



Czech Republic

Source: IRTAD, CDV

Inhabitants	Vehicles/1 000 inhabitants	Road fatalities in 2012	Fatalities /100 000 inhabitants in 2012
10.5 million	545	742	7.1

1. Road safety data collection

Definitions

- Road fatality: A person who died immediately after the crash or within the next 30 days
- Serious injury: There is no special definition of serious injury in the Czech Republic but, in practice, the injury level is determined through the opinion of the physician at the scene of the crash, or later in the hospital (within 24 hours of the crash). At present, the severity value based on MAIS 3+ is not yet in general use and its future utilisation is yet to be decided.

Data collection and analysis

The crash data in the Czech Republic are collected by the traffic police in 86 districts and transferred to the Police headquarters. Data are checked both at district and central levels.

In the past decades, the reporting rates in the police database were quite good (due to a strict control regime) even for accidents with only material damage. The lower damage limit for police crash registration was 1 000 CZK till 2000, and was gradually increased to 100 000 CZK till 2009. All injury crashes must be legally registered by the police. The reporting rate for deaths is probably very near to 100%, though for injuries it may be slightly lower (depending on the crash type).

2. Most recent safety data

Road crashes in 2012

In 2012, road fatalities decreased by 4% and the number of people seriously injured by 3.3%, continuing the marked downward trend since 2008.

Provisional data for 2013

Based on provisional data for the year 2013, the positive trend in traffic safety continued, with an estimated 11.9% reduction in the number of fatalities in comparison with 2012.

3. Trends in traffic and road safety (1990-2013)

Traffic

Between 1990 and 2012, the number of motorised vehicles increased by 77.8% and the overall vehicle kilometres driven by 76.6%.

HGV fleet and traffic increased gradually after 1990 with the development of the new market economy. However, in 2007-2008 stagnation was observed due to the economic recession. A strong drop in vehicle-kilometres was observed in 2010 and year 2012 data are still on the decrease.

Change in the number of fatalities and injury crashes (1990-2012)

Between 1990 and 2012, the number of fatalities decreased by 42% and the number of injury crashes by around 6%. In the same period, the number of vehicles increased by nearly 80%. In recent years (2000-2012) the number of fatalities was halved.

Rates

Between 2000 and 2012, the mortality rate, expressed in terms of deaths per 100 000 population, decreased by more than 50%.

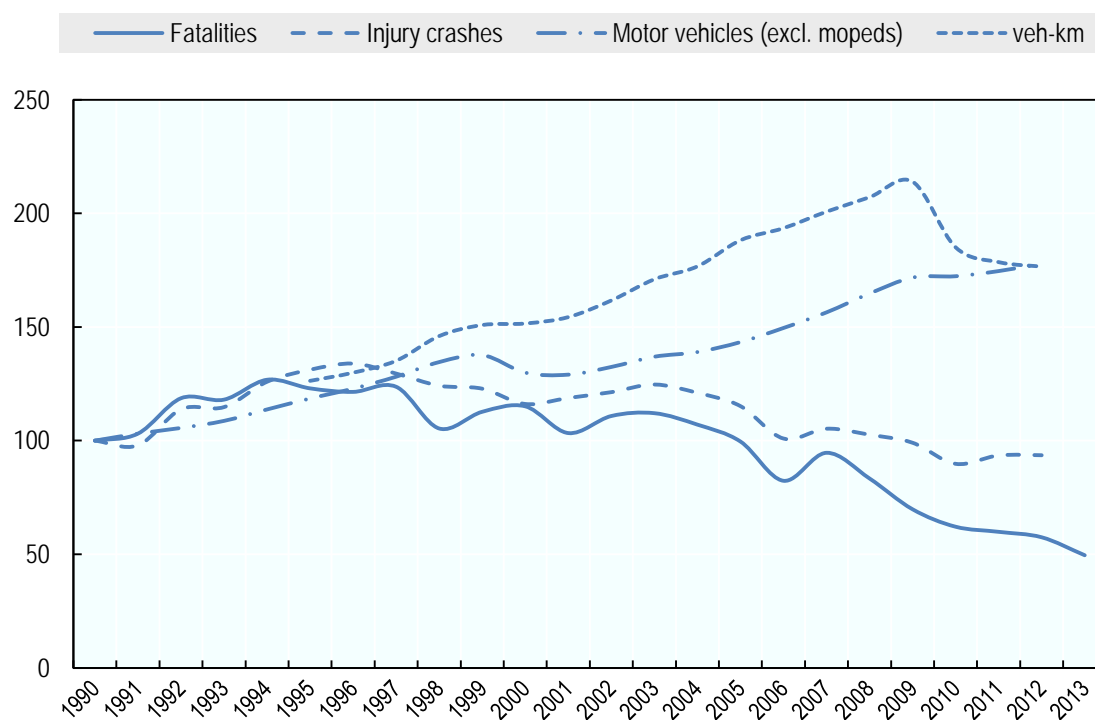
Table 1. Road safety and traffic data

	1990	2000	2010	2011	2012	2012 % change from		
						2011	2000	1990
Reported safety data								
Fatalities	1 291	1 486	802	773	742	-4.0%	-50.1%	-42.5%
Injury crashes	21 910	25 445	19 676	20 487	20 504	0.1%	-19.4%	-6.4%
Deaths per 100,000 population	12.5	14.5	7.6	7.4	7.1	-4.2%	-51.1%	-43.3%
Deaths per 10,000 registered vehicles	4.0	3.6	1.4	1.4	1.3	-5.7%	-63.5%	-67.7%
Deaths per billion veh-km	48.3	36.7	16.2	16.2	15.7	-3.0%	-57.2%	-67.5%
Traffic data								
Registered vehicles ¹ (thousands)	3 219	4 182	5 548	5 621	5 724	1.8%	36.9%	77.8%
Vehicle kilometres (millions)	26 710	40 480	49 434	47 692	47 174	-1.1%	16.5%	76.6%
Registered vehicles per 1,000 population)	310.7	406.9	528.0	536.0	544.9	1.7%	33.9%	75.4%

Source: IRTAD

^{1.} Registered vehicles excluding mopeds.

Figure 1. **Road safety and traffic data**
1990 = index 100



Source: IRTAD

Road users

All user groups except motorcyclists have benefited from important safety improvements since the end of the 1990s.

Between 2000 and 2012, motorcyclist fatalities decreased by 10%, while passenger car fatalities decreased by more than 50% during the same period.

In 2012, there was an increase in the number of cyclists and motorcyclists killed.

Table 2. Road fatalities by road user group

	1990	2000	2010	2011	2012	2012 % change from		
						2011	2000	1990
Bicyclists	135	151	80	63	78	23.8%	-48.3%	-42.2%
Mopeds	47	16	4	0	3	n.a	-81.3%	-93.6%
Motorcycles	66	100	95	82	90	9.8%	-10.0%	36.4%
Passenger car occupants	597	784	403	404	368	-8.9%	-53.1%	-38.4%
Pedestrians	359	362	168	176	163	-7.4%	-55.0%	-54.6%
Others incl. unknown	87	73	52	46	40	-13.0%	-45.2%	-54.0%
Total	1 291	1 486	802	773	742	-4.0%	-50.1%	-42.5%

Source: IRTAD

Age

Since 1990, the reduction in fatalities has benefited all age groups, but the highest reduction concerned children and young people.

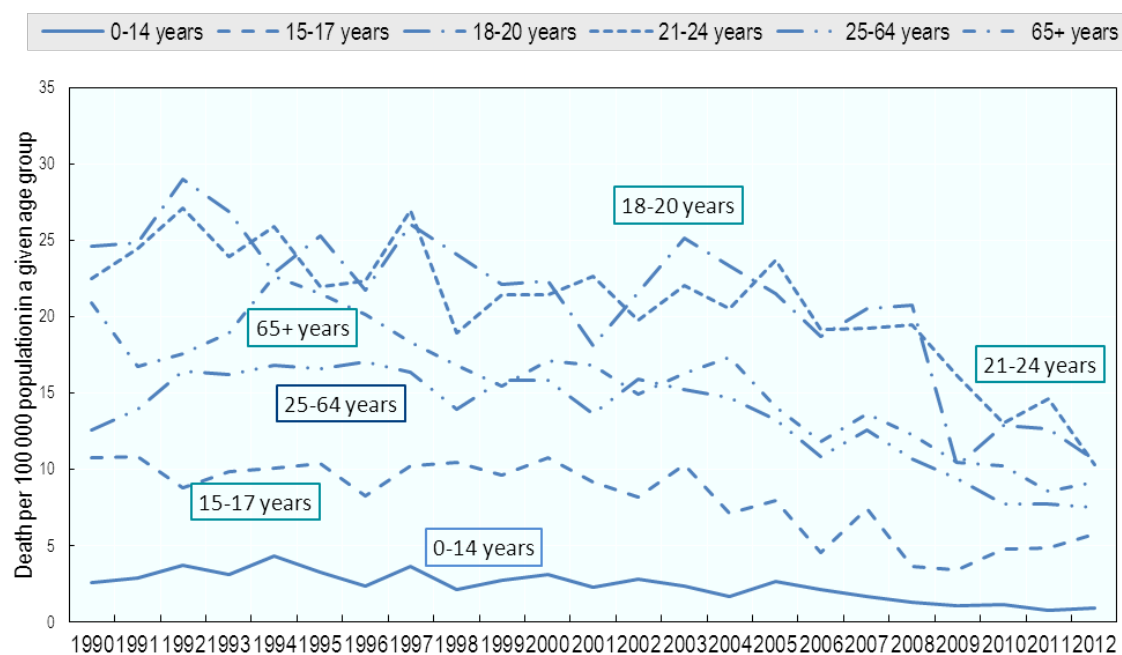
Young people (21-24) are still a high-risk group for road safety, but showed the highest reduction in fatalities in 2012 (-30%).

Table 3. Road fatalities by age group

Age	1990	2000	2010	2011	2012	2012 % change from...		
						2011	2000	1990
0-5	16	13	7	4	4	n.a.	-69.2%	-75.0%
6-9	25	17	3	2	6	n.a.	-64.7%	-76.0%
10-14	18	24	7	6	5	n.a.	-79.2%	-72.2%
15-17	57	44	17	16	17	6.3%	-61.4%	-70.2%
18-20	107	103	51	49	40	-18.4%	-61.2%	-62.6%
21-24	123	155	74	80	56	-30.0%	-63.9%	-54.5%
25-64	668	881	471	469	455	-3.0%	-48.4%	-31.9%
>65	270	243	164	141	157	11.3%	-35.4%	-41.9%
Total incl. unknown	1 291	1 486	802	773	742	-4.0%	-50.1%	-42.5%

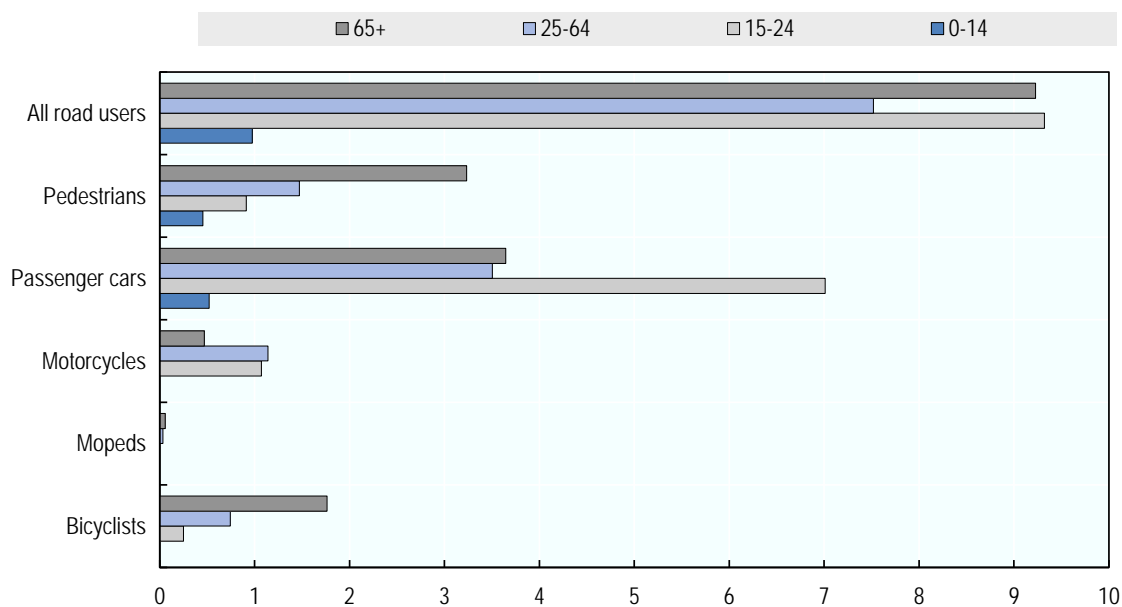
Source: IRTAD

Figure 2. **Road death rates by age group**
Fatalities per 100 000 population in a given age group, 1990-2012



Source: IRTAD

Figure 3. **Road death rate by age and road user group**
Fatalities per 100 000 population

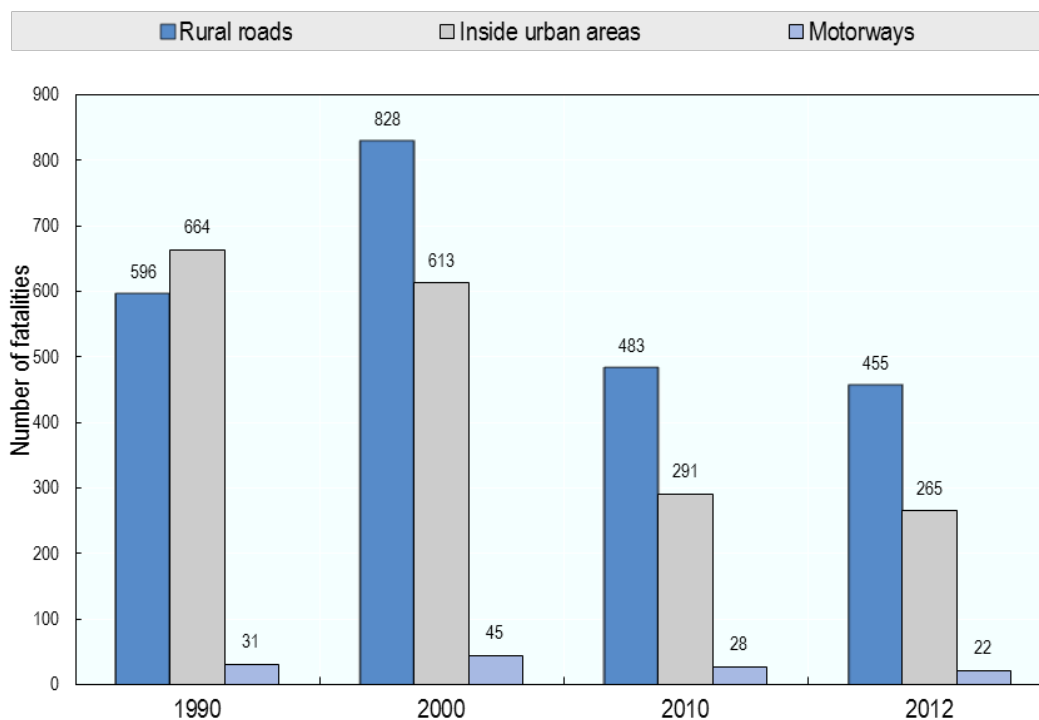


Source: IRTAD

Road Type

Since 1990, the greatest reduction in fatalities has occurred on urban roads (-60%), while improvement on rural roads has been less marked (-23%). Improvements on urban roads are related to the introduction of the 50 km/h speed limit, the extension of 30 km/h zones, and the widespread introduction of traffic-calming measures.

Figure 4. Road fatalities by road type



Source: IRTAD

4. Economic costs of traffic crashes

Economic costs engendered by road crashes are evaluated by the human capital approach. They are composed of direct costs (chiefly medical care, rescue service, police and justice) and indirect costs (lost value of economic productivity due to ill health, disability, or premature mortality, and social expenses).

The value of economic costs of crashes for the Czech Republic is published every year. For 2012, they were estimated at EUR 2.1 billion, i.e. 1.4% of GDP.

Table 4. Costs of road crashes in 2012

Costs (EUR)	Unit Cost (EUR)	Total (EUR.)
Fatalities	756 553	561.4 million
Hospitalised people	198 902	593.9 million
Slight injuries	17 221	389.0 million
Property / damage costs	9 028	549.8 million
Total (EUR)		2.1 billion
Total as % of GDP		1.4%

Source: CDV

5. Recent trends in road user behaviour

Impaired driving

Drink driving

There is a zero BAC limit in the Czech Republic. When the police arrive at the scene of a crash, all persons involved are checked for BAC. If the BAC level of any of the persons involved is positive, the crash is classified as alcohol-related.

In 2002, 11.0% of fatalities were due to alcohol related crashes. This proportion decreased to 3.4% in 2007, and then increased again to 13.5% in 2010 (probably due to a change in the investigation procedure). In 2012, it is estimated that 6.6% of road fatalities were due to alcohol related crashes.

Drugs and driving

Drug influence is forbidden during driving. The share of fatal crashes due to a driver under the influence of drugs was estimated at 1.3% in 2012.

Distraction

In the Czech Republic, drivers are not allowed to drive while using a hand-held phone or PDA, although hands-free devices are tolerated. In 2011, it was estimated that 2.7% of drivers were using a mobile phone while driving.

Fatigue

In 2012, it was estimated that about 1% crashes were due to fatigue.

Speed

Speeding is the main contributing factor in fatal crashes, although the number of drivers above the legal speed limit has decreased, especially in urban areas.

The share of injury crashes due to excessive speed was 25% in 1980, 24% in 2000 and 26.1% in 2012. The share of fatal crashes due to excessive speed was 33% in 1980, 40% in 2000 and 38.3% in 2012.

The table below summarises the main speed limits in the Czech Republic.

Table 5. **Passenger car speed limits by road type, 2014**

	General speed limit Passenger cars	Comment
Urban roads	50 km/h	Average speed: around 45 km/h 85 th percentile speed: around 55 km/h % of drivers above the limit: 20 to 40%
Rural roads	90 km/h	Average speed: around 70 km/h 85 th percentile speed: around 80 km/h % of drivers above the limit: 15 to 30%
Motorways	130 km/h	

Source: CDV

Average speed, 85th percentile speed and the percentage of drivers above the speed limit have been monitored regularly since 2005. The introduction of a demerit point system in 2006 resulted in a reduction in the number of drivers above the limit. But this share increased again in 2010.

Seatbelts and helmets

Seatbelt use is compulsory in front seats since 1966, and in rear seats since 1975. However, until recently the level of enforcement was very low. The situation has significantly improved since 2004.

In 2012, 35.5 % of car occupants killed were not wearing a seatbelt when the crash occurred. It is estimated that 90 lives could have been saved if all car occupants had worn seatbelts.

Helmet-wearing is compulsory for all motorcycle and moped riders, and the wearing rate is nearly 100%.

Safety helmets were made mandatory for cyclists up to the age of 15 in 2001 and up to 18 in 2006.

Table 6. **Seat-belt wearing rate by car occupants**

	2000	2011	2012
Front seat			
General	63%	98%	97%
Urban roads	46%	99%	98%
Rural roads	62%	99%	96%
Motorways	81%		
Rear seats			
Adults	7%	83%	66%

Source: CDV

6. National road safety strategies and targets

Organisation of road safety

BESIP (Bezpečnost silničního provozu), an independent department of the Ministry of Transport, is the main coordination body for road traffic in the Czech Republic. BESIP is responsible for the National Safety Strategy for 2011-2020. The other key player is the Government Council of the Road Traffic Safety (comprising representatives of parliament, ministries, civil associations, professional organizations and the private sector). There are also 14 regional BESIP coordinators.

Road safety strategy for 2011-2020

The National Strategic Safety Plan for years 2011-2020 has as a target the reduction in the fatalities rate to that of the average rate for Europe, with the following priorities:

1. Children
2. Pedestrians
3. Bicyclists
4. Motorcyclists
5. Young and novice drivers
6. Elderly population
7. Alcohol and other drugs-related crashes
8. Speeding
9. Aggressive driving

Target setting

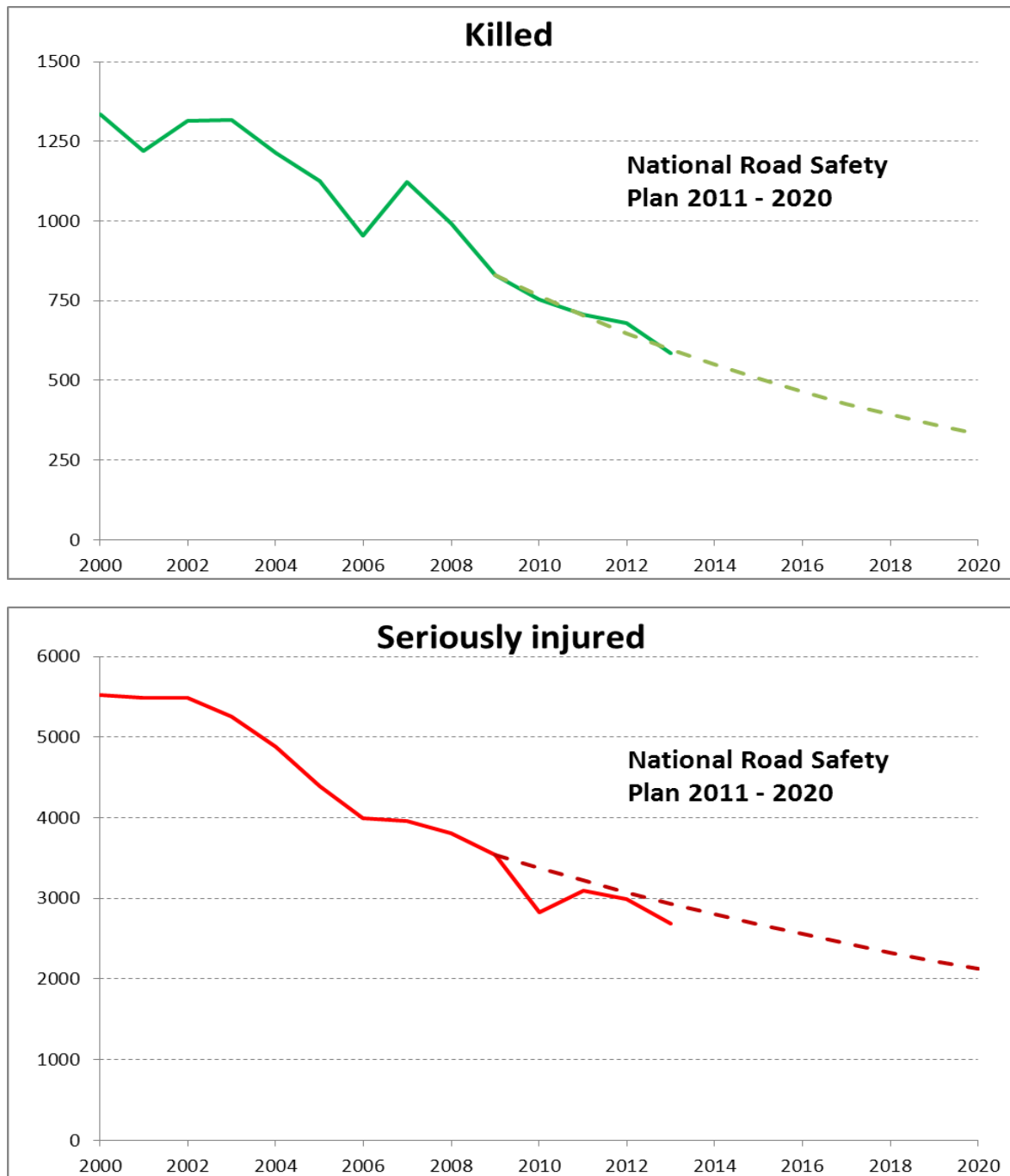
The main target is to decrease the fatality rate (deaths/ 100 000 population) to the European average. This corresponds to a 60% reduction in fatalities by 2020 in relation to 2009. The second target is a reduction by 40% in the number of persons seriously injured.

Monitoring

The results monitoring is carried out yearly through national strategy evaluation by the BESIP (main road safety managing body) for the Government Council of Road Traffic Safety (at national, as well as regional, level).

The main goals for 2013 have been fulfilled: the target for fatalities (within 24 hours) was 596 and the actual number of road deaths is 583; the target for seriously injured was 2 937 and the actual number 2 782.

Figure 5. Trends in road fatalities towards national and EU² targets



² In 2010, the European Commission adopted the target of halving road deaths by 2020, compared to 2010 levels.

Evaluation of past road safety strategy

The national Strategic Safety Plan 2002-2010 set a target to reduce fatalities by 50%. This fatality target was not reached, although good progress was achieved, especially in the last part of the decade.

The Highway Code was reviewed in 2006, and new measures such as the demerit point system were introduced. The results immediately in 2006 were quite promising, but in 2007 they were not as satisfactory (although the road safety situation in most European countries has also worsened in 2007). The next development, in 2008–2010, was more positive, but the planned target has not been fulfilled. The acquired experiences have been reflected into the new National Strategic Safety Plan, which is targeted more specifically to individual measures and regions with systematic monitoring.

7. Recent safety measures (2011-2013)

Vehicles

Gradual improvement of the technical inspection of vehicles

Infrastructure

Continuous improvement of the road infrastructure: identification and elimination of black spots.

8. Recent and on-going research

- ***In-depth traffic accident analysis*** (in Czech: Hlubková analýza dopravních nehod - HADN)

The objective of in-depth accident analysis is to obtain detailed information on causes and consequences of accidents. This information will be retrospectively analysed in order to garner sufficient knowledge to improve road infrastructure as well as vehicle technologies. The general outcome of in-depth accident analysis is improvement of road traffic safety.

Since 2011 the CDV started a practical realisation of in-depth accident analysis in the frame of the project of the Ministry of Interior of the Czech Republic. Specialists on the traffic infrastructure, vehicle technique, traffic psychology and health science investigate about 200 traffic accidents in the year, analyse and record them to the database.

<http://www.cdv.cz/hlubkova-analyza-dopravnich-nehod-hadn/>

<http://hadn.cdvinfo.cz/o-projektu/>

- ***Socio-economic costs of traffic accidents***

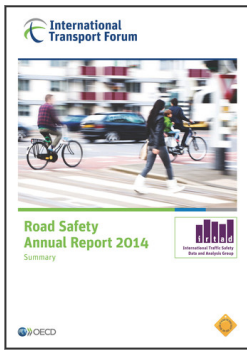
The methodology of evaluation of the socio-economic costs of traffic accidents is updated every year by CDV.

Useful websites and references

CDV, Transport Research Centre	www.cdv.cz
Ministry of Transport	www.mdcz.cz
Police of the Czech Republic	www.policie.cz
Road safety observatory	http://www.czrsso.cz
In-depth accidents analysis	http://hadn.cdvinfo.cz
Road traffic infrastructure improvement	http://veobez.cdvinfo.cz
Cyclostrategy (cycle transport development)	http://www.cyklostrategie.cz

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