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Hungary recorded 602 road fatalities in 2019, representing a 4.9% decrease compared to 2018. The mortality rate was 6.2 traffic deaths per 100 000 inhabitants. Since 2013, the year with the lowest number of road fatalities on record, the number of road fatalities has stagnated. A new road safety action programme for the period beyond 2020 is under preparation.

Impact of Covid-19

In response to the Covid-19 pandemic, Hungary introduced lockdown measures on 28 March 2020, which affected the movement of people and goods on the road and in turn the exposure to road crashes.

The number of road deaths decreased by 44% in April 2020 compared with the average for 2017-19, according to preliminary data. The traffic volume decreased by 50% on motorways, 40% on main roads and 30% on side roads in April 2020 compared to April 2019.

Table 1. Road fatalities by month

	Average 2017-19	2020	% change
January	46	28	-39.1
February	43	32	-25.6
March	42	30	-28.6
April	41	23	-43.9
May	46	30	-34.8
June	50	28	-44
July	51	51	0
August	59	43	-27.1
September	62	58	-6.5
October	64	56	-12.5
November	58	27	-53.4
December	59	..	..

Trends

Country Profile

Population in 2019: 9.7 million

GDP per capita in 2019: USD 16 471

Cost of road crashes: 2.5% of GDP (2017)

Road network in 2019: 213 300 kilometres (urban roads 31%; rural roads 68%; motorways 1%)

Registered motor vehicles in 2019: 4.6 million (cars 82%; goods vehicles 11%; motorised two-wheelers 4%)

Speed limits: 50 km/h on urban roads; 90 km/h on rural roads; 130 km/h on motorways (110 km/h on motor roads)

Limits on Blood Alcohol Content: 0.0 g/l

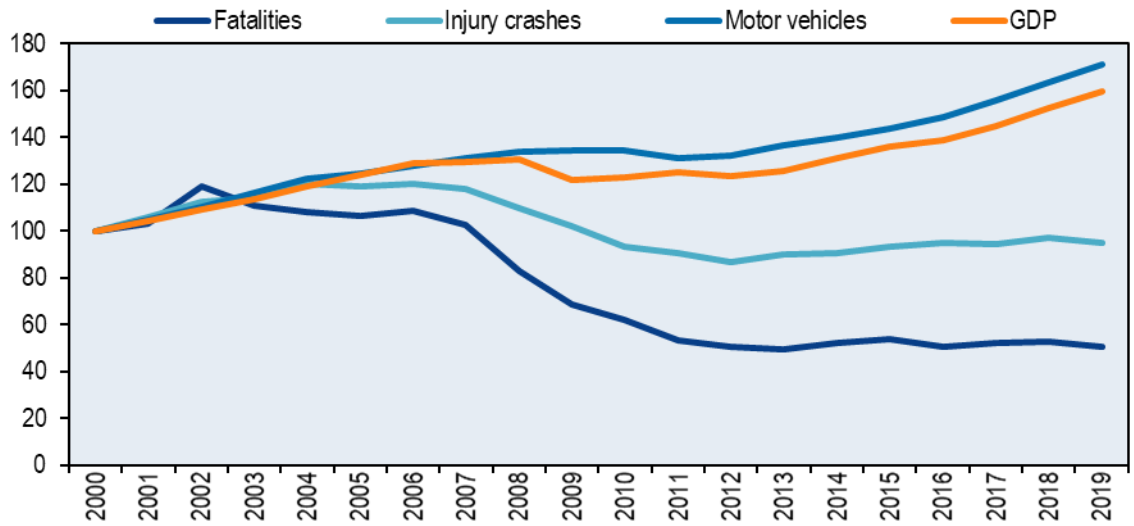
Hungary registered an overall **decrease in the number of road deaths in 2019**. According to the latest available data, 602 persons lost their lives in traffic crashes in Hungary in 2019. This represents a 4.9% decrease compared to 2018. In 2018, 633 road deaths were reported, a 1.3% increase on the 625 road deaths recorded in 2017.

The **longer-term trend for road deaths** in Hungary has shown significant progress. Between 2000 and 2019, the number of annual road fatalities fell by 48%. However, almost all of this reduction was achieved between 2000 and 2013 when recorded road deaths fell by 51%. Since 2013, the year with the lowest number of road fatalities on record, annual road deaths have increased by 2%.

The number of **traffic deaths per 100 000 inhabitants** in Hungary has fallen by 47% between 2000 and 2019. In 2019, 6.2 traffic deaths per 100 000 inhabitants were recorded, compared to 11.7 in 2000. By way of comparison, the average in the European Union is 5.1 deaths per 100 000 inhabitants in 2019.

Hungary recorded 1.3 **road fatalities per 10 000 registered vehicles** in 2019. This represents a decrease of 71% compared to the year 2000, when the rate of deaths to registered vehicles stood at 4.4.

Figure 1. Road safety, vehicle stock and GDP trends
Index 2000 = 100



Note: registered vehicles do not include mopeds.

The picture for **fatalities by road user groups** shows that passenger car occupants remain the group the most affected by road crashes. In 2019, passenger car occupants accounted for the largest share of road deaths, with 45% of the total. They were followed by pedestrians (24%), cyclists (10%) and motorcyclists (10%).

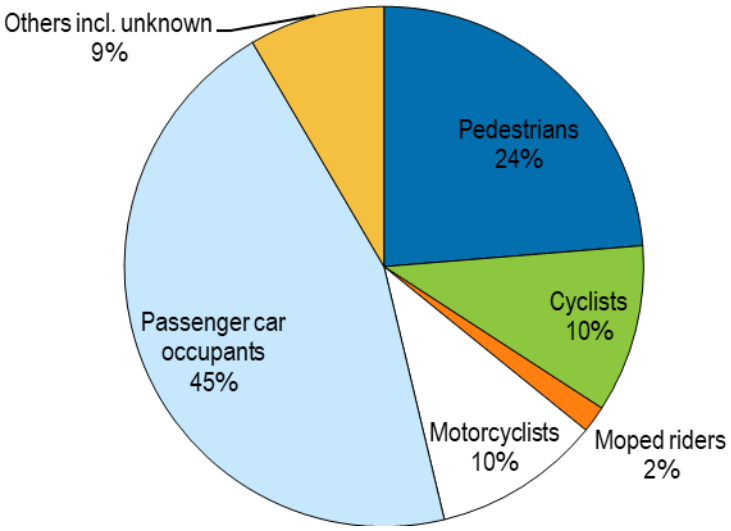
The largest decrease in 2019 was registered among moped riders, with three fewer deaths (-23%) than in 2018. They were followed by pedestrians, who suffered 20 fewer deaths (-12.3%), cyclists with six fewer fatalities (-8.7%) and occupants of passenger cars, with 17 fewer fatalities (-5.9%). On the other hand, motorcyclists experienced 13 more road fatalities in 2019 than in 2018 for an increase of 26%.

The long-term trend shows traffic in Hungary has become safer for all road user groups, except for motorcyclists. The strongest decline was registered among moped riders who accounted 70% fewer road deaths in 2019 than in 2000. Likewise, cyclists saw a decrease of 65.4% over this period and pedestrians 59%.

On the other hand, the number of motorcyclists killed in traffic increased by 21% (from 52 to 63) between 2000 and 2019. During the same period, motorcycle registrations more than doubled. For comparison purposes, passenger car registrations increased by 69% over this period. While this growth is significant, it does not wholly explain the stagnation in road safety improvements for motorcyclists; more must be done to improve motorcycle safety on Hungarian roads.

More recently, since 2010 the number of fatalities decreased for all users except motorcyclists (Figure 6).

Figure 2. Road fatalities by road user group in percentage of total, 2019



Road deaths by age group in 2019 showed some changes compared to 2018. People aged 15-17 suffered nine road fatalities in 2019 – more than the double of the death toll for this age group in 2018. On the other hand, those aged more than 65 suffered 19 less road deaths (-15.6%) in 2019 than in 2018.

Looking at the longer-term trend, since 2000, the number of road deaths has decreased for all groups. The strongest reduction fatalities over this period accrued to the youngest people. People aged 21-24 year olds also saw significant road safety improvements as road deaths fell by 71% between 2000 and 2019.

More recently, since 2010, the number of road deaths decreased for all groups, with the exception of the people above 65 (see Figure 6).

In 2019, people above 65 formed the group at highest risk in Hungarian road traffic. They had a road mortality rate of 8.3 deaths per 100 000 persons. The mortality rate of young people, traditionally at disproportionately high risk in traffic, is below the national average (3.1 road deaths per 100 000 inhabitants for 15-17 year-olds and 5.4 for the 18-20 age group). The mortality rate is slightly higher than average for 21-24-year-olds. The relatively low risk for the younger population could be explained by intensive road safety education targeting this group.

Figure 3. Road fatality rates by age group, 2010-19
Deaths per 100 000 inhabitants in a given age group

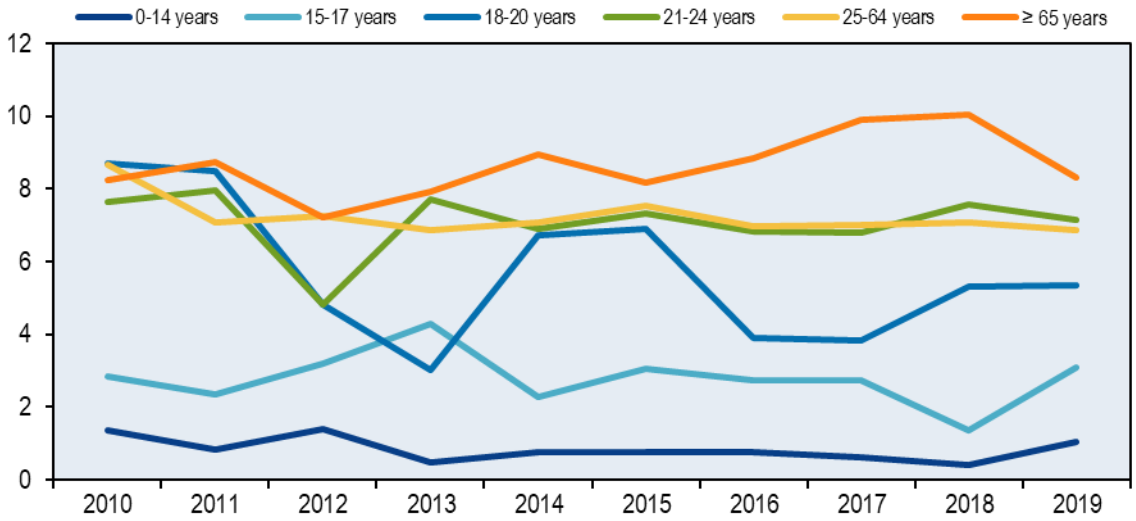
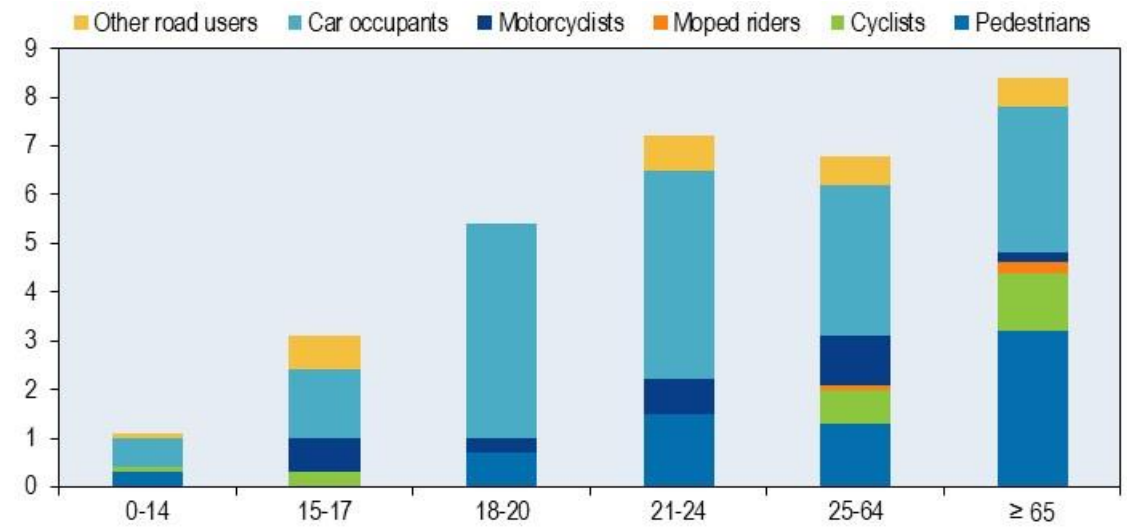


Figure 4. Road fatality rate by age and road user group, 2019
Fatalities per 100 000 inhabitants



Analysis of **fatalities by road type** shows the rural road network continues to claim the most victims. In 2019, 54% of deaths occurred on rural roads, 37% on urban roads and 9% on motorways. This repartition has remained relatively stable in recent years.

In 2019, in comparison to 2018, road deaths fell by 6.3% on urban roads and by 3.0% on rural roads, whereas the number of fatal injuries increased by 21.7% on motorways. The relative strong increase on motorways could be explained by an increase in traffic. Also many injury crashes on the motorway network involved foreign vehicles.

Since 2000, fatalities decreased by 51% on rural roads and by 55% on urban roads and increased by 14% on motorways.

Figure 5. Road fatalities by road type

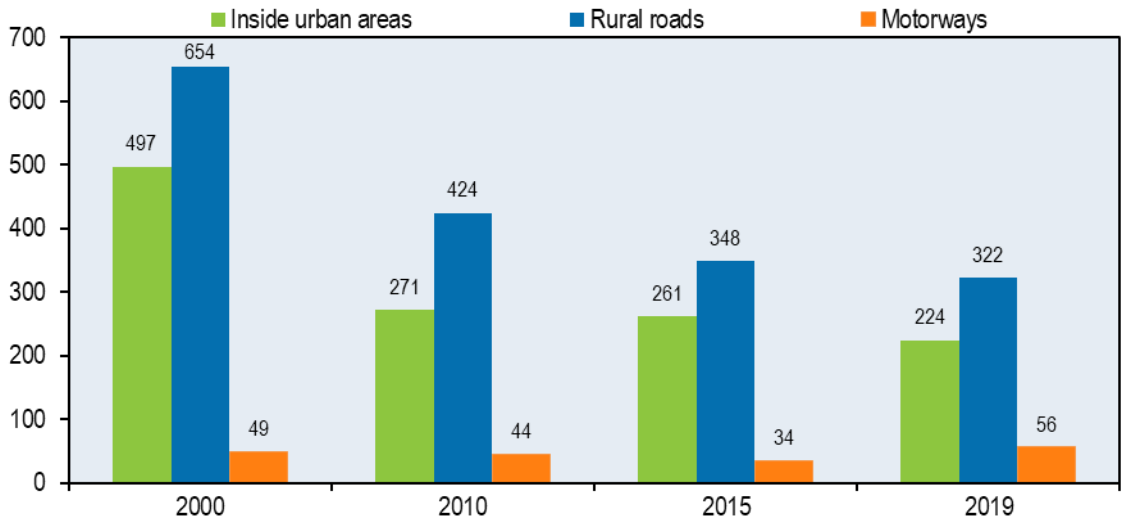
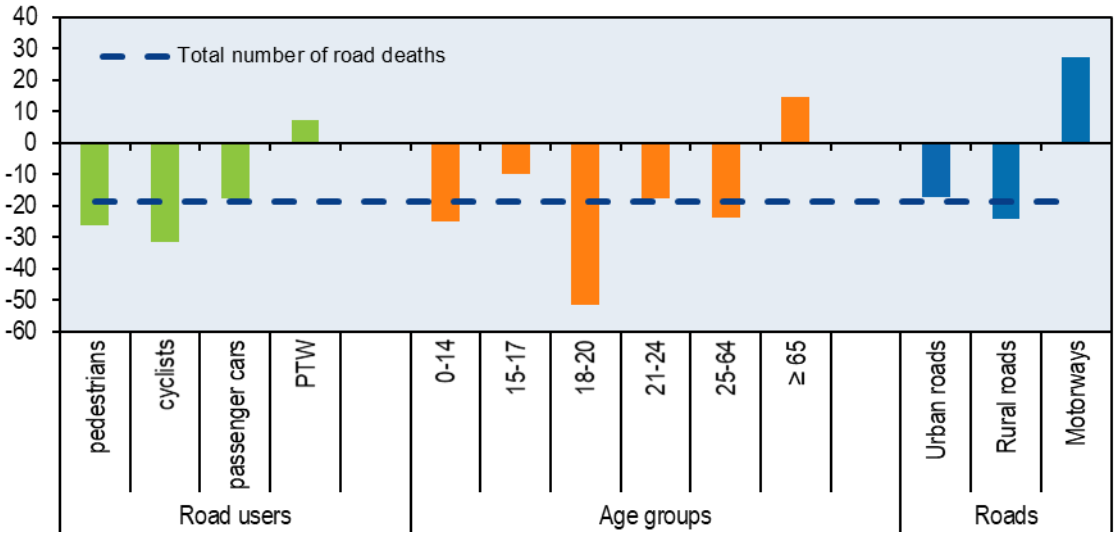


Figure 6. Evolution of road deaths by user category, age group and road type, 2010-19



Fatality data are essential to understanding road safety issues but hardly sufficient. Information on **serious injuries from crashes** is also critically important. Yet injury data are much more difficult to obtain, validate and – where available – compare. In 2018, Hungary recorded 21 999 injured people, including 5 559 seriously injured.

Economic costs of road crashes

Traffic crashes represent a significant cost for society. In 2013, it was estimated at around EUR 1.88 billion, or 1.8% of GDP. The original estimation was calculated using both a willingness-to-pay and a human-capital approach (Holló et al., 2013). Later the estimation was based on a methodology by McMahon and Dahdah (2008) that calculates the statistical value of a road fatality and a person seriously injured. This estimation was updated in 2017 based on the methodology developed for the European Safety Cube project (Wijnen et al., 2017). Additionally a model has been elaborated for the estimation of the statistical value of a person slightly injured. According to this methodology, the total cost of road crashes was equivalent to 2.5% of GDP in 2017.

Table 2. Costs of road crash injuries, 2017, based on the SafetyCube methodology

	Unit cost [HUF]	Total cost
Fatalities	273.3 million	
Seriously injured persons	66.4 million	
Slightly injured persons	6.0 million	
Total as % of GDP		**2.5%**

Behaviour

The behaviour of road users is an important determinant of a country's road safety situation. According to on-site police investigations, **speeding** is typically a contributing factor in about 40% of fatal crashes.

In order to intensify speed enforcement, automatic speed cameras are being introduced. As of September 2016, 365 fixed and 160 mobile intelligent cameras (VÉDA) were installed. Since 2019 the VÉDA cameras are able to identify the non-wearing of seat belts in the front seats of cars. The use of motorway tolling systems as section control devices is being discussed. To respond to the deterioration of road safety, the Hungarian police introduced a new speed enforcement strategy in 2019. The police are now equipped with radars embedded in unmarked cars. Police have has stopped giving information about the location of mobile speed cameras.

Table 3. Passenger car speed limits by road type, 2020

	General speed limit
Urban roads	50 km/h
Rural roads	90 km/h
Motorways	130 km/h 110 km/h on motor roads

Driving under the influence of alcohol is another cause of road crashes in Hungary. In 2019, police reported that 8.5% of all injury crashes were caused by a driver under the influence of alcohol.

In Hungary, drivers are forbidden to drive under the influence of alcohol. The theoretical maximum blood alcohol content (BAC) is 0.0 g/l. In practice, drivers are convicted only if their BAC is above 0.2 g/l. However, the law was temporarily softened in July 2011 and a driving licence could be withdrawn on the spot only when the driver was seriously under the influence of alcohol. Now, the zero tolerance has been reintroduced. It means that driving licences can be withdrawn on the spot (following a control or crash) if the driver has any alcohol in his/her blood.

In Hungary, all persons involved in a road crash are tested for their blood alcohol concentration. A crash is recorded as alcohol related when the person responsible for the crash is under the influence of alcohol.

Driving under the influence of drugs is defined in the criminal code and is listed among the potential contributing factors to crashes in accident forms. Unlike alcohol, there is no limit regarding drug consumption.

Saliva tests are not yet in use in Hungary, which makes drug driving enforcement very difficult. Drivers may be tested (from blood or urine samples) when they are suspected of impairment and when the alcohol test is negative. This happens very rarely and no random testing is being carried out, partly due to the costs of toxicology tests. Therefore, statistics on drug-driving fatalities are not representative of the reality. In 2019, driving under the influence of drugs was reported as a contributing factor in 49 injury crashes, of which four were fatal.

An increasing problem for traffic safety in Hungary is driver **distraction**, for instance, through the use of mobile phones while driving or crossing a street. Unfortunately, there are no statistical data about this phenomenon. According to roadside observations, 4-5% of drivers use their hand-held mobile phone while driving.

In Hungary, driving with a hand-held device is forbidden, while the use of hands-free devices is tolerated.

Sleepiness and fatigue are another cause of crashes. According to the data of Hungarian police, in 2019 81 injury crashes were caused by sickness and 163 by falling asleep while driving. These figures increased to 87 for the former and 186 for the latter in 2017.

Seat belt wearing has been compulsory in Hungary since 1976 in front seats. In rear seats, it has been compulsory outside urban areas since 1993 and in urban areas since 2001. Dedicated child restraint use is compulsory for children of 150 cm or under.

In 2018 and in 2019, 95% of drivers and 71% of rear seat passengers wore a seat belt. There is still improvement needed to increase seat belt use in rear seats.

Table 4. Seat belt wearing rates
Percentages

	2000	2015	2019
Front seats			
General (Driver and passenger)	49	83	95
Driver	..	82	95
Urban roads (driver)	..	75	93
Rural roads (driver)	..	80	95
Motorways (driver)	..	90	97
Rear seats	..		
General	8	39	71
Children (use of child restraint)	..	..	95 (89 with child seats, 6 with adult belts)

For motorcyclists, **helmet wearing** is the most effective passive safety measure. Helmet wearing has been compulsory since 1965 for motorcyclists, since 1997 for moped riders outside built-up areas, and since 1998 for moped riders inside built-up areas. The compliance rate by motorcyclists is nearly 100%.

There is no mandatory helmet use law for cyclists.

Road safety management and strategies

According to Prof. Dr. Péter Holló of the Institute for Transport Sciences (KTI), the history of Hungarian road safety can be divided into the following periods:

- 1976-87: relatively stable period. The 30-day definition for road accident fatalities was introduced in 1976.
- 1987-90: strong deterioration, similar to all countries where the political, social and economic systems changed following the collapse of the socialist bloc. This political change was accompanied by negative side effects for road safety, due to weak police control, less political attention to road safety, a false interpretation of freedom, explosion in the size and changes in the structure of the vehicle fleet, etc. The worst ever year for Hungarian road safety was in 1990, with nearly 2 500 people killed.
- 1990-2000: important improvements and major initiatives.
- 1993: adoption of the first Hungarian National Road Safety Programme, with a quantitative target. Road safety measures were implemented such as lower speed limits in built-up areas, mandatory daytime running lights and obligatory use of rear safety belts outside built-up areas, intensified police control and road safety campaigns, more severe sanctions, etc.

- 2000 was the least dangerous year until 2008, with a reduction of more than 50% in the number of people killed (1 200) compared to 1990. Some demographic and economic factors contributed to the positive trend: a decrease in the number of young, novice drivers and an increase in vehicle operating and insurance costs.

- 2000-06: deterioration, mainly outside built-up areas. In 2001, the speed limits outside built-up areas were raised. The level of police enforcement was insufficient, as was the organisation and funding of road safety activities.

- 2006-13: after several years of increasing road fatalities, the 2007 situation was back to that of 2000. In 2008, there was a remarkable decrease in fatalities – to under 1 000. In 2013, the number of road fatalities was as low as that of 50 years earlier. The improvement in the passive safety of vehicles is considered an important factor contributing to these positive results. Several other factors (introduction of owner responsibility, installation of automatic speed cameras, further development of point demerit system, etc.), as well as the economic recession, have also contributed to the reduction in the number of road deaths.

- 2013-19: the number of road deaths fluctuated between 603 and 644 without a clear trend, and the number of injury crashes showed an increasing trend. The decrease in the number of fatalities in 2016 could be attributed to the introduction of automated speed cameras. However, their effects may have already diminished.

Responsibility for the organisation of road safety in Hungary lies with the Ministry of the Interior and the Ministry for Innovation and Technology. Overall responsibility for transport policy rests with the state secretary of the Ministry for Innovation and Technology.

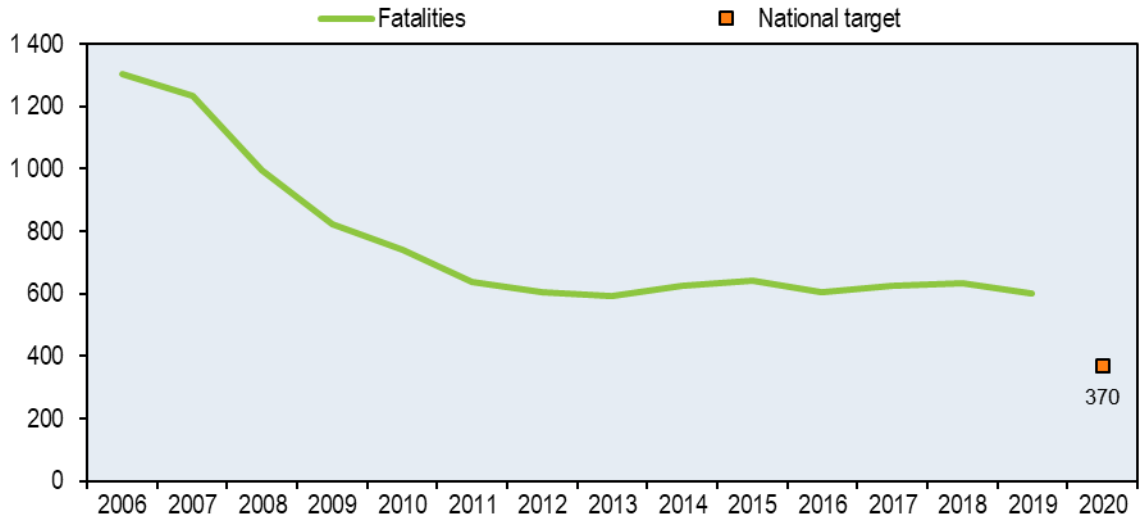
The current Hungarian Road Safety Action Programme covers the period 2020-22. It focuses mainly on the improvement of the **road safety situation of children** but does not set numeric targets.

The KTI Institute for Transport Sciences continuously monitors the road safety situation and each year publishes a detailed evaluation based on outcome indicators (number of deaths and injury crashes). It also publishes one on a set of safety performance indicators (such as the use of seat belts, child restraints, daytime running lights, etc.). Based on the evaluation of the previous programme, KTI recommends dedicating further efforts to the following: increasing the use of seat belts (especially in rear seats) and child seats, installing more speed cameras, introducing speed section control, increasing police enforcement, strengthening the driver education system with road safety modules and better protecting vulnerable road users.

Based on the data from recent years, it is unlikely the national or EU targets for 2020 will be achieved.

The new road safety action programme for the period beyond 2020 is under preparation.

Figure 7. Trends in road fatalities towards national target



Measures

Speed management: the Hungarian Police has implemented a new speed enforcement strategy which includes the use of radars embedded in unmarked vehicles and the suppression on the Internet of information related to the location of speed cameras.

Since November 2020, due to the emergency period for the Covid-19 pandemic, roadside police checks after 8 p.m. have increased.

Definitions, methodology, data collection

Road fatality is defined as a person who dies within 30 days as a result of a traffic crash. A seriously injured person is any person who sustains an injury which meets one of the following criteria:

- necessitates hospitalisation for more than 48 hours within seven days of the accident
- causes a fracture (except for finger, toe and nose fractures)
- causes cuts resulting in serious bleeding or nerve, muscle or tendon injuries
- causes injury of inner organs
- causes a burn of second or third degree or a burn affecting more than 5% of the body surface.

Hungary does not use the Maximum Abbreviated Injury Scale to define a serious injury.

Data on personal injury crashes are collected by the police and form the basis of the official Hungarian road crash statistics.

In Hungary, the provision of road traffic crash data is governed by the government decree on the National Statistical Data Collection Programme, in line with the Act on Statistics. It takes into account Council Decision 93/704/EC, which stipulates the member states provide their safety data to the European Commission for the elaboration of a European community database (CARE). The Hungarian national data collection system has been adjusted to be compatible with the Common Accident Data Set (CADaS) structure.

To fulfil EU requirements, Hungary will report data on the Maximum Abbreviated Injury Scale of 3 or more (MAIS3+). The preparation process related to the implementation of the MAIS3+ method, as well as related legal steps, have started recently.

The quality and completeness of police reported data are relatively good for fatal crashes and casualties. However, based on previous research, it is estimated that only 85% of those seriously injured (based on the national definition) and 60% of those slightly injured are reported in police records.

Resources

Recent research

KTI regularly conducts road safety research projects. More information can be found at http://kti.hu/.

Pauer, G., T. Sipos and Á. Török (2019), *Statistical Analysis of the Effects of Disruptive Factors of Driving in Simulated Environment*, Transport, Vol. 34:(1), pp. 1-8.

Holló, P., D. Henézi and T. Berta (2018), *Comparison of self-reported and observed road safety performance indicators*, Periodica Polytechnica Transportation Engineering, Vol. 46, No. 3.

Websites

Institute for Transport Sciences (KTI): http://kti.hu/.

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Hollo, P and I. Hermann (2013), *A közúti közlekedési balesetek által okozott társadalmi-gazdasági veszteségek aktualizá* (Actualization of Social-Economic Losses Caused by Road Accidents)", *Közlekedéstudományi Szle.*, Vol. 68, pp. 22–27.

McMahon, K. and S. Dahdah (2008), *The true cost of road crashes: Valuing life and the cost of a serious injury*, International Road Assessment Programme (iRAP), Basingstoke, UK, http://www.alternatewars.com/BBOW/ABM/Value_Injury.pdf.

Wijnen, W. et al. (2017), *Crash cost estimates for European countries*, D3.2 of the H2020 project SafetyCube, https://dspace.lboro.ac.uk/dspace-jspui/bitstream/2134/24949/1/D32-CrashCostEstimates_Final.pdf.

Road safety and traffic data

							2019 % change over			
	1990	2000	2010	2017	2018	2019	*2018*	*2010*	*2000*	*1990*
Reported safety data										
Fatalities	2 432	1 200	740	625	629	602	-4.3%	-18.6%	-49.8%	-75.2%
Injury crashes	27 801	17 493	16 308	16 489	16 757	16 627	-0.8%	2.0%	-5.0%	-40.2%
Deaths per 100,000 population	23.4	11.7	7.4	6.4	6.4	6.2	-4.1%	-16.5%	-47.4%	-73.7%
Deaths per 10,000 registered vehicles	11.2	4.4	2.0	1.5	1.4	1.3	-8.4%	-35.9%	-70.6%	-88.4%
Fatalities by road user										
Pedestrians	803	346	192	170	163	143	-12.3%	-25.5%	-58.7%	-82.2%
Cyclists	313	182	92	81	69	63	-8.7%	-31.5%	-65.4%	-79.9%
Moped riders	95	33	19	18	13	10	-23.1%	-47.4%	-69.7%	-89.5%
Motorcyclists	143	52	49	43	50	63	26.0%	28.6%	21.2%	-55.9%
Passenger car occupants	974	500	330	275	290	273	-5.9%	-17.3%	-45.4%	-72.0%
Other road users	104	87	58	38	44	51	15.9%	-12.1%	-41.4%	-51.0%
Fatalities by age group										
0-14 years	107	44	20	9	6	15	150.0%	-25.0%	-65.9%	-86.0%
15-17 years	99	18	10	8	4	9	125.0%	-10.0%	-50.0%	-90.9%
18-20 years	162	64	33	12	16	16	0.0%	-51.5%	-75.0%	-90.1%
21-24 years	191	114	40	33	36	33	-8.3%	-17.5%	-71.1%	-82.7%
25-64 years	1 365	736	488	382	385	372	-3.4%	-23.8%	-49.5%	-72.7%
≥ 65 years	498	203	137	181	186	157	-15.6%	14.6%	-22.7%	-68.5%
Fatalities by road type										
Urban roads	..	497	271	232	239	224	-6.3%	-17.3%	-54.9%	..
Rural roads	..	654	424	351	332	322	-3.0%	-24.1%	-50.8%	..
Motorways	..	49	44	34	46	56	21.7%	27.3%	14.3%	..
Traffic data										
Registered vehicles (thousands)	2 163	2 706	3 640	4 213	4 418	4 625	4.7%	27.1%	70.9%	113.8%
Registered vehicles per 1,000 population	208.5	264.7	363.5	430.0	451.8	473.3	4.8%	30.2%	78.8%	127.0%

Note: Registered vehicles do not include mopeds.