ROAD SAFETY OBSERVATORY

NATIONAL INTERMINISTERIAL

Road user behaviour observatory (Mainland France)

Results for the year 2020

September 2021

Observatoire national interministériel de la sécurité routière

ONISR

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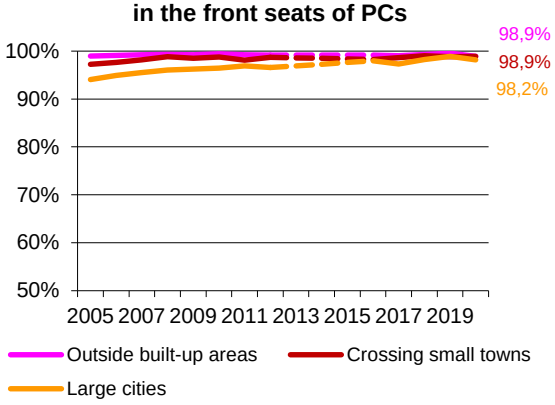
Summary

Since 2016, the observatory's methodology has included new categories of users (wearing of safety belts in the front of light good vehicles, wearing of helmets by cyclists in built-up areas). In 2020, the renewal of the contract led to the addition of observations of the use of distractors by pedestrians during crossings. The Covid-19 pandemic and related measures led to a slight shift in the first wave of the survey so that the results would be comparable to previous years. The key findings for the 2020 year are as follows.

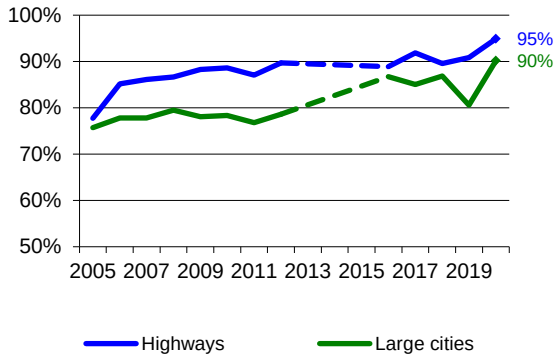
The rate of safety belt use by passenger car occupants remains stable in the front seat compared to the previous year, with a non-use rate that remains very marginal at 1 to 2 percent. Front safety belts are worn less in large cities. At the rear of passenger cars, there is a significant increase in the belt wearing rate on motorways (95%, +4 points) and a return to the 2018 level in large cities (90%) after the sharp decline in 2019. The comparison between workdays and weekends does not show a significant difference.

For users of light good vehicles, the rate of safety belt use observed in the front is 94% outside urban areas and 96% in large cities, where it is up significantly by 4 points compared to 2019 and by 10 points compared to 2016.

Evolution of the rate of safety belt use in the front seats of PCs



Evolution of the rate of safety belt use in the rear seats of PCs



Helmet use by powered two-wheeler users is almost universal in metropolitan France. In 2020, only 5 out of 572 users observed were not wearing a helmet, all in urban areas. Helmet use by cyclists continues to increase. The rate is now 31%, compared to 29% in 2019 and 21% in 2016. It remains more worn on weekends (37%) than on workdays (27%).

Observations of **phone use** show stable phone use while driving for passenger car (3.3%) and HGV (5.0%) drivers. These rates are higher on weekdays than on weekends. Phone use remains very high and continues to increase for LGV drivers, especially in large cities, where it is 14.7% in 2020. For cyclists, it remains similar to 2016 (6.4%). Observations of phone use by pedestrians at crosswalks, conducted for the first time in 2020, show that 27% use their phone at some point during the crossing, including 21 points with the distractor in hand.

The observations also count vehicle occupants, allowing an **average occupancy rate** to be estimated. For passenger cars, it is in the order of 1.33 to 1.57 depending on the road network (higher on motorways). It is higher on weekends than on weekdays, whatever the network considered.

Key indicators of good traffic behaviour 2020

Key Performance Indicators (KPI) – European Commission definition

Safety belt use rate, daytime

Network	Passenger cars			LGVs (front)
	Front	Rear		
		Adults	Children	
Rural motorways	98,4%	94,7%	96,6%	95,4%
2 or 3 lane roads outside of built-up areas	98,6%			92,7%
Arterial roads in medium-sized urban centers	98,2%	89,6%	93,1%	96,2%

Helmet use rate, daytime

Network	P2Ws	Cyclists
2 or 3 lane roads outside of built-up areas	100,0 %	
Large cities	98,7 %	30,5 %

Rate of non-use of a distractor by drivers and pedestrians, daytime

Network	Pedest.	Cyclists	Cars	LGVs	HGVs
2 or 3 lane roads outside of built-up areas			97,6%	97,3%	
Large cities	79,8%	93,6%	94,5%	85,3%	

1. Introduction

Since the 1980s, the ONISR has had a service provider carry out speed measurements and observations of road user behaviour at a number of observation points on the metropolitan road network. For technical reasons, this system was interrupted between 2013 and 2015. A replacement system was implemented during this period for speed measurements, but no observations of behaviour could be made. Behavioural observations were resumed in 2016 after a change in the panel of observation points and minor changes in the methodology. The terms of reference were completed in 2020 to include pedestrian observations.

This summary of the results of the 2020 observations discusses safety belt use, helmet use by two-wheeler users, driver and pedestrian distractor use, and vehicle occupancy rate.

Appendix 1 summarizes the number of vehicles observed in each category by network type.

Appendix 2 details the methodology used for the behavioural observations and notes the changes from the system in place until 2012.

Impact of the Covid-19 pandemic on observations:

The Covid-19 pandemic and related measurements led to shift the observations conducted during the first measurement wave of the year. Usually carried out between March and June, this one was in 2020 carried out on the period May-July.

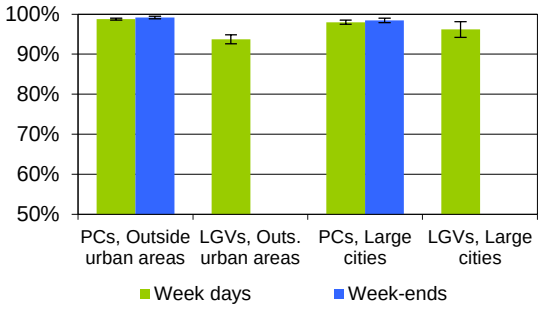
The observed numbers were not impacted.

2. Wearing a safety belt

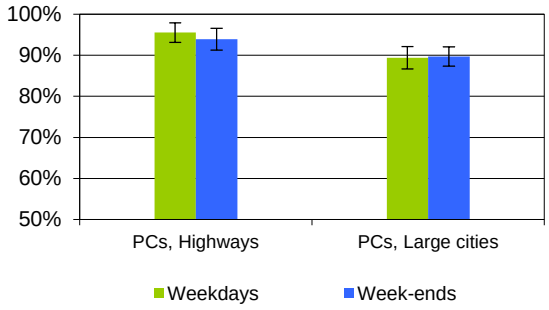
Things to remember

- **Front** safety belt use is **almost universal** for passenger cars.
- Regardless of the type of network, the rate of safety belt use is **higher in the front than in the rear**.
- Front safety belt use is **lower among light good vehicle occupants** than among passenger car occupants.

Front safety belt use rate of passenger cars and LGVs, by type of network



Rear safety belt use rate of passenger cars (adults), by type of network



Methodology

Observations of front safety belt use are made on all types of road networks (see details in Appendix 2). They concern passenger cars (passenger cars) and, since 2016, light good vehicles (LGVs). The results are very similar for the different types of networks outside built-up areas[1]. Consequently, the observations were aggregated into three groups: networks outside built-up areas, small town crossings, and large cities.

For practical reasons (need to observe vehicles at very low speeds), observations of rear safety belt use are only made on two types of networks: motorway toll gates and large cities. They only concern passenger cars, and distinguish between adults and children among rear passengers.

All observations, both front and rear, were made during the day.

The results are presented below by type of network according to the grouping made for the results concerning the use of safety belts in the front:
- networks outside built-up areas (motorways only for rear safety belt use)
- small town crossings (only for front safety belt use),
- large cities.

For each type of network, we present successively :
- the evolution of the safety belt wearing rate over the period 2005-2020, for passenger car occupants ;
- a comparison of the wearing rate observed on weekdays and weekends in 2020, for passenger car occupants;
- for LGV occupants, the observed front safety belt wearing rate since 2016 (the first year that these vehicles were included).

Le nombre de VU observé le week-end est trop faible pour permettre une comparaison entre les jours ouvrés et les week-ends.

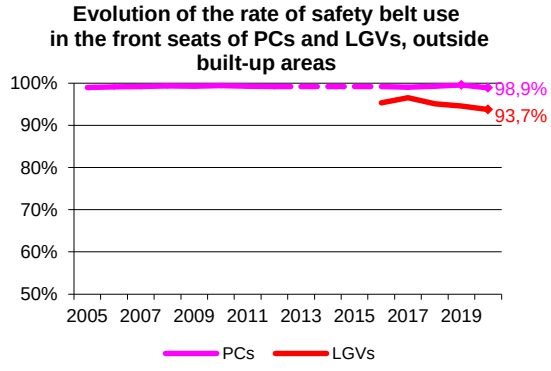
Each of the rates listed is accompanied by the associated 2020 confidence interval value.

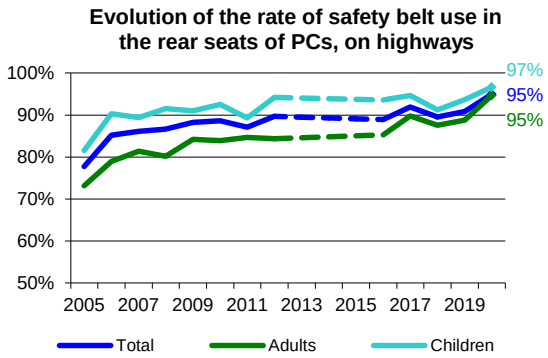
[1] Observations outside built-up areas are made (unless otherwise stated) on rural motorways, urban motorways, dual carriageways outside urban areas, and 2 or 3 lane roads.

2.1. Networks outside built-up areas

Observations outside of built-up areas include rural motorways, arterial roads, dual carriageways, and 2 or 3 lane roads.

passenger car and LGV occupants (front belt since 2016), evolution 2005-2020





The 95% confidence interval associated with the calculated belt use rates for the year 2020 is:

± 0.19 points for front safety belt use in passenger cars and ± 1.1 points for LGVs,

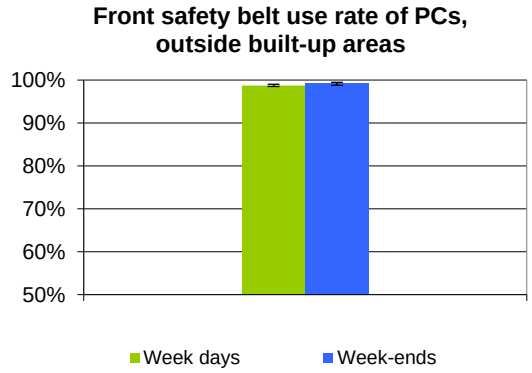
± 1.3 points for rear safety belt use on motorways (± 1.8 points for adults, ± 1.3 points for children).

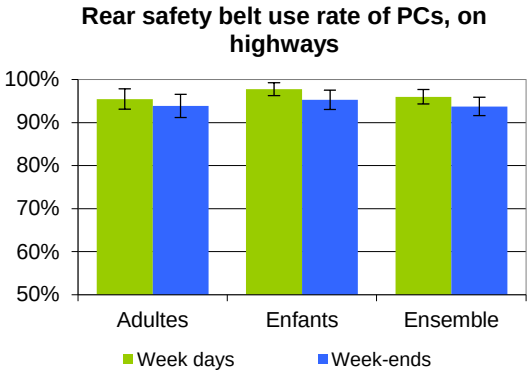
Given these intervals, the front safety belt wearing rate remains almost universal **for passenger car occupants outside built-up areas**, despite the slight decrease observed in 2020.

For rear safety belt use on motorways, the rate increased for the second consecutive year, reaching its highest level since the beginning of the observations (95% for all, +4 points, 97% for children, +3 points).

For **LGV occupants**, the front safety belt use rate decreased for the third consecutive year (93.7%, -2.8% compared to 2017) although the larger confidence interval than for LGVs partially mitigates this finding.

Weekday-Weekend Comparison (passenger car Occupants, 2020)



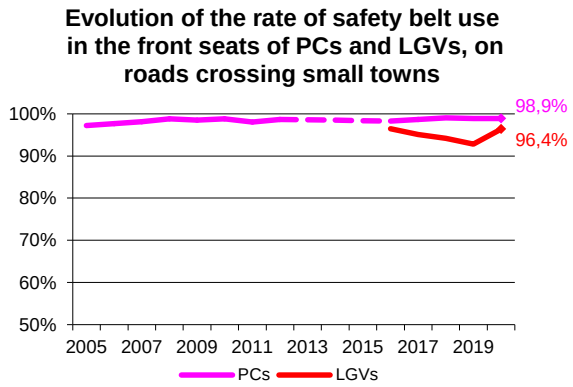


The lines at the top of each bar represent the 95% confidence intervals.

The safety belt wearing rate is similar on weekdays and weekends in the front seat. In the rear on motorways the difference is slightly more pronounced with a slightly lower rate of wearing on weekends. However, the difference is not statistically significant in terms of the confidence intervals.

2.2. Small town crossings

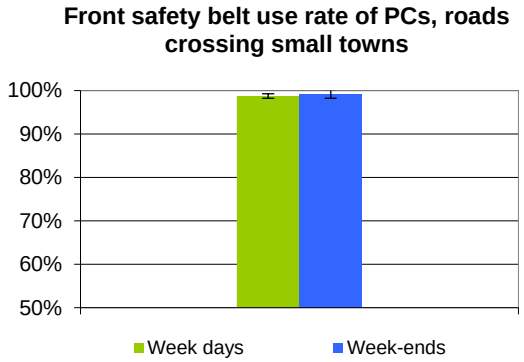
passenger car and LGV occupants (since 2016), evolution 2005-2020



The 95% confidence interval associated with the front safety belt wearing rate for passenger cars calculated for the year 2020 is ± 0.5 points. Given this interval, the change in this rate since 2012 is not statistically significant.

The front safety belt use rate for LGV occupants is 96.4% ± 2.5 points. It is up to a similar rate as in 2016, but in terms of the confidence interval, this change is not statistically significant.

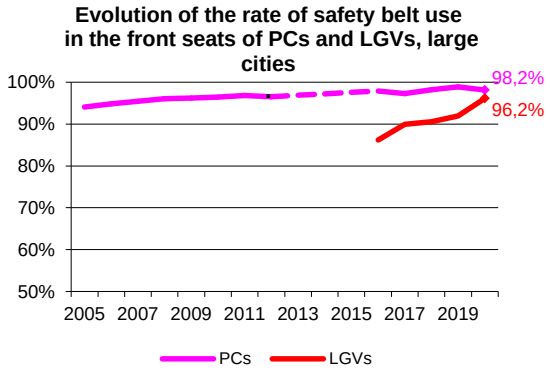
Weekday-Weekend Comparison (passenger car Occupants, 2020)

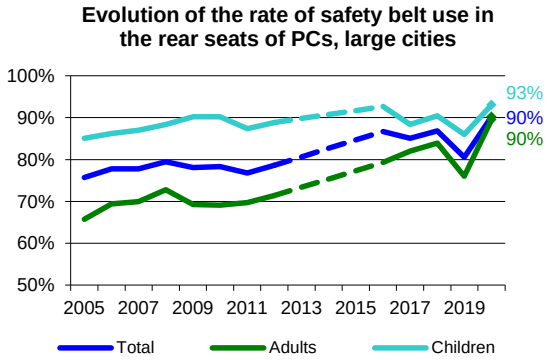


The rate of front safety belt use in small town crossings is almost identical on weekdays and weekends.

2.3. Large cities

passenger car and LGV occupants (front belt since 2016), evolution 2005-2020





The 95% confidence interval associated with the calculated belt wearing rates for the year 2020 is:

± 0.4 points for front safety belt use in passenger cars and ± 2.0 points for light HGVs

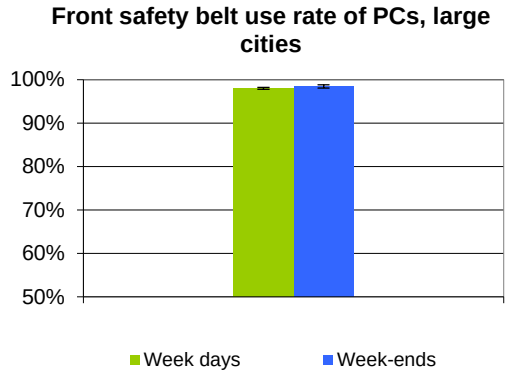
± 1.4 points for rear safety belt use in passenger cars (± 1.8 points for adults, ± 1.9 points for children).

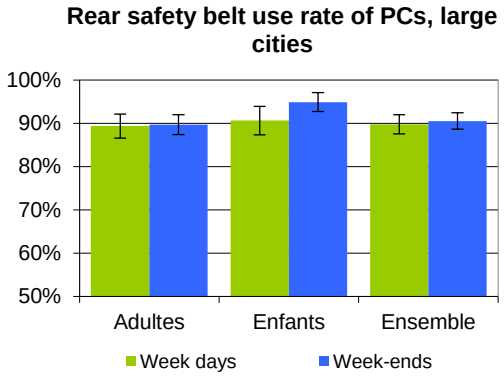
Given these ranges, the slight decrease in the overall front safety belt use rate for passenger cars **does not show a significant change from 2019 (-0.4 points)**, the rate is similar to that observed in 2018. In the rear, the significant decline observed in 2019 was fully recovered by the +9 point increase observed this year (from 81% to 90%). The wear rate for children remains significantly higher than for adults.

Belt wearing rates in built-up areas remain lower than those on non-built-up networks. Approximately 1.8% of front seat occupants and 10% of rear seat occupants do not wear a safety belt (1.1% and 5% respectively).

The front safety belt use rate for **LGV occupants** in large cities continues to increase for the fourth year in a row and is **now close to the rate observed for passenger car occupants**. Although the confidence intervals are wide, there has been an increase of 10 points in 4 years (from 86.2% to 96.2%).

Weekday-Weekend Comparison (passenger car Occupants, 2020)



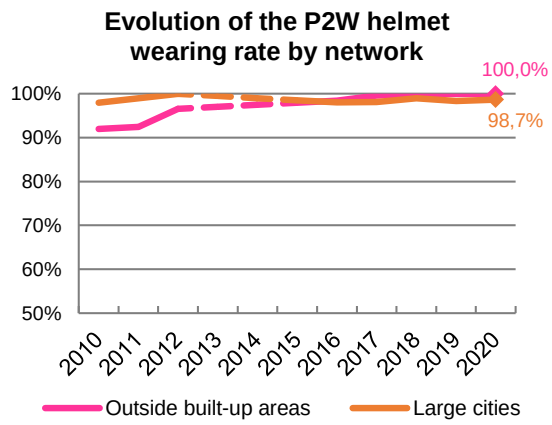


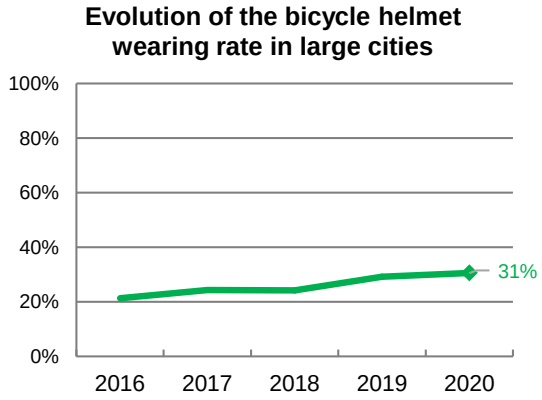
The rate of safety belt use in the front of passenger cars is almost identical on weekends and on workdays. Rear safety belt use is better on weekends than on weekdays for children, but the difference (+4 points) is relative given the 95% confidence interval. The wearing rate is identical for adults.

3. Wearing a helmet

Things to remember

- In general, the lack of helmet use by P2W users **has become an exception**.
- Among cyclists, helmet use **is increasing.**





The 95% confidence interval associated with the helmet use rate is:
± 0,0 points for P2W outside urban areas (100% wearing rate) ;
± 1,1 points for P2Ws in urban areas;
± 4,1 points for cyclists in large cities.

Methodology

Observations of helmet use by powered two wheelers were made on all types of road networks (see details in Appendix 2), and were aggregated into two groups: networks outside built-up areas, and large cities.

Observations of helmet use by cyclists are made in built-up areas only.

All observations were made during the day.

Since the number of users observed was relatively small (184 P2Ws outside built-up areas, 388 P2Ws and 491 cyclists in large cities), the helmet wearing rates calculated are primarily indicative.

3.1. P2W users outside built-up areas

Helmet wearing rates for P2W users - Outside built-up areas

	Weekdays	Week-ends	Total
2010	205 sur 215 (95 %)	185 sur 209 (89 %)	390 sur 424 (92 %)
2011	180 sur 189 (95 %)	139 sur 156 (89 %)	319 sur 345 (92 %)
2012	160 sur 161 (99 %)	122 sur 131 (93 %)	282 sur 292 (97 %)
2016	120 sur 122 (98 %)	73 sur 74 (99 %)	193 sur 196 (98 %)
2017	167 sur 168 (99 %)	64 sur 64 (100 %)	231 sur 232 (100 %)
2018	132 sur 132 (100 %)	117 sur 117 (100 %)	249 sur 249 (100 %)
2019	93 sur 93 (100 %)	73 sur 73 (100 %)	166 sur 166 (100 %)
2020	143 sur 143 (100 %)	41 sur 41 (100 %)	184 sur 184 (100 %)

Hors agglomération, le port du casque est généralisé pour l'ensemble des 2RM observés en 2020 tout comme les deux années précédentes. Aucune différence n'est donc observée entre la semaine et le week-end.

3.2. P2W users inside built-up areas

Inside large cities, observations from 2016 have been rebalanced between workdays and weekends.

Helmet wearing rates for P2W users - Large cities

	Weekdays	Week-ends	Total
2010	500 sur 508 (98 %)	n.d.	500 sur 508 (98 %)
2011	547 sur 552 (99 %)	n.d.	547 sur 552 (99 %)
2012	535 sur 537 (100 %)	n.d.	535 sur 537 (100 %)
2016	240 sur 246 (98 %)	158 sur 160 (99 %)	398 sur 406 (98 %)
2017	242 sur 248 (98 %)	177 sur 179 (99 %)	419 sur 427 (98 %)
2018	347 sur 349 (99 %)	151 sur 154 (98 %)	498 sur 503 (99 %)
2019	233 sur 238 (98 %)	121 sur 122 (99 %)	354 sur 360 (98 %)
2020	225 sur 229 (98 %)	158 sur 159 (99 %)	383 sur 388 (99 %)

Contrary to what is observed outside urban areas, some P2Ws do not wear helmets in large cities. Nevertheless, the confidence interval does not allow us to establish a real difference between the two types of network.

3.3. Cyclists inside built-up areas

Observation of helmet use by cyclists was added to the collection market beginning in 2016, in large cities only.

Helmet Wearing Rates for Cyclists - Major Metropolitan Areas

	Weekdays	Week-ends	Total
2016	35 sur 202 (17 %)	35 sur 126 (28 %)	70 sur 328 (21 %)
2017	36 sur 187 (19 %)	60 sur 207 (29 %)	96 sur 394 (24 %)
2018	58 sur 263 (22 %)	62 sur 232 (27 %)	120 sur 495 (24 %)
2019	60 sur 227 (26 %)	34 sur 95 (36 %)	94 sur 322 (29 %)
2020	87 sur 320 (27 %)	63 sur 171 (37 %)	150 sur 491 (31 %)

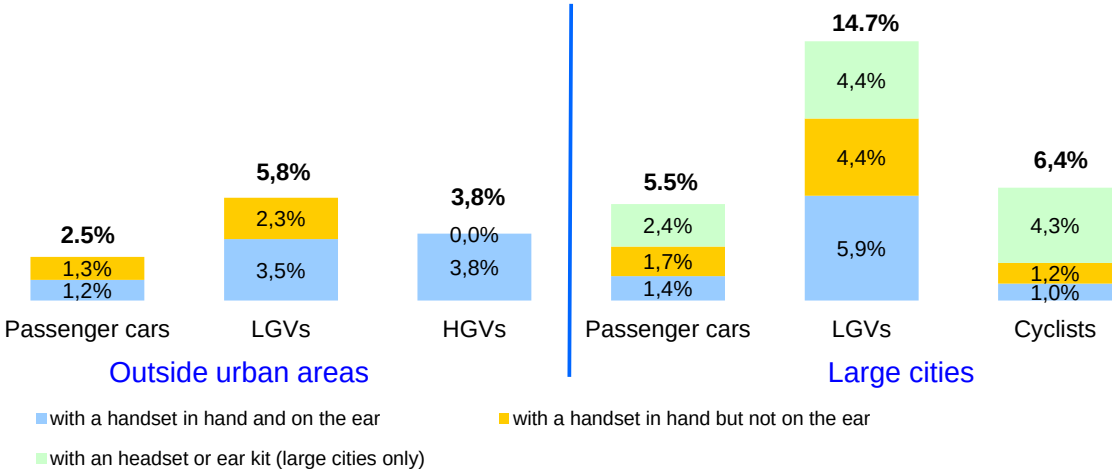
The 2-point increase observed for all days of the week compared to 2019 is not statistically significant. Nevertheless, **an increase of +10 points** can be observed **compared to 2016**. The observations show that over the five years observed, the rate of wearing **on weekends is higher than on weekdays**.

4. The use of a distractor

Things to remember

- The rate of hand-held phone or earpiece use remains **higher for LGVs than for passenger cars**.
- Phone use is **higher in large cities** than outside urban areas for LGVs and passenger cars.
- The rate **remains stable for cyclists**.
- The use of distractors during pedestrian crossings is more important in **the younger age groups**.

Use of hand-held phones or headsets by type of network and users (2020)



The 95% confidence interval associated with the overall phone use rate is:
- outside built-up areas, ± 0,3 points for passenger cars, ± 1,7 points for LGVs, and ± 3,3 points for HGVs ;
- inside large cities, ± 0,8 points for passenger cars, ± 3,9 points for LGVs, ± 2,1 points for cyclists.

Methodology

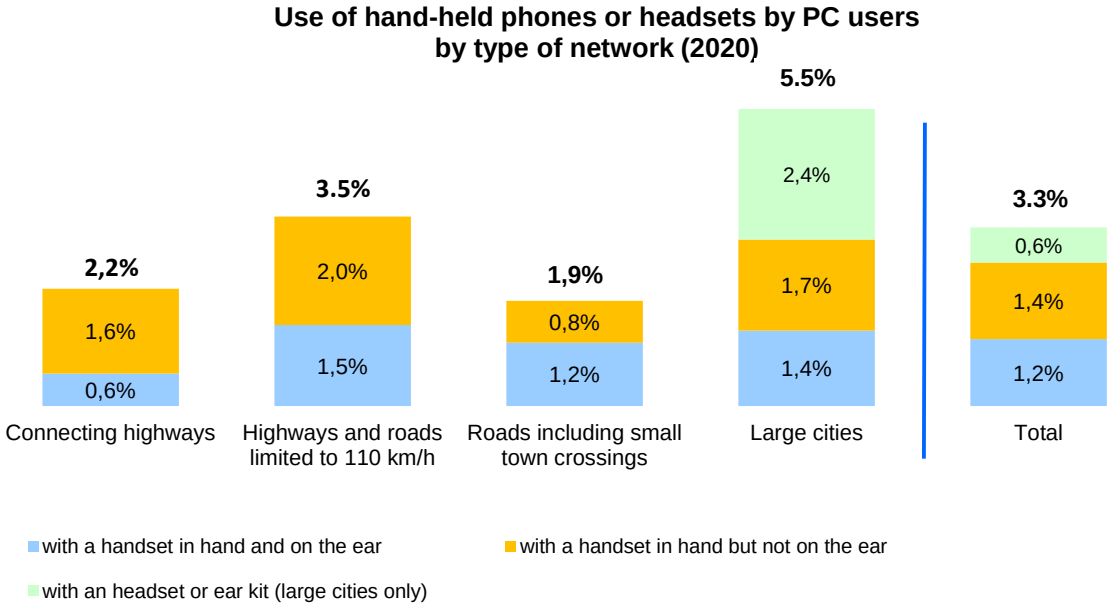
Observation of telephone use by drivers on road networks was introduced in 2009 as part of the specifications for the surveys that feed the Road user behaviour Observatory. The surveyors placed at the edge of the roadways classify vehicles into four categories according to whether the driver :
- has a phone in hand and on their ear,
- has a phone in hand but not on the ear
- wears an earpiece, an ear kit or a headset (in major cities only),
- has none of these.

Telephone use rates are detailed for four categories of users: drivers of passenger cars, light HGVs, heavy HGVs (except in large cities, where the number of drivers is too small to be statistically significant) and cyclists (the latter are only observed in large cities). Observations outside built-up areas include rural motorways, urban motorways, dual carriageways, and 2- and 3-lane roads.
The number of vehicles observed is shown in Appendix 1, and the methodology of the observations is detailed in Appendix 2.

4.1. Distractor use by passenger car drivers by network type

passenger car drivers' use of handheld phones or ear kits by network type is detailed in the following figure.

These observations show a stabilization of hand-held phone or earpiece use overall compared to 2019. Changes in detail by network type are not statistically significant.



The 95% confidence interval associated with the overall phone use rate is:
± 0,8 points for rural motorways ;
± 0,9 points for urban motorways and roads limited to 110 km/h;
± 0,4 points for roads;
± 0,8 points for large cities;
± 0,3 points for the rate calculated on all networks.

4.2. Distractor use by pedestrians

Methodology

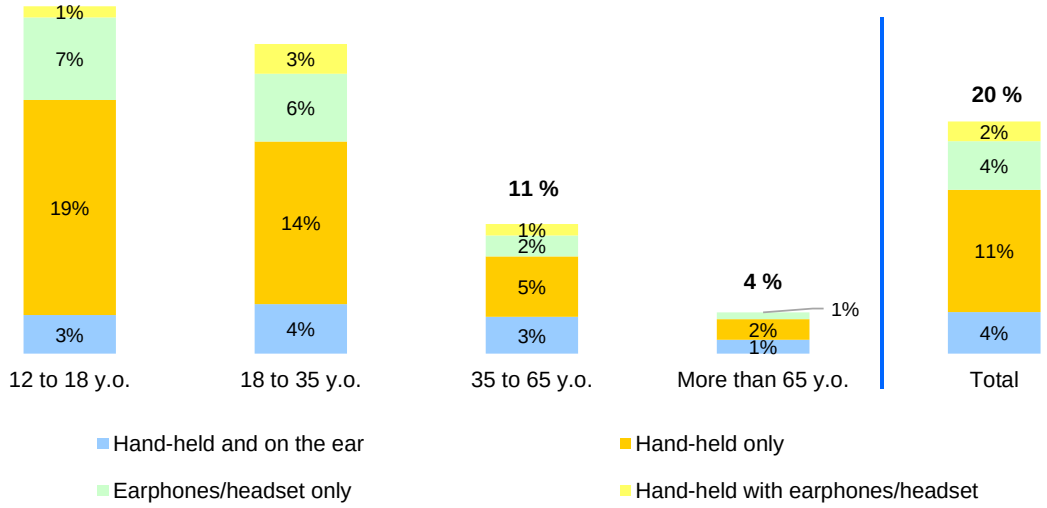
Observations of distractor use by pedestrians are made in large cities. Roadside surveyors record the users of pedestrian crossings and, for each, the following information:

- gender ;
- age group;
- use of hand-held, ear-held, both, and use of headphones.

The number of pedestrians observed is shown in Appendix 1, and the methodology of the observations is detailed in Appendix 2.

All observations were conducted during the day.

Rate of distractor use by type at pedestrian crossings by age (2020)



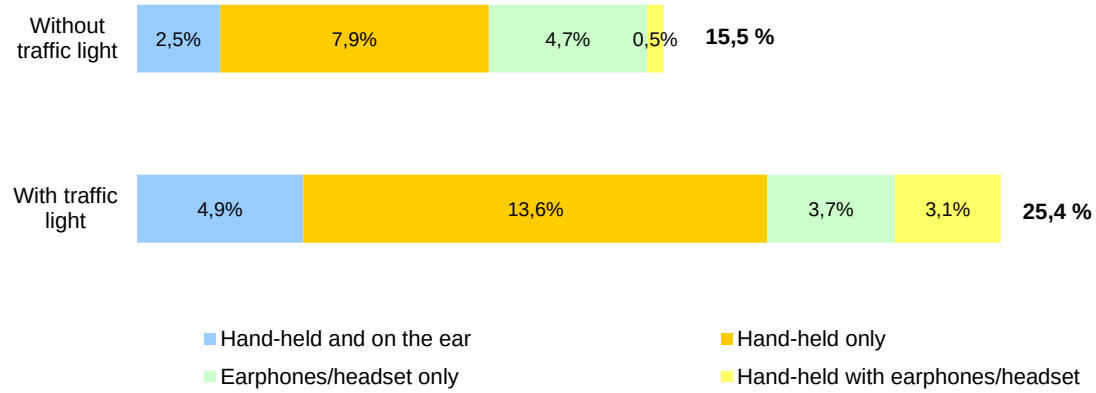
Phone or headset use by pedestrians while crossing is **much more prevalent in the younger age groups**. The total rate of use is fairly close for the 12-18 and 18-35 age groups (30% and 27%, respectively), with the main difference being the rate of hand-held distractor use, which is 5 percentage points higher for 18-35 year olds.

This rate is much lower among 35-65 year olds (11%) and almost non-existent among those over 65 (4%).

There is **no difference by gender**, regardless of age group.

Regardless of age group, the most common type of usage is **hand-held only**, followed by headset/headphones for those under 35.

Rate of distractor use by type at pedestrian crossings by type of crossing (2020)



Phones or headphones are **used much more at pedestrian crossings with lights** (10 points more). In pedestrian crossings without traffic signals, there is more use of headphones or earphones only than with traffic signals, but fewer pedestrians with hand-held distractors and headphones. Visual distractors are less present.

4.3. Evolution 2009-2020 by type of network and user

The modification of the panel between 2012 and 2016, and in particular the reinforcement of the observation points in the major urban areas, may have led to an artificial increase in the rate of telephone use calculated on all the networks. In addition, the overall rate calculated now includes the use of an earpiece in large cities. The cumulative effect of these two changes was estimated to be an increase of +0.2 points for car drivers and +0.3 points for light good vehicle drivers, and a decrease of 0.2 points for heavy goods vehicle drivers.

In 2020, **the overall rate of phone use by light HGV drivers continues to increase** (+0.8 points compared to 2019 and +3.2 points compared to 2016. It is **significantly higher in major metropolitan areas than on non-metropolitan networks**. The observations for 2020 confirm the sharp increase observed in 2019 in the major urban areas (+6.5 points between 2018 and 2019, +0.2 points between 2019 and 2020).

For light vehicles, the rate remains stable but concerns less the earpiece and more the headset or the kit.

For heavy good vehicles, the changes are not statistically significant given the number of vehicles observed.

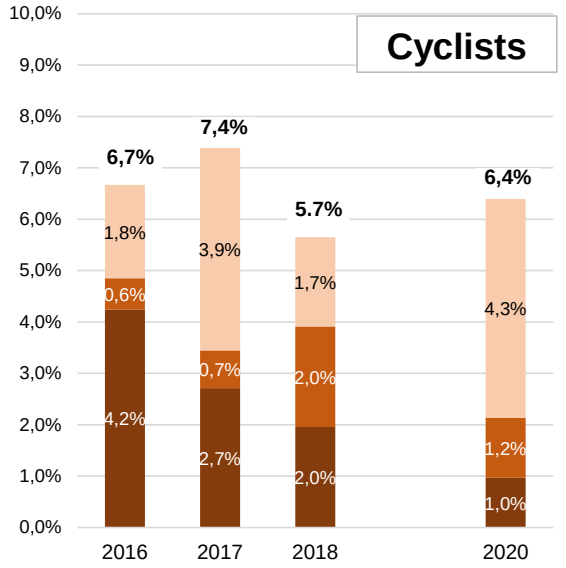
The use of hand-held phones or earpieces is much more frequent for "professional" drivers than for drivers of passenger cars. The gap widened further in 2020, with a 0.3 point drop for passenger cars and a 0.2 point increase for LGVs in large cities. Outside urban areas, phone or earpiece use decreased by 0.4 points for passenger cars and increased by 0.2 points for LGVs, although these changes are not statistically significant over one year.

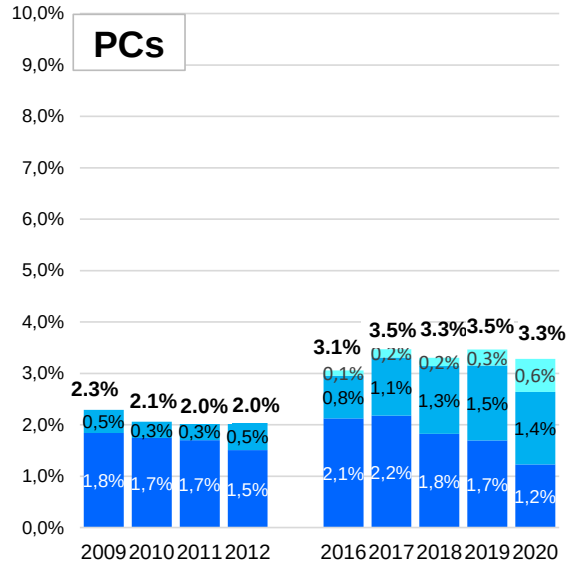
Cyclists[2] were first observed in 2016. Observations in 2020 show **a similar rate of use** to those observed in 2016, 2017, and 2018 with respect to the confidence interval. In contrast, headset use appears to have increased (+2.6 points from 2018) where hand-held, over-the-ear, and off-the-ear phone use has decreased (-1.8 points from 2018).

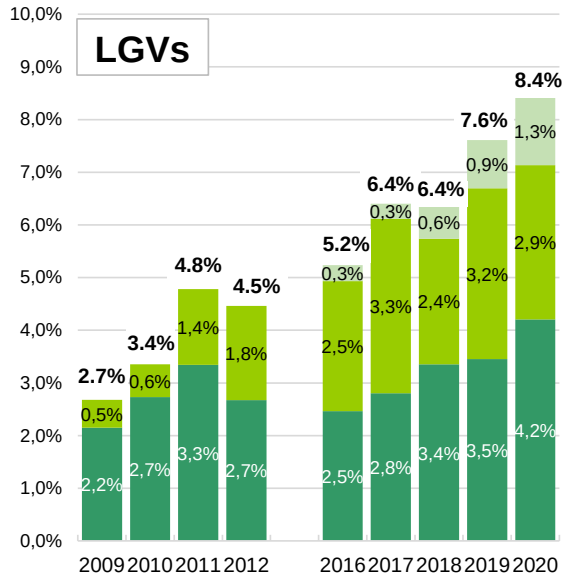
[2] The 2019 data were not kept in the long series, as the results appeared to be outliers compared to other years.

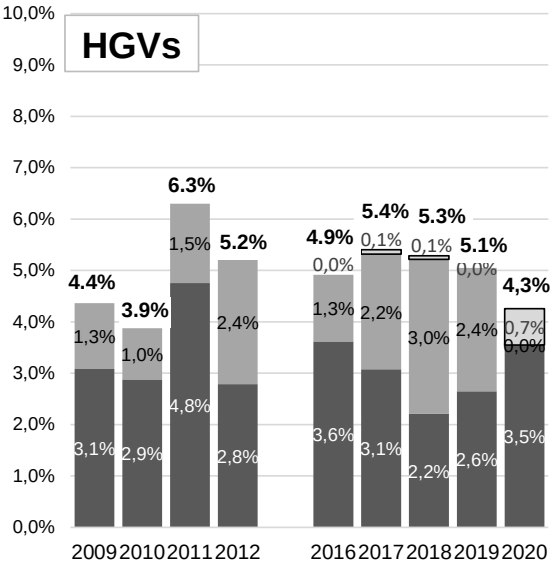
Evolution of phone in hand or earpiece use by type of user

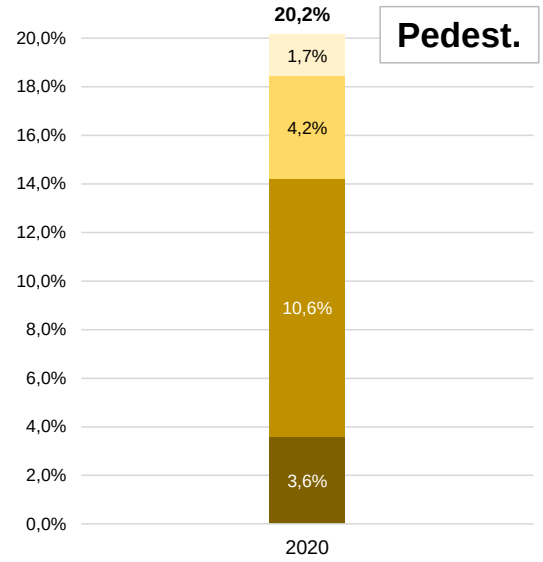
Light colors represent the share of drivers with an **earpiece** or kit in their ear (observed as of 2016, only in large cities),
intermediate colors represent the share of drivers with handsets **in hand but not on the ear**,
dark colors, the share of drivers with handsets **in hand and on the ear**.







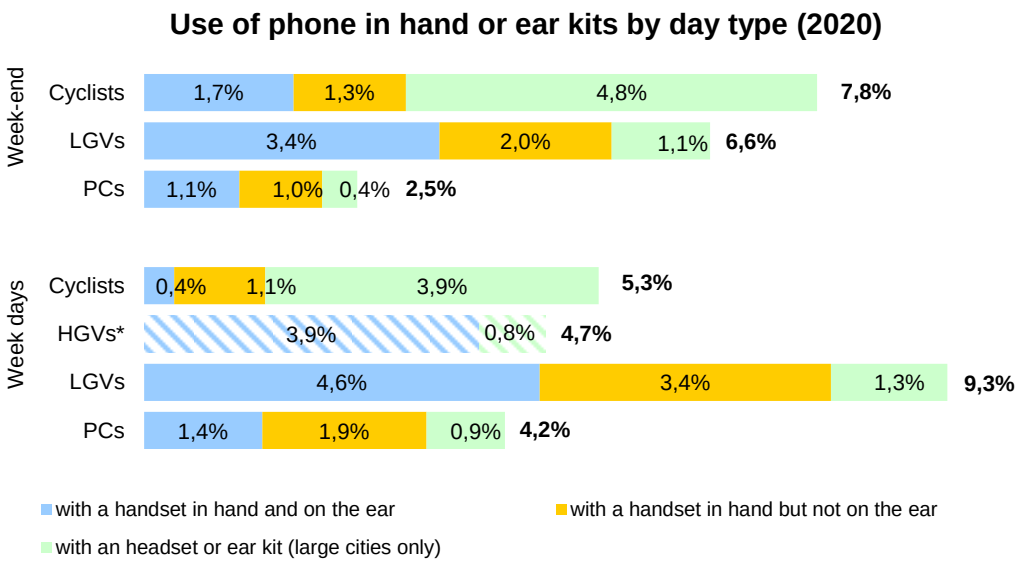




For pedestrians only, from lightest to darkest color:

- share of pedestrians with phone in hand and headphones or earphones,
- share of pedestrians with headphones or earphones only,
- share of pedestrians with phone in hand only,
- share of pedestrians with phone in hand and worn on ear.

4.4. Use of hand-held phones or headsets by type of user and day



**Low staffing levels*

The 95% confidence interval associated with the overall phone use rate is:
- on week-ends, ± 0,4 points for passenger cars, ± 2,6 points for LGVs and ± 3,5 points for cyclists ;
- on weekdays, ± 0,5 points for passenger cars, ± 2,1 points for LGVs, ± 3,6 points for HGVs and ± 2,6 points cyclists.

The use of hand-held telephones or headsets by passenger car drivers is more frequent on weekdays than at weekends.

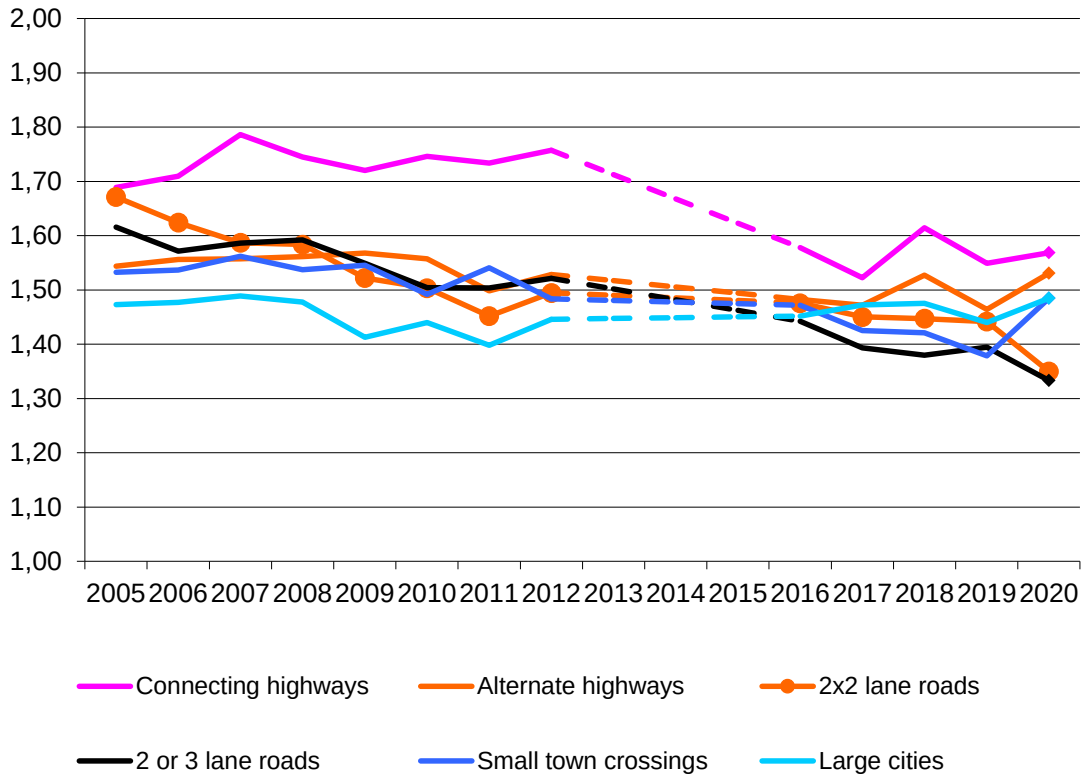
For the other categories of users, the differences observed are not statistically significant.

5. Vehicle occupancy rate

Things to remember

- The **passenger car occupancy rate** is between 1.33 and 1.57 depending on the network.
- The occupancy rate for passenger cars is **systematically higher on weekends than on weekdays**, especially for the year 2020.
- The **occupancy rate for LGVs** (front) is lower than for passenger cars, and decreasing on all networks in 2020.
- In general, passenger car occupancy rates have been **declining since 2007** on all networks.

Evolution of the occupancy rate of PCs



For 2020 observations, the 95% confidence interval associated with occupancy ranges from ± 0,021 to ± 0,046 depending on the network type.

Methodology

Observations of vehicle occupancy rates are carried out on all types of road networks (see details in Appendix 2), and are conducted on passenger cars and light good vehicles.

These observations are carried out simultaneously with the observations of safety belt and helmet use for P2Ws.

All observations are made during the day.

5.1. Occupancy rates of passenger cars

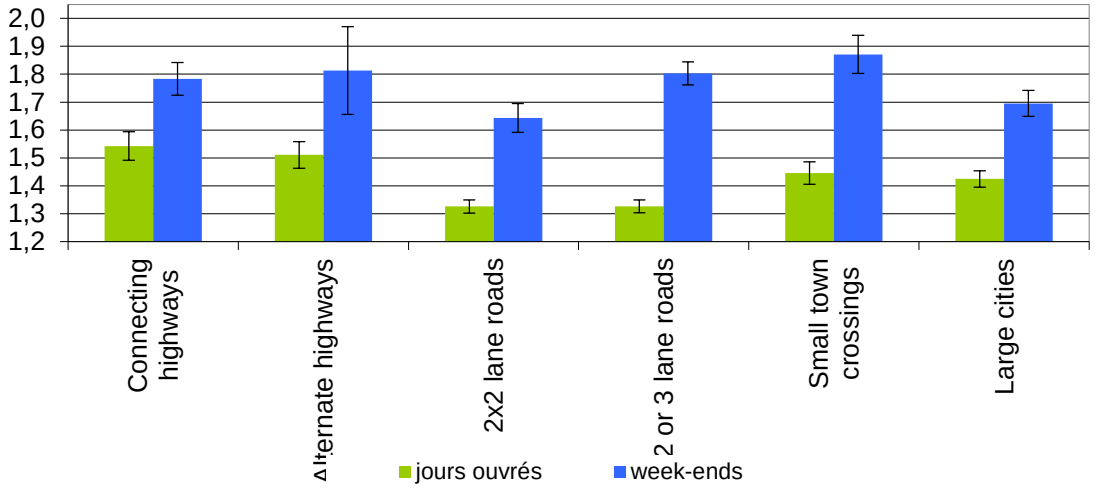
The occupancy rates observed on the various networks are between 1.33 and 1.57, down overall compared to 2012. However, there was a slight stagnation on the motorways, small town crossings, and in the large cities compared to the same year.

	Rural motorways	Urban motorways	Dual carriageways outside urban areas	2 or 3 lane roads	Roads crossing small towns	Large cities
2005	1,69	1,54	1,67	1,62	1,53	1,47
2006	1,71	1,56	1,62	1,57	1,54	1,48
2007	1,79	1,56	1,59	1,59	1,56	1,49
2008	1,74	1,56	1,58	1,59	1,54	1,48
2009	1,72	1,57	1,52	1,55	1,55	1,41
2010	1,75	1,56	1,50	1,50	1,49	1,44
2011	1,73	1,50	1,45	1,50	1,54	1,40
2012	1,76	1,53	1,49	1,52	1,48	1,45
2016	1,58	1,48	1,48	1,44	1,47	1,45
2017	1,52	1,47	1,45	1,39	1,43	1,47
2018	1,61	1,53	1,45	1,38	1,42	1,48
2019	1,55	1,46	1,44	1,39	1,38	1,44
2020	1,57	1,53	1,35	1,33	1,48	1,48

No observations conducted between 2013 and 2015

The following figure compares, for each type of network, the occupancy rate of passenger cars observed on weekdays (Monday to Friday) and on weekends. The lines at the top of each bar represent the 95% confidence intervals.

Occupancy rate of PCs by day type (2020)



The occupancy rate observed on weekends is systematically higher than that observed on weekdays, from 0.24 on rural motorways, and up to 0.48 for 2- and 3-lane roads outside built-up areas. This gap has widened considerably compared to 2019 for the latter type of network as well as for crossings of small towns. On all types of networks, this gap is statistically significant.

Compared to 2019, the impact of the pandemic appears to have resulted in a decrease in occupancy on non-town networks excluding motorways, but an increase on other networks. Very short and very long distance trips therefore seem to have been favored by passenger car drivers.

5.2. Occupancy rates of light good vehicles

Since 2016, the observation of the occupancy rate, coupled with the observation of front safety belt use, also includes light good vehicles. As the number of LGVs observed on weekends is very low, we only publish here the results for weekdays.

Front occupancy rates of LGVs - Weekdays

	Rural motorways	Urban motorways	Dual carriageways outside urban areas	2 or 3 lane roads	Roads crossing small towns	Large cities
2016	1,39	1,50	1,35	1,35	1,37	1,31
2017	1,36	1,42	1,39	1,38	1,36	1,30
2018	1,41	1,27	1,27	1,37	1,40	1,35
2019	1,50	1,54	1,37	1,39	1,41	1,35
2020	1,42	1,40	1,31	1,26	1,29	1,27

The width of the 95% confidence interval associated with the occupancy rate is ± 0.05 to ± 0.08 depending on the type of network. Thus, there is no significant difference between the different network types, nor is there a significant change between 2016 and 2020.

Appendix 1: Number of vehicles and pedestrians observed

Front safety belt use, helmet use and occupancy (number of vehicles):

Types of networks	Passenger cars	Light good vehicles	P2Ws	Cyclists
Outside built-up areas	9 117	1 386	184	
Roads crossing small towns	1 733	223		---
Large cities	3 442	305	388	491
Total	**14 292**	**1 914**	**572**	**491**

Rear seafety belt use (number of vehicles) :

Types of networks	Passenger cars
Highways	511
Large cities	1 060
Total	**1 571**

Distractor use while traveling (number of drivers and pedestrians):

Types of networks	Passenger cars	Light good vehicles	HGVs	Cyclists	Pedest.
Rural motorways	1 345	126	*25*	---	---
Urban motorways and roads limited to 110 km/h	3 355	290	*85*	---	---
Roads including small town crossings	5 839	357	*22*	---	---
Large cities	3 166	320	*9*	516	2 386
Total	**11 784**	**1 093**	***141***	**516**	**2 386**

*In italics: insufficient numbers for statistical analysis

Appendix 2: Methodology of the road user behaviour observatory

Observations of user behaviour are carried out by a service provider under a contract that also includes measurements for the speed observatory. For technical reasons, this system was interrupted between 2013 and 2015. During this period, speed measurements were carried out by Cerema (Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement) on a sample of points representative of the observatory panel; however, no observations could be made regarding behaviour.

This appendix presents the current system and points out the changes made in relation to the system in force until 2012.

a) Common modalities and observation points panel

All observations are made during the day from locations at the level of traffic lanes.

The following table presents the number of observation points according to the type of network and the type of behaviour observed. It also gives in italics and in brackets the number of points in force in the previous system when it was different.

Types of networks	Front safety belt and helmet use	Rear safety belt use	Telephone	Pedestrian distractors
Rural motorways	21	---	4	---
Urban motorways	12	---	4 *(3)*	---
Dual carriageways outside urban areas	36 *(25)*	---	4 *(3)*	---
2 or 3 lane roads outside built-up areas	50 *(98)*	---	12 *(25)*	---
Roads crossing small towns	25 *(49)*	---	5	---
Large cities*	44	44	14 *(6)*	18
Toll gates on motorways	---	11	---	---
TOTAL	**188 *(249)***	**55**	**43 *(46)***	**18**

* The observations are conducted in seven large cities: Paris, Lille, Metz, Nantes, Lyon, Toulouse, Avignon.

For the observations of front safety belt use, the panel has been reduced on 2 or 3 lane roads outside built-up areas as well as on small town crossings, these two types of networks being previously based on a very large number of points. This modification is linked to the evolution of the panel of measurement points of the speed observatory (the points are identical except for the motorway networks and the large cities).

For the observations of telephone use while driving, the panel has been rebalanced in order to reinforce the observations in the major urban areas.

In addition, some observation points were moved, for reasons of safety of the investigators or because of the requirements of speed measurements, which are often carried out at the same locations.

Unlike speed measurements, where the characteristics of each observation point can influence the value measured, it is reasonable to consider that the behaviour observed (wearing of safety belts, helmets, use of telephones) does not depend, on a given type of road network, on the characteristics of each observation point. The only factors likely to influence the results of the observations are the type of road network, the category of vehicle, the time of day and the type of day (weekday, weekend). Consequently, the results of the behavioural observations can be considered as absolutely representative as long as these factors are taken into account, and as long as this representativeness is not modified by a change in the observation panel.

The results of the observations carried out from 2016 onwards are therefore directly comparable to those obtained up to 2012, and there is no need, as in the case of speed measurements, to implement an approach aimed at correcting a possible effect of the modification of the observation point panel.

b) Safety belt use in the front seats of vehicles, helmet use for P2W users and vehicle occupancy rates

Current system (since 2016)

Each of the points in the panel is observed once a year; the duration of each observation is 10 minutes per lane on motorways and divided roads, and 30 minutes per point on other networks.

In large cities, half of the observations are made on weekdays (Monday to Friday), a quarter on Saturdays and a quarter on Sundays, to allow for a robust comparison between behaviour on weekdays and on weekends. On the other networks, observations are spread evenly over the 7 days of the week.

Observations are made of passenger cars (passenger car), light good vehicles (LGV), and powered two wheelers (P2W); bicycles are also observed in large cities.

For safety belt use, each of the front seat occupants is entered in three possible ways:
- wearing a safety belt,
- not wearing a safety belt,
- undetermined.

The safety belt wearing rate is calculated by excluding occupants whose wearing status is undetermined.

The results are very similar for the different types of networks outside built-up areas. Consequently, the observations are aggregated into three groups: non-township networks, small town crossings, and large town crossings. The belt wearing rate associated with each group is calculated in proportion to the number of observations without weighting between types of networks. It is accompanied by a confidence interval which makes it possible to assess whether the changes observed are statistically significant.

Previous system (until 2012)

In the system in force until 2012, the following arrangements were different:

- the periodicity of observations was once a year in the major cities (unchanged) and three times a year in the other networks

- the distribution of observations between weekdays and weekends was unbalanced in the major cities: in practice, their planning led to almost all observations being carried out on weekdays; no observations were carried out on Saturdays, and observations on Sundays were concentrated in a single city. As a result, the front safety belt wearing rate observed in the major cities was only representative of weekdays;

- the observation of light good vehicles, as well as bicycles in large cities, was added in 2016.

The other observation methods were not changed.

In previous practice, the rate of safety belt use outside built-up areas was calculated as a weighted average of the rates observed on each of the types of network concerned, with the weighting adopted to reflect their relative weight in terms of kilometers traveled. This principle has been abandoned and the 2005-2012 results have been recalculated according to the principles now in force. This may result in slight deviations from the previously published values for these years.

c) Safety belt use in the rear seats of vehicles

Current system (since 2016)

For practical reasons (need to observe vehicles at very low speeds), only two types of network are concerned: large conurbations and motorway toll gates. Each of the points in the panel is observed once a year, for a period of one hour in the major cities and two hours at the toll gates.

Half of the observations are made on weekdays (Monday to Friday), a quarter on Saturdays and a quarter on Sundays.

Only passenger cars are observed.

The characterization of the rear seat occupants and the calculation of the safety belt wearing rate follow the same principles as for the front seat observations. In addition, a specific distinction is made between children under 10 years of age (by visual assessment of the interviewers).

Previous system (until 2012)

Rear safety belt use has been observed since 2005. In the scheme in effect until 2012, the arrangements listed below were different:

- the periodicity of observations was three times a year ;

- the duration of each observation was 30 minutes in large cities (unchanged for toll gates);

- the planning of the observations in the major cities was subject to the same biases as for the observations of front safety belt use (see above). For the same reasons, the rear safety belt wearing rate observed in large cities was therefore only representative of weekdays.

d) Driver use of distractors

Current system (since 2016)

Each of the panel points is observed twice a year, once on business days (Monday through Friday) and once on weekends; within each network type, weekend observations are split approximately equally between Saturdays and Sundays. Each observation lasts 30 minutes.

Observations are made of drivers of passenger cars, light HGVs, heavy HGVs, and cyclists in large cities.

Each of the drivers observed is entered in four possible ways:

- they have a handset in their hand and on their ear,

- he has a handset in his hand but not on his ear

- they wear an earpiece, an ear kit or a headset (in large cities only),

- he has none of these.

The exploitations lead to very similar results for some types of networks. Consequently, the observations are aggregated into four groups: rural motorways, urban motorways and roads limited to 110 km/h, roads including those crossing small towns, large towns. The telephone use rate associated with each group is calculated in proportion to the number of observations without weighting between types of networks. It is accompanied by a confidence interval which makes it possible to assess whether the changes observed are statistically significant.

Previous system (until 2012)

Phone use while driving has been observed since 2009. The device in force until 2012 was very close, were simply added in 2016:

- the observation of cyclists in large cities,

- observation of the use of an earpiece, an ear kit or a headset (in large cities only).

In previous practice, the types of networks were grouped differently when the results were used. The 2009-2012 results have been recalculated according to the principles now in force. This may result in slight deviations from the previously published values for these years.

The modification of the panel between 2012 and 2016, and in particular the reinforcement of the observation points in the major urban areas, may have led to an artificial increase in the telephone use rate calculated for all networks. The effect of this reinforcement was estimated at an increase of +0.1 points for passenger cars and +0.2 points for light vehicles, and a decrease of -0.2 points for heavy goods vehicles.

e) Use of distractors at pedestrian crossings

Current system (since 2020)

Each of the panel points is observed twice a year, once on workdays (Monday through Friday) and once on weekends; weekend observations are split approximately equally between Saturdays and Sundays. Each observation lasts 30 minutes with a minimum of 30 pedestrians observed.

Observations are made of pedestrians arriving at a crosswalk. Each pedestrian observed is filled in with the following information:

- Type of user
- Gender
- Age range (visual estimation)
- Phone use
- Wearing headphones/headset/headset
- User alone or accompanied

The type of pedestrian crossing (no lights/with lights) is also provided by the interviewers.