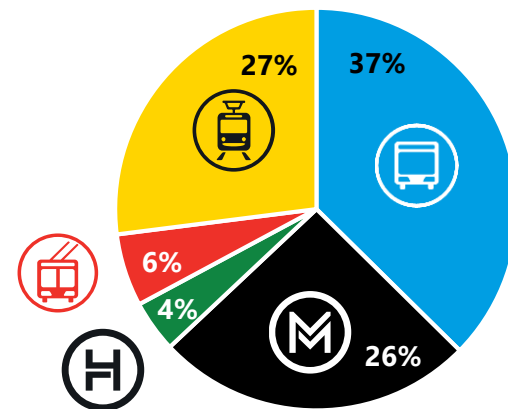
# Public transport trips in 2021



In 2021, the replacement of metro line M3 on the inner-city section continued without disruptions. The number of boardings on M3 replacement buses was equal to the sum number of boardings on metro lines M1 and M4, while when compared to tram line 19, the number was ten times higher. These figures illustrate the complexity and challenges of organising metro replacement buses.

In 2021, most passengers travelled on buses (37%), followed by passengers using trams and metro lines, and 63% of all trips in the year were taken on electric propulsion vehicles.

Public transport trips in 2021

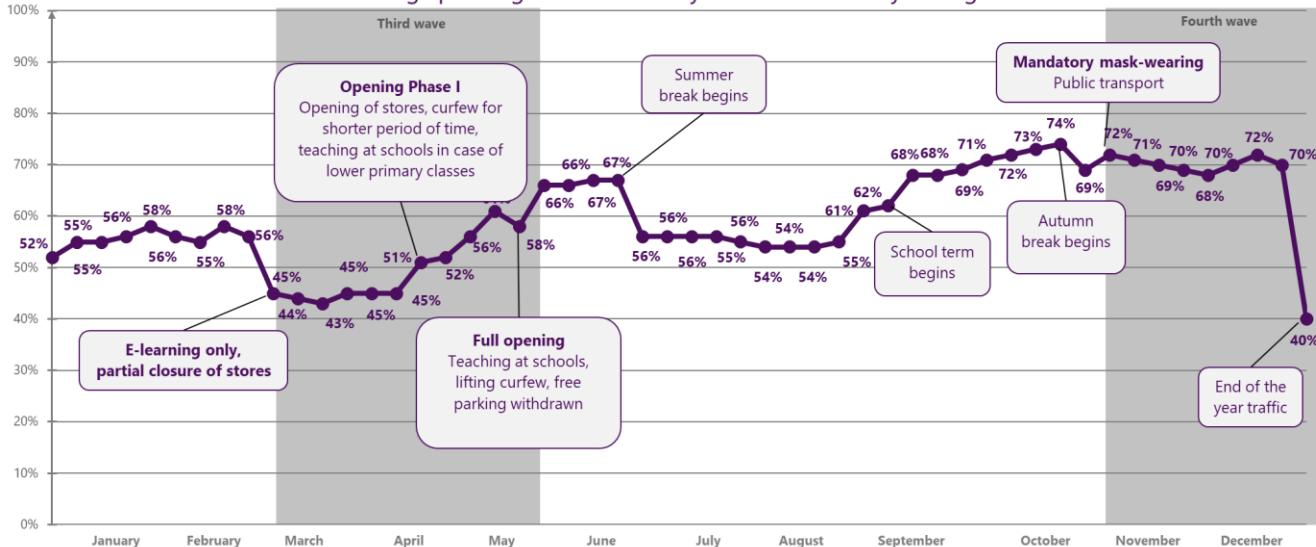




# Change in the average weekly number of trips on key bus lines in 2021

## Changes in the average weekly passenger numbers of key bus lines in 2021

100% = average passenger number of key lines on a workday during school term in 2019



In 2021, the number of passengers/day reached its maximum in October, which was only

**74%** of the figure in the pre-pandemic year of 2019.

According to the annual data, the fourth wave of the pandemic had less effect on the use of public transport services than the third wave.

Average workday number of boarding passengers (2021):

**2,755,543**

Average rate of workday traffic in 2021 (base year: 2019)

**65.14 %**



# Replacement bus line M3

## Reconstruction works on metro line M3 continued in 2021



Average number of boarding passengers on workdays (2021):

**145,883**

Number of departures on workdays (December 2021):

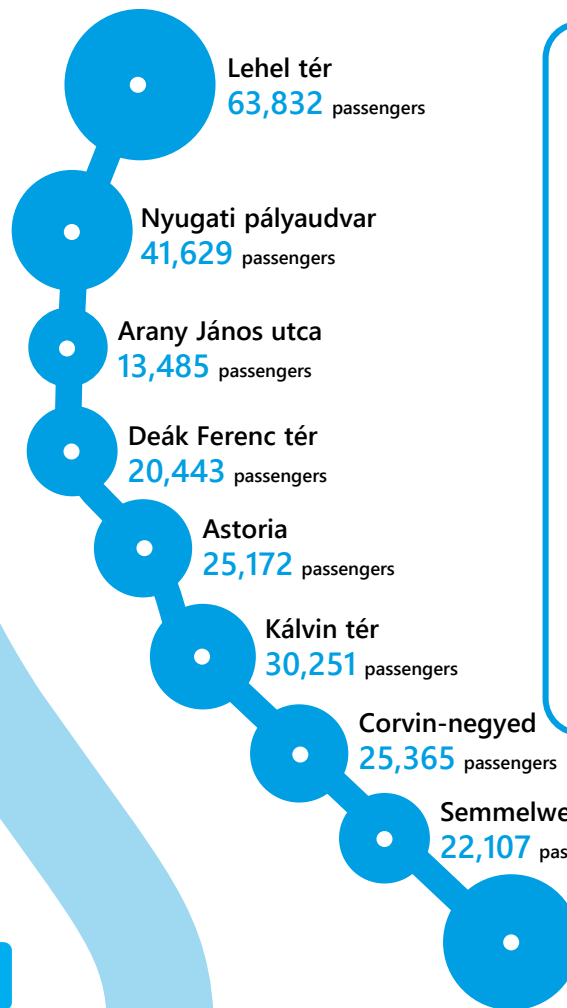
**1,881**

Buses in circulation on workdays (Dec 2021):

**77**



**M3**



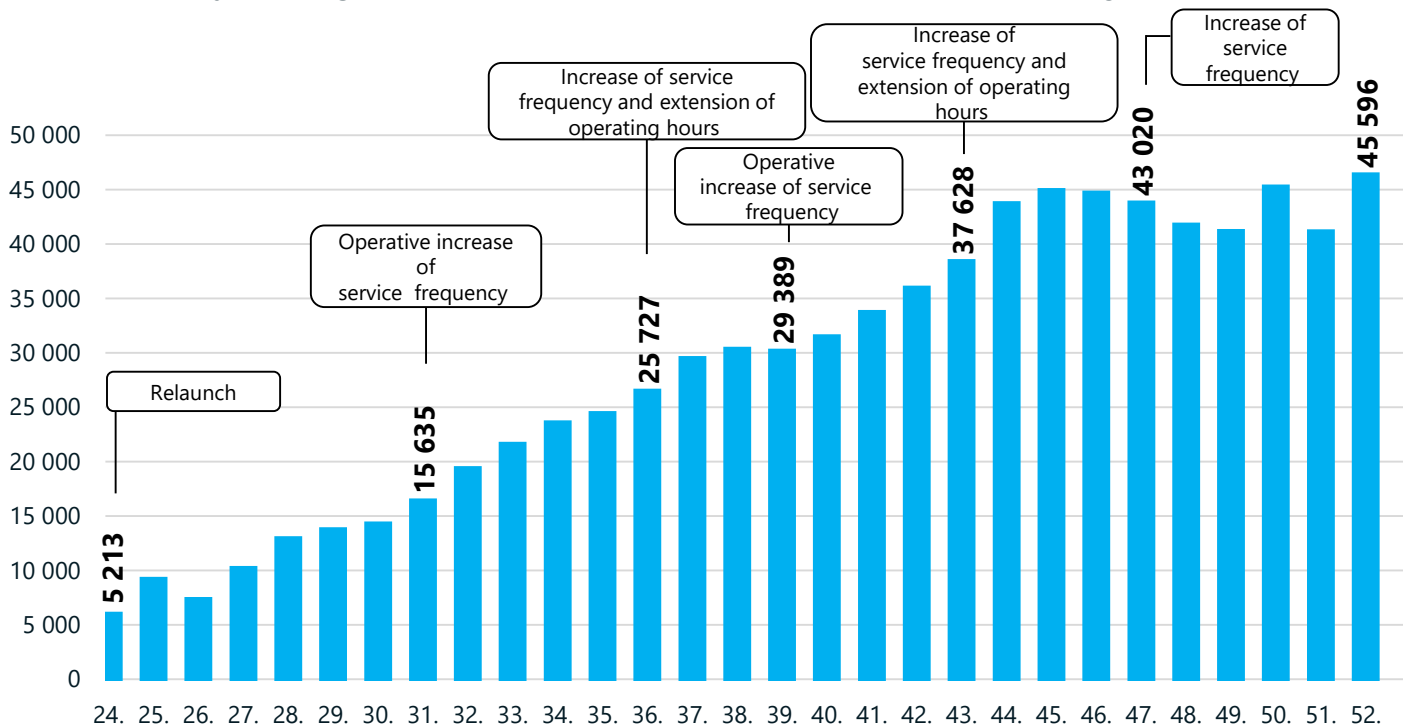
The third phase of metro line M3 reconstruction began in 2021. We continued the counting of passengers regularly both on workdays and at weekends along the route of the metro replacement buses during the whole year. Replacement bus M3 handles considerable passenger traffic at Nyugati pályaudvar and Kálvin tér stations, in addition to its two terminuses. The reconstruction works of the middle section of the line is still in progress. According to the planned schedule, it is expected to be finished in 2023.



# Airport Shuttle Bus 100E

## Continuously increasing passenger numbers in 2021 after service relaunch

Weekly passenger numbers in 2021 since relaunch [number of passengers/weeks]



- **Deák Ferenc tér M**
  - **Astoria M**  
Bus100E serves Astoria M on the way to Deák Ferenc tér only as a drop-off point, while to Liszt Ferenc Airport 2, it serves this stop only in the early morning hours.
  - **Kálvin tér M**  
Busline 100E serves Kálvin tér M to Deák Ferenc tér only as a drop-off point.
  - **Liszt Ferenc Airport 2**
- 30-40 minutes

Since the relaunch of the Airport Shuttle Bus service (Bus 100E) in June, passenger numbers have kept increasing and by the end of the year, over 6,000 passengers/day used this service. In response to the dynamic growth in demand, we have introduced a number of measures to optimise the operation of bus 100E in line with the actual passenger traffic conditions. By the end of the year, more passengers travelling to the airport used bus 100E than in the period before the pandemic; in other words, it is even more popular than before.

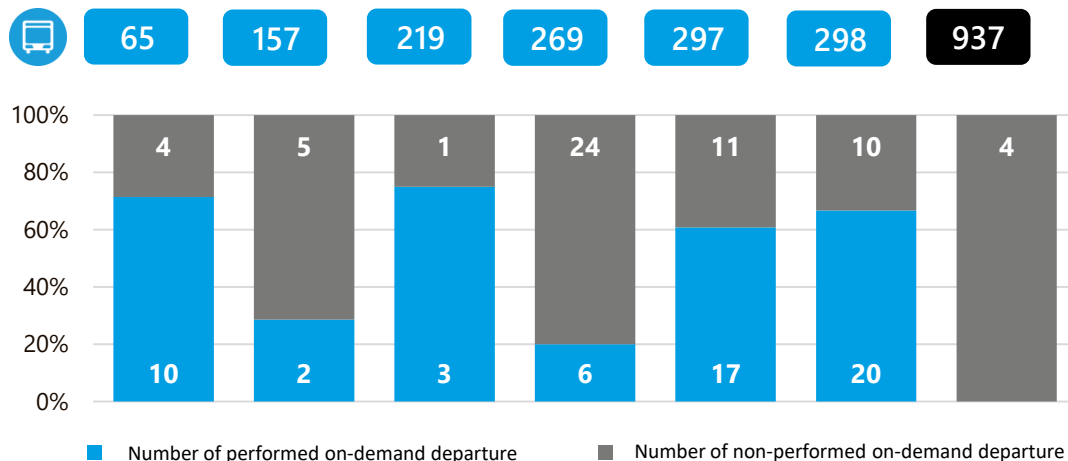


# BKK's Telebusz demand-responsive mobility service

## New online platform, growing demand



Ratio of performed/non-performed on-demand departures, 7.9.2021 (Tuesday)

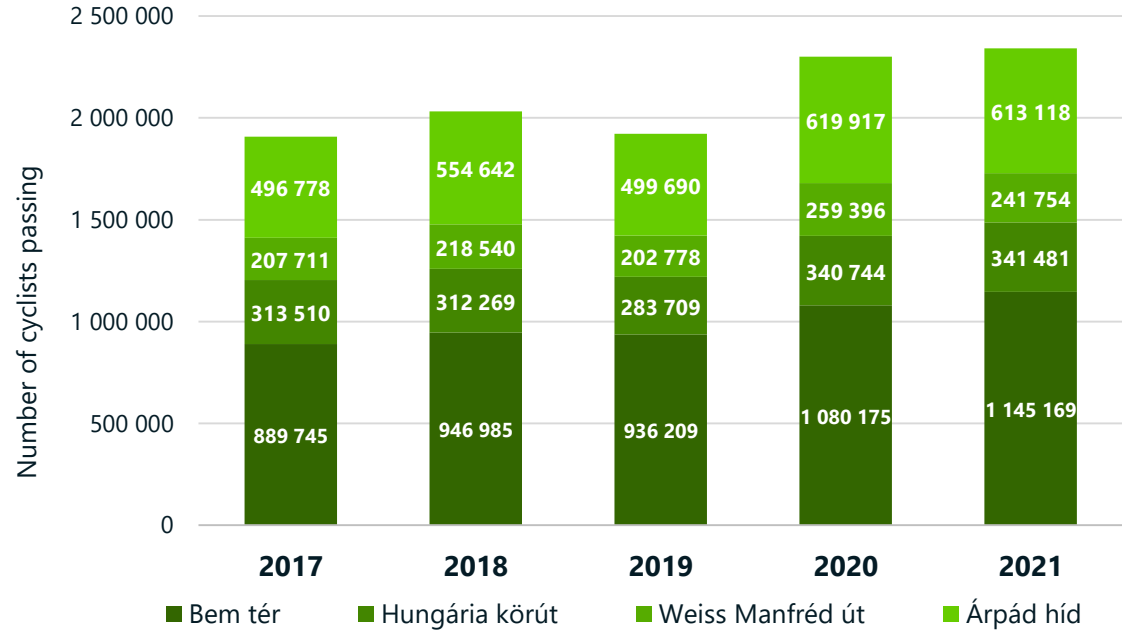


BKK's Telebusz service has been available since 2013, one of the main advantages is that buses do not run when there is no demand for travel, so they do not impose an unnecessary burden on the residential environment. BKK is a partner in the SMACKER project, whose main goal is to develop demand-responsive public transport services. The project included the development of a new online interface, resulting in increased accessibility and popularity of demand-responsive services in Budapest. Half of the demand-driven departures actually took place on the examined day, which shows that there is a travel demand on these lines, i.e. it is necessary to provide services adapted to demand. The online interface is available at this link: <https://bkk.hu/en/the-telebusz-demand-responsive-mobility-service>



# Cycling in figures between 2017 and 2021

More cyclists passed the counting points than in previous years



The number of cyclists passing the bicycle counting points has grown significantly when compared to the pre-pandemic period. When compared to the previous year, there were 20% more cyclists recorded in 2020, while in 2021 there were

**40,000**

more cyclists registered. Based on the data from the four counting points, the highest number of cyclists was recorded by the device at Bem tér, which accounted for 49% of the total number of cyclists passing in 2021 (1,145,169 in concrete figures).

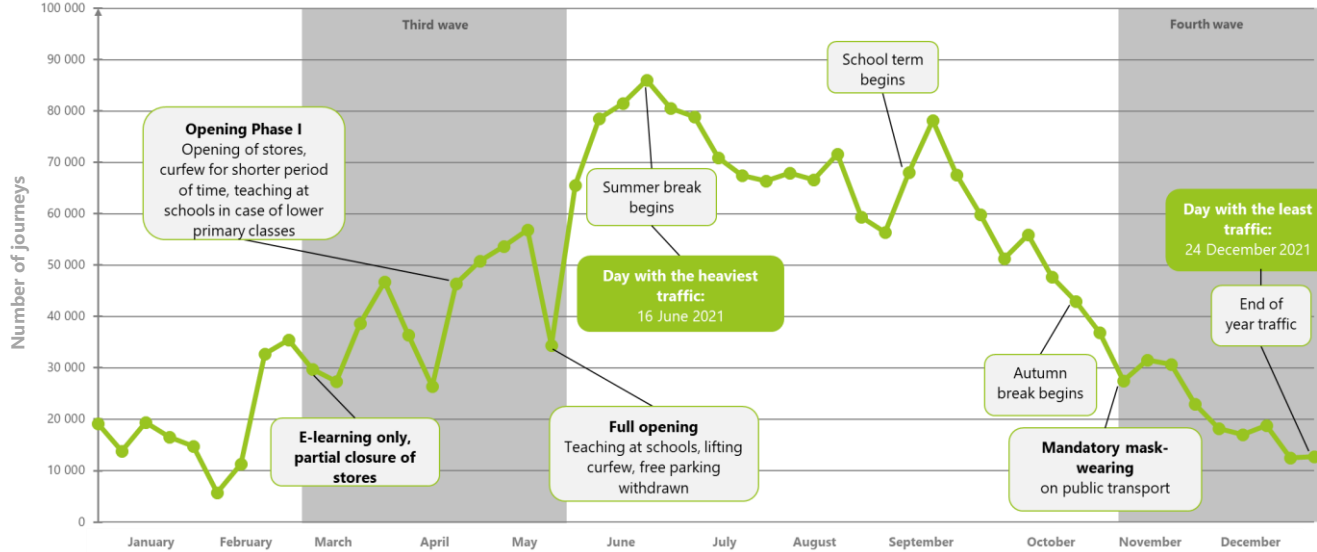




# Cycling trends in 2021

Cycling is becoming ever more popular

Changes of weekly transit at the four cycling measurement points in 2021



The number of cyclists passing through the 4 bicycle counting points significantly increased compared to the pre-pandemic period with the trend continuing in 2021. The number of cyclists in the city grew considerably in the summer of 2021 and with the start of the school term in September. It is interesting to note that even in the cooler winter weather, the number of cyclists was still around the same as on an average workday in 2019.

Total number of journeys:

**2,341,522**

Day with the heaviest traffic:

**16 June**

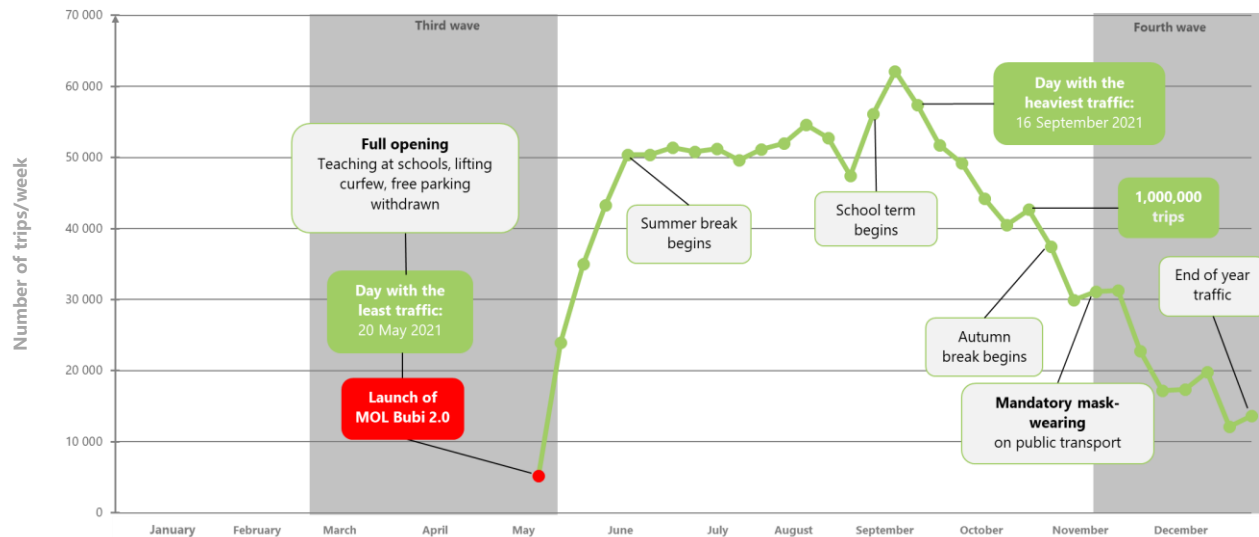




# Number of MOL Bubi public bike trips in 2021

## The renewed service has broken record upon record

### Changes in the number of MOL Bubi trips in 2021



On 20 May 2021, the operation of the updated and improved public bike-sharing system resumed. MOL Bubi 2.0 exceeded all expectations as on 16 September, there were over 10,000 trips taken by MOL Bubi bikes, which is the highest number in the history of the public bike service. The number of daily trips broke the record of MOL Bubi 1.0 in the first two weeks of operation: 2015 had been the most successful year of MOL Bubi up until then with 652,000 trips taken. This record was broken by the upgraded MOL Bubi over 100 days. 12 October marked a major milestone of one million rides.

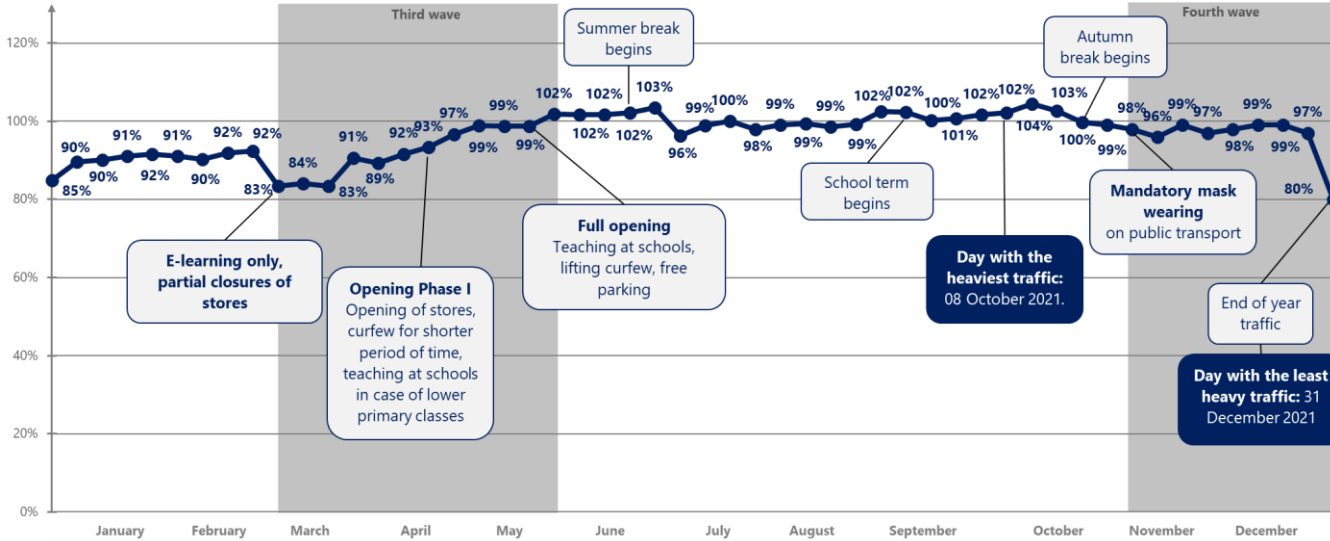
Total trips:  
**1,300,761**  
Total distance covered:  
**2,601,522 km**  
Total CO<sub>2</sub> emissions saved:  
**413,641 kg**





# Road traffic in Budapest

**Situation of road traffic in 2021** (100%=Number of average transit on workday during school term as of 2019 measured by road measurement points)



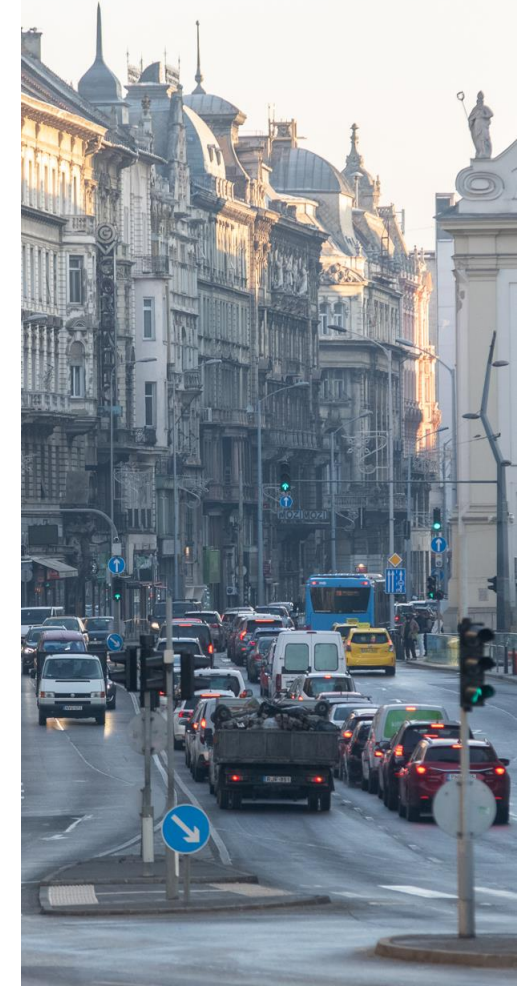
The pandemic also had less impact on road transport in 2021 than on public transport passenger numbers. Road traffic was on average 2% lower than the average on a school day before the pandemic. After the spring restrictions were lifted, road traffic levels were the same as before the pandemic. During the fourth wave of the pandemic, no significant change was observed at road traffic monitoring points.

**Workday with the heaviest traffic (2021):**

**8 October**

**Workday with the least amount of traffic (2021):**

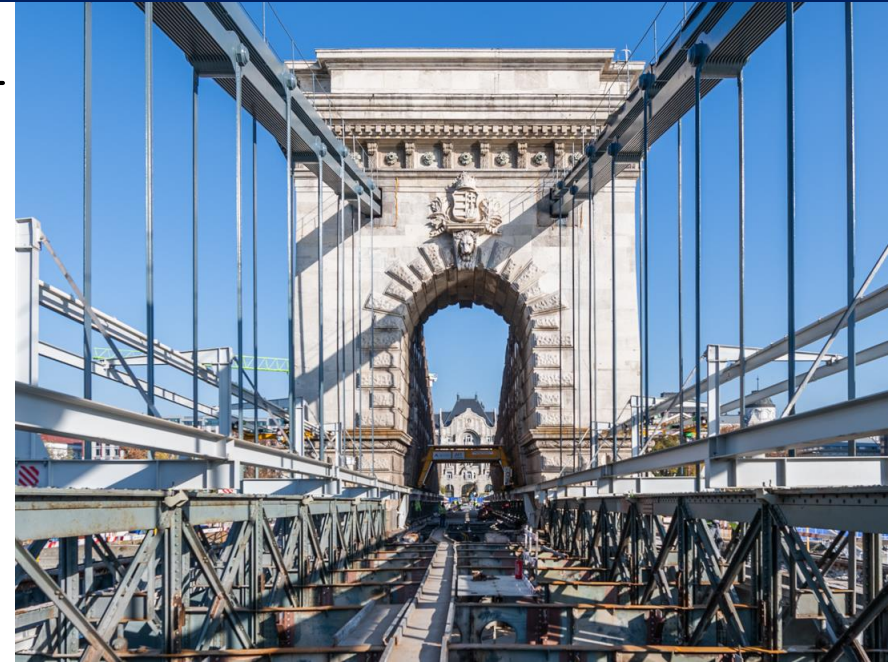
**31 December**





# Share of road traffic on Budapest's Danube bridges in the autumn of 2019 and 2021 – Redistribution of traffic across the bridges

Autumn of 2019		Autumn of 2021	Changes
24%	ÁRPÁD BRIDGE	28%	↑
14%	MARGARET BRIDGE	14%	—
6%	CHAIN BRIDGE	—	↓
14%	ELISABETH BRIDGE	12%	↓
4%	LIBERTY BRIDGE	3%	↓
16%	PETŐFI BRIDGE	18%	↑
22%	RÁKÓCZI BRIDGE	25%	↑



Due to road traffic interventions made in the city centre (closure of the Chain Bridge, opening of a bus lane on Hegyalja út and along the inner-city boulevard (Kiskörút), part of the road traffic crossing the river Danube was redirected from the bridges in the heart of the city (Chain Bridge, Elisabeth Bridge, Liberty Bridge) to bridges with a larger traffic capacity located farther from inner city (Árpád Bridge, Rákóczi Bridge) thereby reducing transit traffic in the city centre.

# 2021 modal split survey in Budapest in 2021

## Transport mode selection rates

### Modal split survey based on passenger numbers

October 2021



BKK has conducted annual modal split-related surveys since 2012 through on-site interviews of passengers about their transport mode choices in the examined area. In 2021, we increased the number of interviewees to 5,000 persons from the former 1,000 to gain more reliable and accurate insights than in the past.

Results of 2021 were based on the travel data of the 12,775 trips taken by 5,278 persons counted in Budapest and its metropolitan area on workdays in October 2021. The margin of error for the 2021 modal split results is +/- 1.35%.

According to the objectives set out in the Budapest Mobility Plan, a modal shift is envisioned by increasing the proportion of sustainable transport modes by 2030 in order to create a livable city.

