

Detailed profile  
of facts and statistics regarding

# SPEEDING



## Detailed profile of facts and statistics regarding **SPEEDING**

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**Note:** In this document, “accident caused by speeding” refers to any accident for which one of the probable causes, as indicated on the supplemental accident report, is the inadequate speed of one of the vehicles involved.



# What?

## Detailed profile of facts and statistics regarding **SPEEDING**

**Speeding is one of the leading causes of accidents and has major consequences on the severity of an accident.**

**Driving is a complex task, and speed reduction improves road safety.**

Speeding is one of the leading causes of accidents in Québec and is a worrying phenomenon. An overview of all the causes listed on accident reports in 2012 reveals that speeding is mentioned in 50% of fatalities. Comparing the distribution of accidents resulting in bodily injuries caused by speeding with all accidents resulting in bodily injuries reveals that the distributions differ.

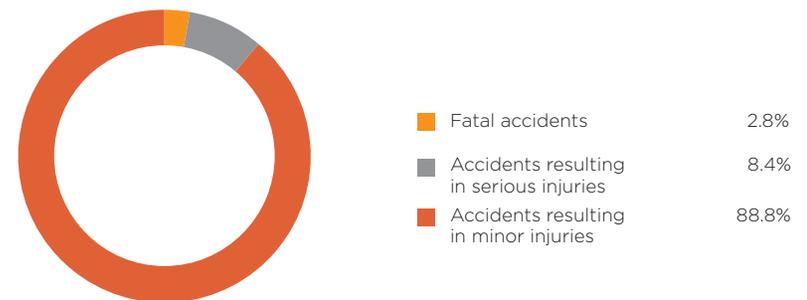
The proportion of fatal accidents (2.8%) among accidents resulting in bodily injuries caused by speeding is greater than among all accidents resulting in bodily injuries (1.3%).

Furthermore, the proportion of accidents resulting in serious injuries (8.4%) is greater among accidents resulting in bodily injuries caused by speeding than among all accidents resulting in bodily injuries (5.5%).

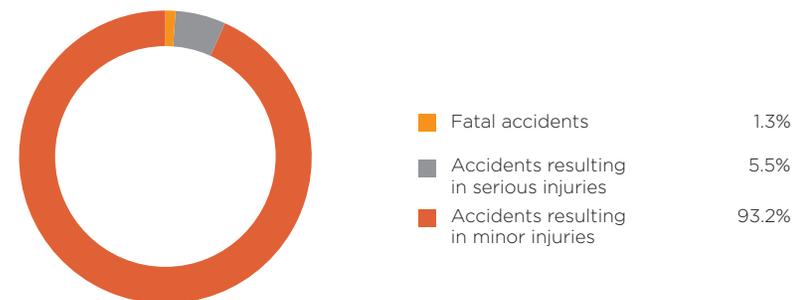
We can therefore conclude that accidents caused by speeding have more serious consequences.

Source: Accident reports, 2012.

Accidents resulting in bodily injuries caused by speeding



All accidents resulting in bodily injuries



# What?

Detailed profile  
of facts and statistics regarding  
**SPEEDING**

## Speeding has multiple effects and contributes to making roads less safe.

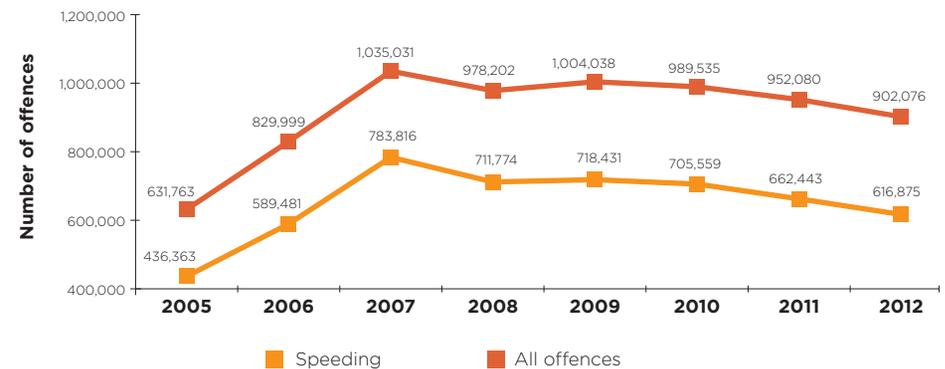
The principles of physics that apply to a body in motion (kinetic energy) also apply to a vehicle in motion. Too great a speed has multiple effects and contributes to making roads less safe for all types of users. High speed causes:

- ▶ a decreased field of vision;
- ▶ a decrease in the time available to react to avoid impact;
- ▶ limitations in the ability to perform avoidance manoeuvres;
- ▶ an increased risk of skidding; and
- ▶ an increased stopping distance.

Source: Road safety fact sheet on speeding, SAAQ, 2014.

## A very large proportion of offences committed under the *Highway Safety Code* concern speeding.

Evolution (2005-2012) of the number of offences



The graph above shows the evolution in the annual number of speeding offences and all offences under the *Highway Safety Code* that result in demerit points.

After peaking in 2007 (783,816), speeding offences decreased to 616,875 in 2012.

This graph illustrates the relative importance of speeding among all offences under the *Highway Safety Code*. Speeding offences represent approximately 70% of all offences

Source: Statistical report entitled *Les infractions et les sanctions reliées à la conduite d'un véhicule*, 2003-2012.



## Speeding is a widespread phenomenon.

Surveys conducted by the Ministère des Transports in 2007 showed that:

- ▶ more than 50% of drivers drive over the speed limit;
- ▶ more than 65% of drivers drive over the speed limit on main roads; and
- ▶ 80% of drivers drive over the speed limit on interurban highways, and this proportion reaches 90% in 50 km/h zones in rural areas.

Other speed surveys conducted in 2010 in urban areas where the speed limit is equal to or below 50 km/h showed that the 85th percentile (speed under which 85% of motorists drive) of speeds was below the speed limit in only 16% of places.

Source: Surveys by the Ministère des Transports, 2007.

## Drivers adjust their speed according to their perception of the risk of conflict rather than the speed limit.

A study conducted by Bellalite and colleagues showed that speeds on national and regional road networks going through urban areas were also high. According to this study, on roads with a 50 km/h speed limit, the average speed was 56 km/h and the 85th percentile was 66 km/h.

The speed driven when crossing small towns, which is over the speed limit, is influenced by the general appearance of the roadside. In dense urban areas, motorists drive at moderate speeds because they spot several potential conflict areas generated by human activity. In rural areas, even where the posted speed limit is 50 km/h, motorists drive at high speeds because the perceived risks are lower due to the low density of occupation along the roadside, which allows them to anticipate traffic conditions.

Source: BELLALITE, L., and M. D'AMOURS. *Évaluation de l'impact du profil en travers sur les vitesses pratiquées au sein des traversées des petites agglomérations*, 2002.



**?** A higher proportion of drivers admit to going over the speed limit in 90 km/h zones than in 50 km/h zones. However, these proportions are on the rise in both zones.

As part of surveys to assess the speeding campaigns deployed by the SAAQ, respondents are always asked the same two questions:

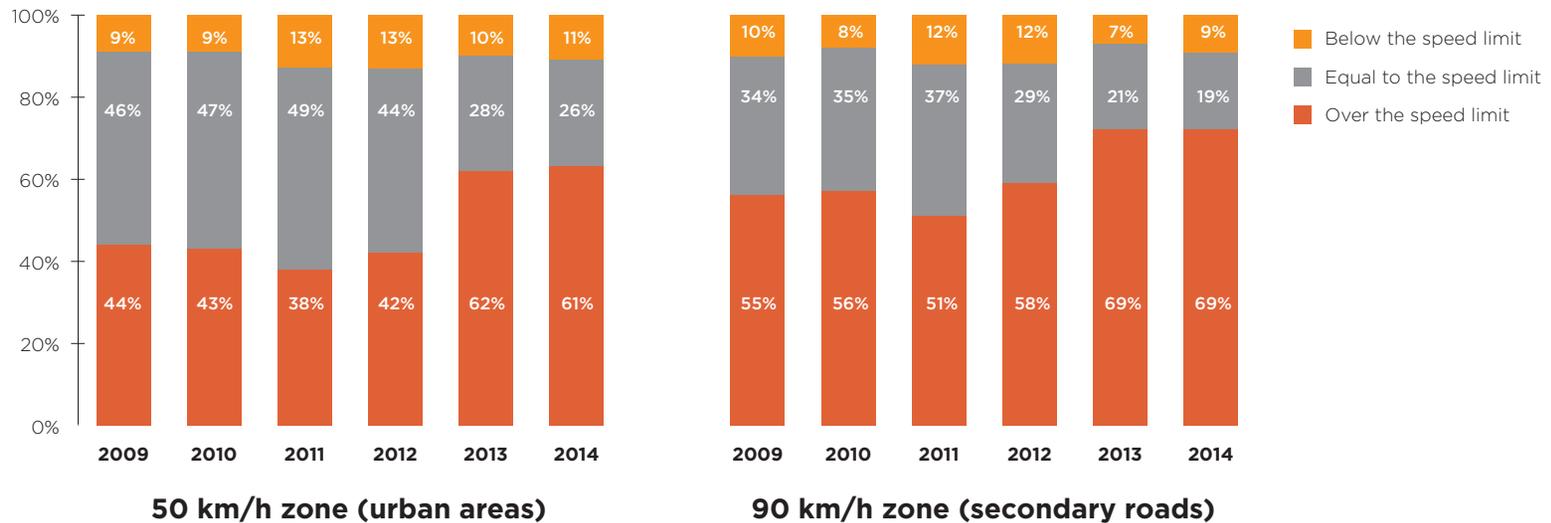
- ▶ Generally speaking, what do you estimate is your average speed in urban areas in 50 km/h zones?
- ▶ Generally speaking, what do you estimate is your average speed in 90 km/h zones on secondary roads in Québec?

These surveys show that over the past two years, the proportions of drivers driving over the speed limit in 50 and 90 km/h zones has increased and is over 60% in 50 km/h zones and nearly 70% in 90 km/h zones.

These statistics clearly show that the situation is worse in 90 km/h zones than in 50 km/h zones. Moreover, since we know that declared speed underestimates actual speed, we can assume that the situation concerning actual speed is worse than the one illustrated in the graph below.

Source: Survey to assess speeding campaigns from 2009 to 2014, SAAQ..

Assessment by drivers of their average speed, according to area



## ❓ The greater the difference between actual speed and the speed limit, the more the offence is perceived as serious by all drivers.

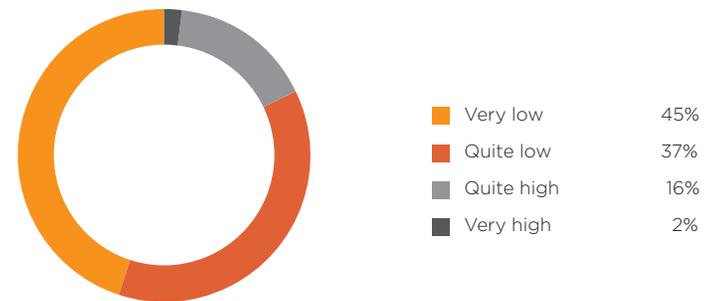
Québec drivers who drive 10 km/h or more over the speed limit (in urban areas and on secondary roads) mainly justify speeding by stating that they are following traffic or that they speed due to habit or distraction. These drivers still consider that a speeding offence is more serious when the difference with the speed limit is greater:

- ▶ In urban areas, nearly a third of drivers surveyed in 2012 consider that speeding at 10 km/h over the limit is a serious or very serious offence, whereas speeding at 20 km/h over the limit is considered a very serious or serious offence by 80% of respondents.
- ▶ On secondary roads, a quarter of drivers view speeding at 15 km/h over the limit as inconsequential, whereas speeding at 30 km/h over the limit is considered a very serious or serious offence by 85% of respondents.

Source: Survey to assess the 2012 speeding campaign, SAAQ.

## ❓ Drivers believe that the risk of being pulled over for speeding in a 50 km/h zone is low.

Perception of the risk of being pulled over for speeding in an urban area in a 50 km/h zone



Although three out of four Québec drivers (73%) disagree that speeding saves time, it is clear that actual speeds are above speed limits. This might stem from the perception that the risk of being pulled over for speeding is quite low. In a survey, drivers were asked to qualify the risk of being pulled over for speeding in urban areas in 50 km/h zones. Fewer than one out of five drivers (18%) perceives this risk as high, and only 2% perceive this risk as very high.

Lastly, 84% of drivers agree with the following statement: "It is very important to encourage people to drive more slowly in 50 km/h zones."

Source: Survey to assess the 2012 speeding campaign, SAAQ.



## Whether through increased police surveillance, stiffer penalties or the use of photo radar devices, the vast majority of Quebecers support these measures to reduce speed.

The majority of drivers believe that the various speed limits on Québec roads are adequate. Approval rates are 88% in urban areas, 77% for 90 km/h zones and 63% on highways. Despite this, a significant number of drivers still admit to driving over the limit.

Several speed reduction strategies are possible, and although some are more popular than others, a vast majority of respondents agree with them. According to the survey:

- ▶ 80% of respondents are favourable to increased police surveillance to enforce speed limits;
- ▶ 65% of respondents agree with stiffer penalties for speeding; and
- ▶ 88% of respondents approve the use of photo radar devices in Québec, and 94% of respondents agree to their use in school zones.

Sources: Survey to assess the 2012 speeding campaign, SAAQ.

Survey on the perception of photo radar devices among driver's licence holders, MTQ, 2013.

## A 1 km/h increase in the average actual speed results in a 3% increase in the number of accidents resulting in bodily injuries.

The effects of speed on road safety differ according to the severity of accidents and road category. Generally speaking, a 1 km/h increase in the average actual speed results in a 3% increase in the number of accidents resulting in bodily injuries. Based on this general estimate, we can assume that if all drivers decreased their average speed by 5 km/h, the number of people killed or injured on Québec roads would decrease by 15%.

Source: RANTA, S., and V.P. KALLBERG. *Analysis of Statistical Studies of the Effects of Speed on Safety*, 1996.



# What?

Detailed profile  
of facts and statistics regarding  
**SPEEDING**

## Speeding causes a much more rapid increase in the risk of accident in urban areas than in rural areas.

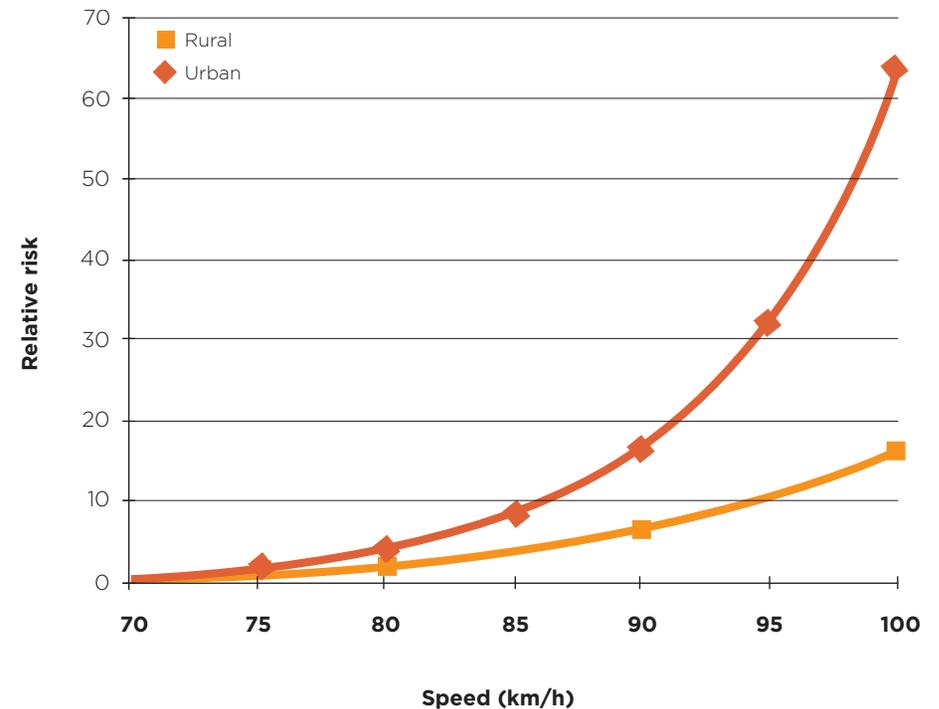
Kloeden and colleagues conducted studies whose main objectives were to quantify the relationship between travelling speed and the relative risk of crash involvement. They concluded that the relationship between speed and the risk of accident varies depending on area. More specifically, it was estimated that:

- ▶ the risk of being involved in an accident doubles for every 5 km/h over the speed limit in urban areas;
- ▶ the risk of being involved in an accident is double at 10 km/h over the speed limit, nearly six times greater at 20 km/h over the limit and nearly eighteen times greater at 30 km/h over the limit in rural areas.

Sources: KLOEDEN, C.N., et al. *Travelling Speed and the Risk of Crash Involvement*, volumes 1 and 2, 1997.

KLOEDEN, C.N., et al. *Travelling Speed and the Risk of Crash Involvement on Rural Roads*, 2001.

Increase in the risk of accident according to the speed over the limit, by area - roads with a 70 km/h limit



# What?

Detailed profile  
of facts and statistics regarding  
**SPEEDING**

## Where they are located, the use of photo radar devices (stationary or mobile) results in:

- ▶ a significant decrease in actual speeds; and
- ▶ a significant decrease in accidents resulting in bodily injuries.

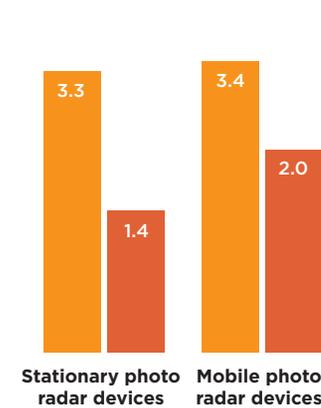
The use of automated control devices on Québec roads has led to a reduction in speed and a decrease in accidents, especially with regards to accidents resulting in bodily injuries.

The assessment conducted for 2013 shows that stationary photo radar devices lead to a 15% reduction in speed, and mobile devices lead to a 7% reduction (see graph on the right). The assessment also reveals a marked decrease in the average number of accidents per month, i.e. a 58% decrease with stationary devices and a 41% decrease with mobile devices.

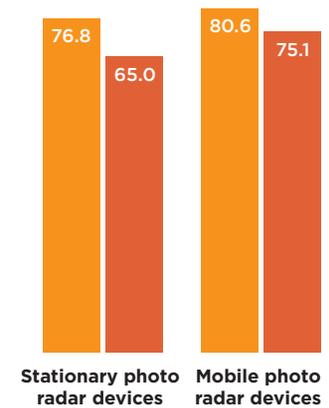
Source: Evaluation report entitled *Cinémomètres photographiques et systèmes photographiques de contrôle de circulation aux feux rouges*, MTQ, 2013.

## Impact of photo radar devices on speed and accidents, according to the type of device

Average number of accidents per month



Actual speed (km/h)



# What?

Detailed profile  
of facts and statistics regarding  
**SPEEDING**

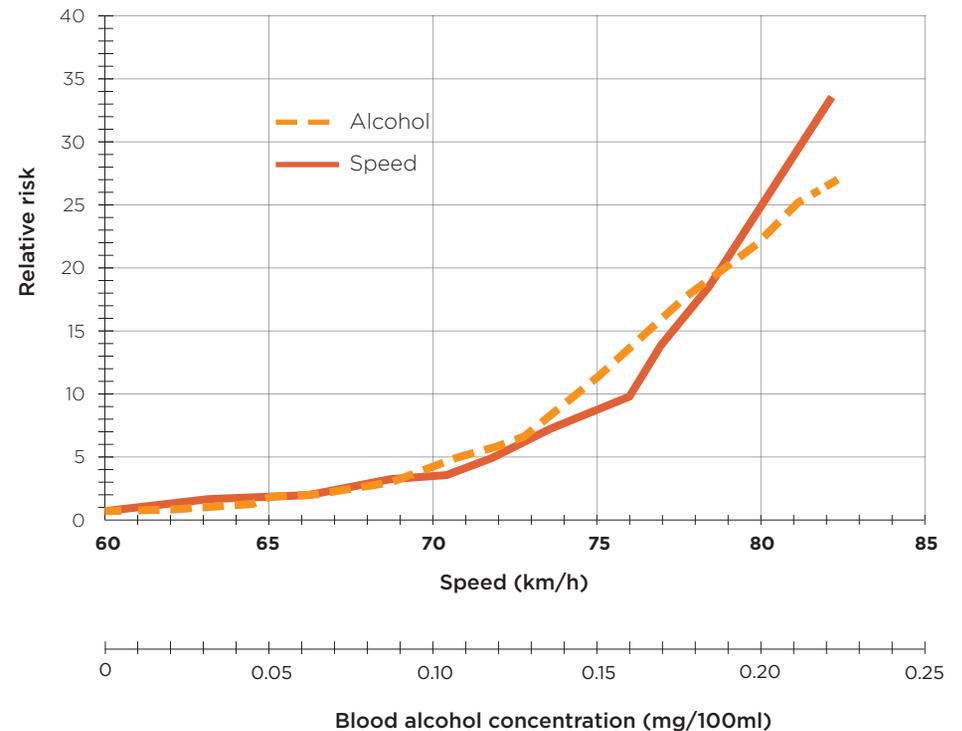
**?** The relative risk of being involved in an accident when speeding at 10 km/h above the limit in a 60 km/h zone is comparable to the risk taken by a driver with blood alcohol concentration of 80 mg/100 ml.

A study by Mclean and Kloeden (2002) compared the relative risk of being involved in an accident according to the driver's blood alcohol concentration and the speed of the vehicle in a 60 km/h zone. They concluded that the risk curves are similar (see graph on the right).

The relative risk of accident for vehicles travelling at 10 km/h over the speed limit 20 is nearly comparable to the relative risk of accident for drivers with an blood alcohol concentration (BAC) of 80 mg/100 ml, and the relative risk of accident for vehicles travelling at 20 km/h over the speed limit is comparable to the relative risk of drivers with a BAC of 210 mg/100 ml.

Source: MCLEAN, A.J., and C. KLOEDEN. *Alcohol, Travelling Speed and the Risk of Crash Involvement*, Proceedings of the 16th International Conference on Alcohol, Drugs and Traffic Safety, Montréal, 2002.

Relative risk of being involved in an accident according to speed in a 60 km/h zone, and according to the driver's blood alcohol concentration



# What?

Detailed profile  
of facts and statistics regarding  
**SPEEDING**

**?** In collisions between a vehicle and a pedestrian, the greater the speed of the vehicle on impact, the higher the probability of pedestrian death.

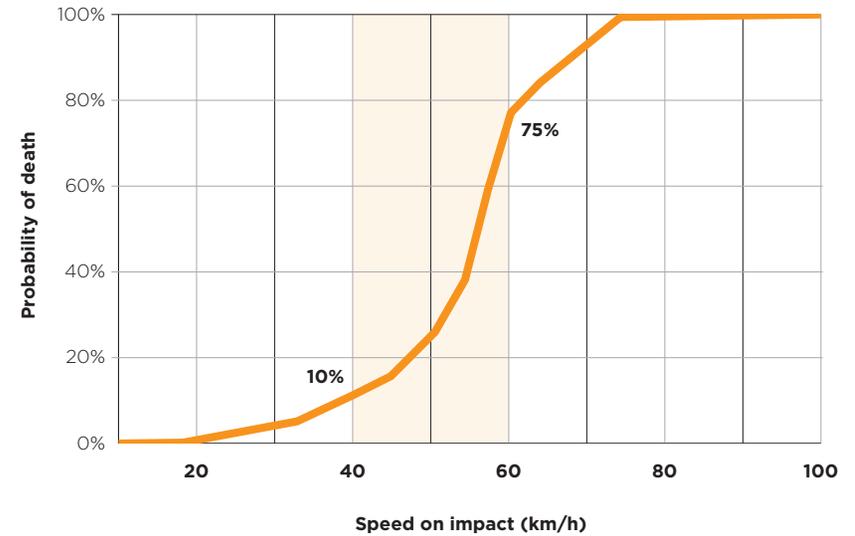
A study by Ashton (1982) showed that the probability of pedestrian death varies according to the speed of the vehicle on impact.

The bracket between 30 km/h and 50 km/h is the one where the probability of death increases rapidly. Probability rises from 10% when a vehicle is travelling at 30 km/h to 75% when it is travelling at 50 km/h.

With a speed on impact of 70 km/h, the probability of death is very close to 100%.

Source: ASHTON, S.J. *Pedestrian Injuries: The Influence of Vehicle Design*, 1981.

Probability of pedestrian death according to the speed on impact



# What?

Detailed profile  
of facts and statistics regarding  
**SPEEDING**

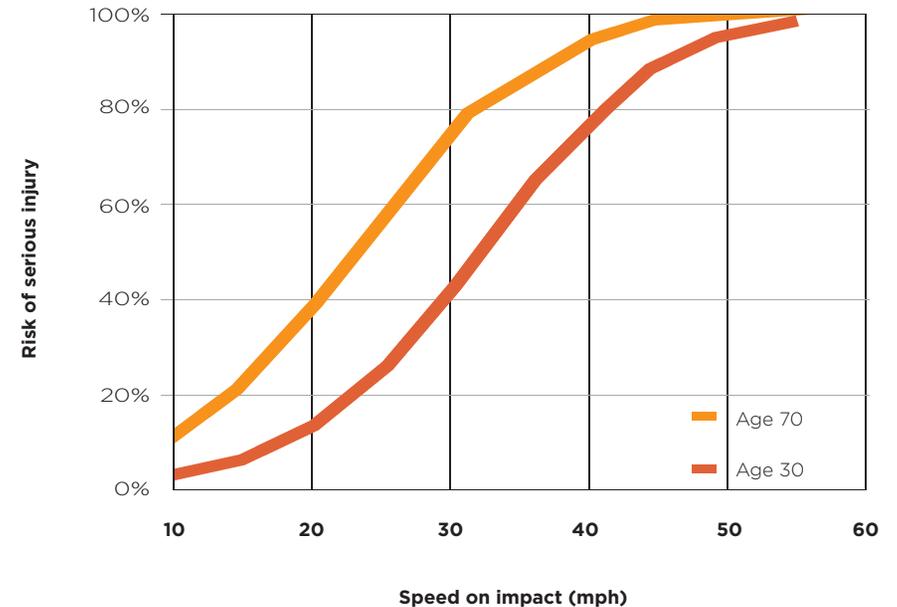
**?** In collisions between a vehicle and a pedestrian, the greater the speed of the vehicle on impact, the higher the risk of serious injuries.

The impact of speed on the severity of injuries of vulnerable road users, such as pedestrians and cyclists, is very significant. These users are very poorly protected in case of a collision with an automobile, and the severity of injuries increases rapidly.

A study conducted by the AAA (Tefft, 2011) showed that the greater the speed on impact, the higher the risk of serious injuries. The risk is also greater for older pedestrians. The graph on the right shows that the average normalized risk of serious injuries for a pedestrian aged 70 is approximately equal to the risk to a pedestrian aged 30 when struck by a vehicle travelling at a speed that is greater by 9.3 mph ( $\approx 15$  km/h).

Source: TEFFT, B.C., et al. *Impact Speed and a Pedestrian's Risk of Severe Injury or Death*, Foundation for Traffic Safety, AAA, 2011.

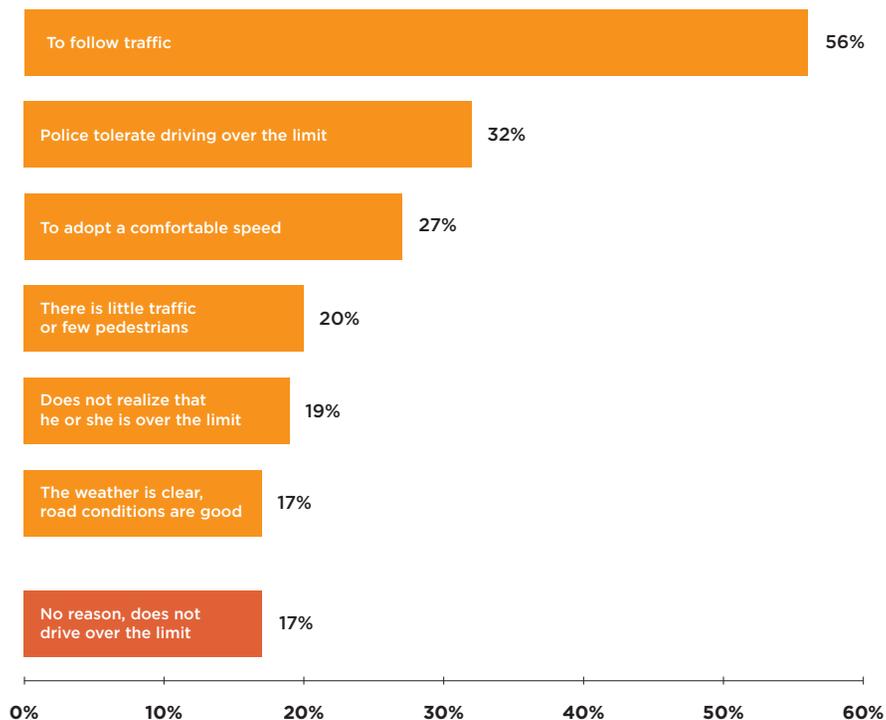
Risk of serious injury according to the speed of the vehicle and age of the pedestrian



## A majority of respondents admit to speeding and justify their behaviour mainly by arguing that they are following traffic and that police officers tolerate driving over the limit.

A survey conducted by the SAAQ asked drivers to list the three main reasons for speeding. 17% of respondents indicated that they do not drive above the speed limit. The main answers given by the other respondents to justify speeding are:

### Reasons given by Québec drivers to justify driving over the speed limit



Furthermore, respondents consider that:

- ▶ the risk of being pulled over by a police officer is low (76% in urban areas and 83% on secondary roads);
- ▶ driving “slightly” over the speed limit is not a serious offence:
  - 21% of respondents believe that driving 10 km/h over the limit in a 50 km/h zone is a serious offence; and
  - 27% of respondents believe that driving 15 km/h over the limit in a 90 km/h zone is a serious offence.
- ▶ the risk of being involved in an accident when driving “slightly” over the speed limit is low:
  - 71% of respondents believe that the risk for driving 10 km/h over the limit in a 50 km/h zone is low; and
  - 65% of respondents believe that the risk for driving 15 km/h over the limit in a 90 km/h zone is low.

Source: Survey to assess the 2014 Speeding campaign, SAAQ.



# Who?

## Detailed profile of facts and statistics regarding **SPEEDING**

 Younger drivers (aged 16 to 44) are overrepresented among people convicted of a speeding offence, and drivers aged 16 to 34 are overrepresented among people convicted of an excessive speeding offence.

Driver's age	Proportion of offenders by age in 2012		Proportion of driver's licence holders in 2012
	Speeding	Excessive speeding	
Under 16	0.0%	0.0%	0.1%
16-19	↑ 4.5%	↑ 11.2%	2.9%
20-24	↑ 10.9%	↑ 21.1%	7.0%
25-34	↑ 21.3%	↑ 27.7%	16.1%
35-44	↑ 21.0%	17.8%	17.3%
45-54	21.0%	13.2%	21.3%
55-64	13.7%	6.1%	18.5%
65-74	5.9%	2.4%	11.4%
75 and older	1.6%	0.5%	5.2%

A comparison of the distribution of speeding and excessive speeding offences by age with the distribution of all driver's licence holders by age shows that younger drivers (excluding those younger than 16) are overrepresented (↑).

With respect to speeding offences, drivers aged 16 to 44 are overrepresented. This group committed 57.7% of speeding offences resulting in demerit points, whereas they represented only 43.3% of driver's licence holders. In the case of excessive speeding offences, the group of drivers aged 16 to 34 committed 60.0% of offences, whereas they represented only 26.0% of licence holders.

Sources: *Les infractions pour grands excès de vitesse et pour l'utilisation d'un téléphone cellulaire pendant la conduite d'un véhicule routier, 2008-2011.*

*Les infractions et les sanctions reliées à la conduite d'un véhicule, 2003-2012.*



 **The proportion of accidents resulting in bodily injuries caused by speeding and the rates of accidents caused by speeding per 1,000 drivers are higher among men.**

## Accidents resulting in bodily injuries caused by speeding are overrepresented among men.

Men are always more likely than women to be involved in all types of accidents. Accidents resulting in bodily injuries caused by speeding are no exception. To relativize these accidents per number of drivers, i.e. by calculating the rates of accidents per 1,000 drivers, the rates are 1.83 for men and 1.04 for women.

To emphasize that speeding is especially problematic among men, the proportion of accidents resulting in bodily injuries caused by speeding according to gender is greater among men. Likewise, the ratio of proportions (the proportion of accidents resulting in bodily injuries caused by speeding according to the gender of the driver divided by the proportion of accidents resulting in bodily injuries according to the gender of the driver), shows that accidents resulting in bodily injuries caused by speeding are overrepresented among men.

Source: Accident reports, 2012.

Driver's gender	Rate of accidents resulting in bodily injuries caused by speeding per 1,000 drivers <sup>1</sup> , according to gender	Proportion of accidents resulting in bodily injuries caused by speeding	Proportion of accidents resulting in bodily injuries caused by speeding according to driver's gender	Proportion of accidents resulting in bodily injuries according to driver's gender	Ratio of proportions
Female	1.04	14.4%	34.4%	38.6%	0.89
Male	1.83	17.3%	65.6%	61.4%	1.07

1. The rate of accidents resulting in bodily injuries caused by speeding per 1,000 drivers is obtained by dividing the number of drivers involved by the number of licence holders and multiplied by 1,000.



## Among drivers aged 16 to 34:

- ▶ the proportions of accidents caused by speeding are greatest;
- ▶ accidents caused by speeding are overrepresented;
- ▶ the ratios of accidents resulting in bodily injuries caused by speeding are greatest.

The comparison of the distribution of drivers involved in accidents resulting in bodily injuries caused by speeding according to age and the distribution of all accidents resulting in bodily injuries according to age shows that certain age brackets are overrepresented (↑).

The 16-19, 20-24 and 25-34 age brackets are all overrepresented. Furthermore, the 20-24 and 25-34 age brackets are the ones with the highest proportions.

However, these distributions only illustrate one aspect of the important part that a driver's age plays in accidents resulting in bodily injuries caused by speeding.

Driver's age	Proportion of accidents resulting in bodily injuries caused by speeding according to driver's age	Proportion of accidents resulting in bodily injuries according to driver's age	Ratio of proportions
Under 16	0.4%	0.6%	0.67
16-19	↑ 11.3%	8.8%	<b>1.28</b>
20-24	↑ 17.5%	13.3%	<b>1.32</b>
25-34	↑ 21.6%	19.7%	<b>1.10</b>
35-44	16.3%	17.0%	0.96
45-54	15.9%	17.8%	0.89
55-64	9.9%	12.3%	0.80
65-74	4.9%	6.6%	0.74
75-84	1.8%	3.2%	0.56
85-89	0.3%	0.6%	0.50
90 and older	0.1%	0.1%	1.00

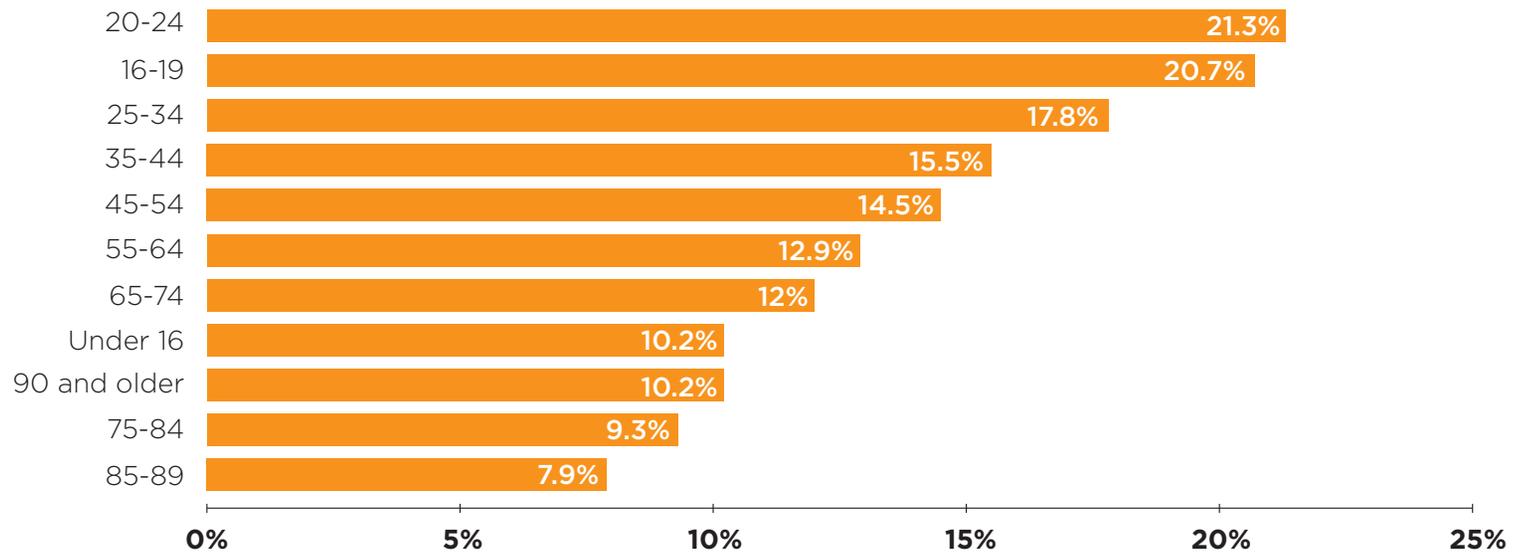


To determine which age brackets are problematic by eliminating the effects of volumes of licence holders, we calculated, for each bracket, the proportion of accidents resulting in bodily injuries caused by speeding (the number of accidents resulting in bodily injuries caused by speeding over the total number of accidents resulting in bodily injuries per age bracket).

The 16-34 age brackets (25-34 [17.8%], 16-19 [20.7%] and 20-24 [21.3%]) are those with the highest proportions of accidents resulting in bodily injuries caused by speeding.

Source: Accident reports, 2012.

### Proportion of accidents resulting in bodily injuries caused by speeding according to age



# Who?

Detailed profile  
of facts and statistics regarding  
**SPEEDING**

## Men are overrepresented among drivers convicted of a speeding offence.

Gender	Proportion of offenders for speeding, by gender	Proportion of driver's licence holders
Female	32.6%	47.3%
Male	67.4%	52.7%

Men are overrepresented with respect to speeding offences. A comparison of the proportion of drivers convicted of speeding by gender and the proportion of driver's licence holders by gender shows that men represent 67.4% of offenders even though they represent 52.7% of licence holders.

Source: *Les infractions et les sanctions reliées à la conduite d'un véhicule*, 2003-2012.

## Young drivers are much more frequently involved in accidents where speeding is a factor.

Young drivers are much more frequently involved in accidents where speeding is a factor. Between 2008 and 2012, speeding was a factor for 50% of drivers aged 16 to 24 involved in a fatal accident. This proportion was 36% for drivers aged 25 or older. This situation was similar for all accidents resulting in bodily injuries, since speeding was a factor for 26% of drivers aged 16 to 24, whereas it was a factor in 18% of cases for drivers aged 25 or older.

Source: Accident reports, 2012.

## The typical offender convicted of a speeding offence is aged 25 to 34, male, with a household income of \$100,000 or more, who travels 25,000 km or more on average per year, and whose average speed in urban areas is over the speed limit.

The typical driver at greatest risk of speeding, i.e. a driver travelling at more than 100 km/h on roads with a 90 km/h limit is:

- ▶ aged between 25 and 34;
- ▶ male;
- ▶ with a household income of \$100,000 or more;
- ▶ who travels 25,000 km or more on average per year; and
- ▶ whose average speed in urban areas is over the speed limit.

Source: Survey to assess the 2012 speeding campaign, SAAQ.



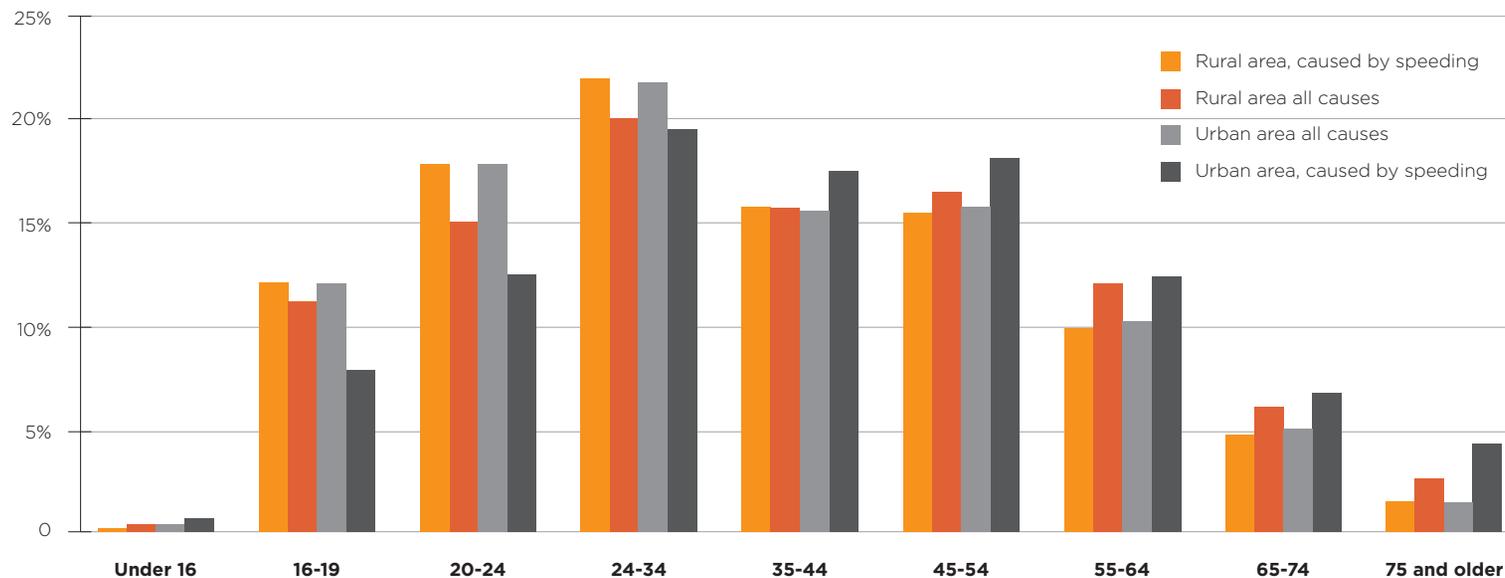


**Drivers aged 16 to 34 are the most overrepresented in accidents caused by speeding in both rural and urban areas.**

The distribution of accidents resulting in bodily injuries caused by speeding and the distribution of accidents of all causes, in both rural and urban areas, according to the age of drivers, shows that younger drivers are overrepresented in accidents caused by speeding, regardless of area.

Source: Accident reports, 2012.

Distribution of accidents according to driver's age and area



# When?

## Detailed profile of facts and statistics regarding **SPEEDING**

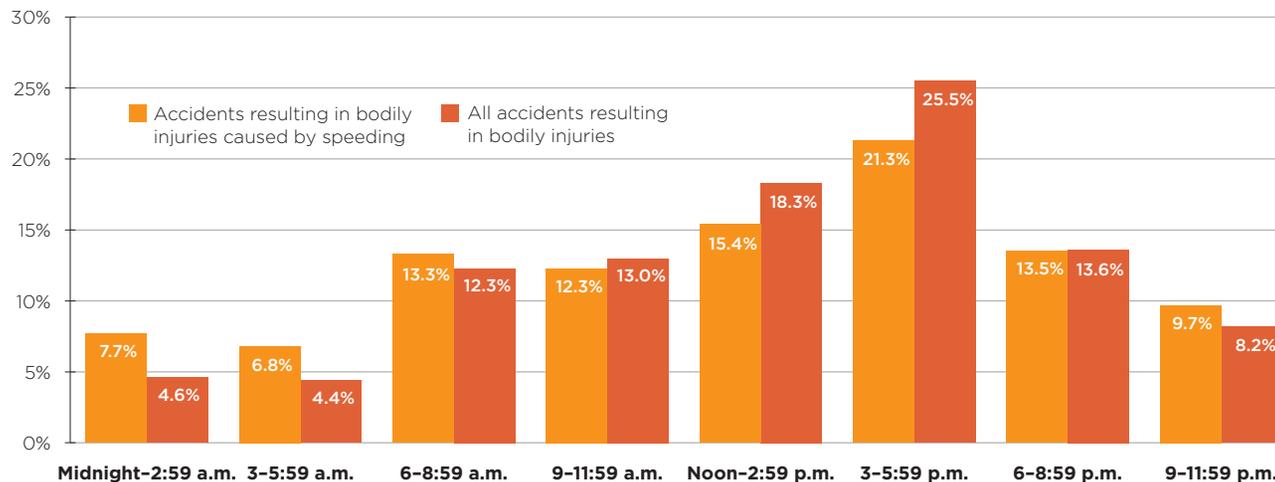
### Accidents resulting in bodily injuries caused by speeding are particularly overrepresented between 9 p.m. and 6 a.m.

A comparison of the distribution of accidents resulting in bodily injuries and the distribution of accidents resulting in bodily injuries caused by speeding shows that more accidents occur between noon and 5:59 p.m. in both cases.

However, the time periods where accidents resulting in bodily injuries caused by speeding are most overrepresented are from 9 p.m. to 11:59 p.m., midnight to 2:59 a.m. and 3 a.m. to 5:59 a.m.

Source: Accident reports, 2012.

Distribution of accidents in time



# When?

Detailed profile  
of facts and statistics regarding  
**SPEEDING**

 Accidents resulting in bodily injuries caused by speeding are more frequent and overrepresented in December and January.

Month	Accidents resulting in bodily injuries caused by speeding	All accidents resulting in bodily injuries
January	<b>11.0%</b>	7.8%
February	7.2%	6.8%
March	7.1%	6.7%
April	7.4%	6.5%
May	6.9%	8.5%
June	8.2%	9.3%
July	8.4%	9.8%
August	8.9%	9.7%
September	7.8%	9.2%
October	7.4%	8.4%
November	8.3%	8.6%
December	<b>11.4%</b>	8.8%

The months during which there are more accidents resulting in bodily injuries caused by speeding are January (11.0%) and December (11.4%), which are the only two months with more than 10%, compared to 7.8% and 8.8% respectively for all accidents resulting in bodily injuries.

The winter period (December to April) is the one where accidents resulting in bodily injuries caused by speeding are overrepresented.

During this period, the percentages of accidents resulting in bodily injuries caused by speeding are greater than all accidents resulting in bodily injuries.

Source: Accident reports, 2012.

 Accidents resulting in bodily injuries caused by speeding are more frequent and overrepresented on weekends (Saturday and Sunday).

Day	Accidents resulting in bodily injuries caused by speeding	All accidents resulting in bodily injuries
Monday	13.4%	13.4%
Tuesday	11.0%	13.5%
Wednesday	12.5%	14.2%
Thursday	13.3%	15.7%
Friday	17.1%	17.2%
Saturday	<b>17.4%</b>	14.0%
Sunday	<b>15.4%</b>	12.0%

Accidents resulting in bodily injuries caused by speeding occur in greater proportion on Fridays (17.1%), Saturdays (17.4%) and Sundays (15.4%).

In addition to being days where accidents resulting in bodily injuries caused by speeding occur more frequently, Saturdays and Sundays are the only days where accidents resulting in bodily injuries caused by speeding are overrepresented compared with all accidents resulting in bodily injuries.

The proportion of average daily accidents resulting in bodily injuries caused by speeding is 16.4% on weekends (Saturday and Sunday) and 13.4% on weekdays. For all accidents resulting in bodily injuries, these statistics are 13.0% and 14.8% respectively.

Source: Accident reports, 2012.



# Where?

## Detailed profile of facts and statistics regarding **SPEEDING**

 Accidents resulting in bodily injuries caused by speeding are more frequent and overrepresented in rural areas.

Area	Accidents resulting in bodily injuries caused by speeding	All accidents resulting in bodily injuries
Residential	17.1%	25.4%
Commercial	20.2%	39.1%
Rural	<b>56.2%</b>	29.1%
Other <sup>1</sup>	6.5%	6.4%

1. The "Other" category includes school zones and industrial, forest and recreational areas.

A greater proportion of accidents resulting in bodily injuries caused by speeding occur in rural areas (56.2%).

It is only in this area that accidents resulting in bodily injuries caused by speeding are overrepresented compared to all accidents resulting in bodily injuries.

Source: Accident reports, 2012.

 Accidents resulting in bodily injuries caused by speeding are more frequent and overrepresented on numbered roads.

Road categories	Accidents resulting in bodily injuries caused by speeding	All accidents resulting in bodily injuries
Highway, service road and collector lane	<b>5.0%</b>	2.9%
Numbered road	<b>56.0%</b>	37.0%
Main road	10.2%	31.0%
Residential street	8.5%	15.3%
Rural road	<b>16.2%</b>	9.0%
Other <sup>1</sup>	4.0%	5.0%

1. The "Other" category includes alleys, parking lots, private properties, private roads, forestry roads, marked trails and others.

Nearly three out of four accidents resulting in bodily injuries caused by speeding (72.2%) occur on numbered roads (56.0%) and on rural roads (16.2%).

Furthermore, three road categories are overrepresented for accidents resulting in bodily injuries caused by speeding: Numbered roads, Rural roads and Highways, service roads and collector lanes.

The ratio of proportions for these three overrepresented categories are:

- ▶ 1.51 for Numbered roads;
- ▶ 1.72 for Highways, service roads and collector lanes;
- ▶ 1.80 for Rural roads.

Source: Accident reports, 2012.



 Accidents resulting in bodily injuries caused by speeding are more frequent and overrepresented between intersections.

Location	Accidents resulting in bodily injuries caused by speeding	All accidents resulting in bodily injuries
At an intersection (less than 5 m)	17.8%	39.7%
Between intersections (100 m or more)	<b>59.9%</b>	36.4%
Near an intersection or roundabout	11.3%	14.1%
Other	11.1%	9.9%

Approximately 60% of accidents resulting in bodily injuries caused by speeding occur 100 m or more away from an intersection (59.9%), whereas 36.4% of all accidents resulting in bodily injuries occur there. Accidents resulting in bodily injuries caused by speeding are therefore overrepresented between intersections, where this type of accident most frequently occurs.

It would seem that accidents resulting in bodily injuries caused by speeding occur when drivers have enough space to accelerate.

Source: Accident reports, 2012

 Accidents resulting in bodily injuries caused by speeding are more frequent and overrepresented where there are no traffic signs or signals.

Traffic signs and signals	Accidents resulting in bodily injuries caused by speeding	All accidents resulting in bodily injuries
No signs or signals	83.0%	65.0%
Presence of signs or signals	17.0%	35.0%

Accidents resulting in bodily injuries caused by speeding are more frequent where there are no traffic signs or signals (83.0% versus 17.0%). Furthermore, these types of accidents are overrepresented in areas without traffic signs or signals compared to all accidents resulting in bodily injuries that occur in this type of environment (proportion of 83.0% versus 65.0%).

Source: Accident reports, 2012.



 Accidents resulting in bodily injuries caused by speeding are more frequent and are overrepresented on roads with a speed limit of 90 km/h.

Half of all accidents resulting in bodily injuries caused by speeding (49.1%) occur in 50 km/h or 90 km/h zones.

Speed limit	Proportion of accidents resulting in bodily injuries caused by speeding	Proportion of all accidents resulting in bodily injuries	Ratio of proportions
Below 50 km/h	2.3%	5.7%	0.40
50 km/h	24.0%	50.6%	0.47
60 km/h	0.7%	1.0%	0.70
70 ou 75 km/h	17.5%	13.0%	<b>1.34</b>
80 km/h	10.8%	5.7%	<b>1.89</b>
90 km/h	25.1%	15.3%	<b>1.64</b>
100 km/h	19.5%	8.7%	<b>2.24</b>

Accidents resulting in bodily injuries caused by speeding occur most frequently on roads with a 90 km/h speed limit. The proportion of these types of accidents (25.1%) is higher on these roads than all accidents resulting in bodily injuries (15.3%) that occur on these roads, which indicates that these accidents are overrepresented. Furthermore, 24% of accidents caused by speeding occur in 50 km/h zones.

As of 70 km/h, proportions of accidents resulting in bodily injuries caused by speeding are greater than proportions of all accidents resulting in bodily injuries. There is therefore overrepresentation in these categories. Overrepresentation is greatest on roads with a 100 km/h speed limit.

Source: Accident reports, 2012.



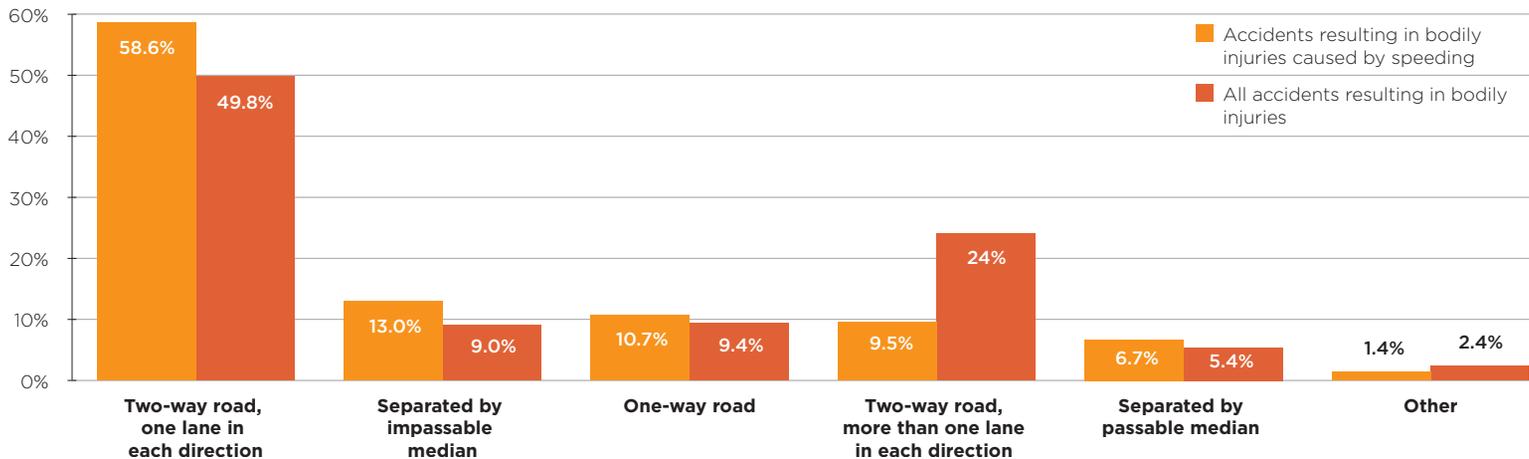
## Accidents resulting in bodily injuries caused by speeding are more frequent and overrepresented on two-way roads with a single lane in each direction.

The most accidents resulting in bodily injuries caused by speeding occur on two-way roads with one lane in each direction, with a proportion of 58.6%. More accidents resulting in bodily injuries also occur on this type of road configuration, with a proportion of 49.8%.

Accidents resulting in bodily injuries caused by speeding are more frequent and overrepresented on two-way roads with a single lane in each direction.

Source: Accident reports, 2012.

### Accidents resulting in bodily injuries according to road configuration



 **Speeding is of particular concern in less populated administrative regions, particularly in the Gaspésie-Îles-de-la-Madeleine, Côte-Nord and Bas-Saint-Laurent regions.**

Administrative region	Proportion of accidents resulting in bodily injuries caused by speeding
Gaspésie-Îles-de-la-Madeleine	37.7%
Côte-Nord	32.5%
Bas-Saint-Laurent	30.7%
Chaudière-Appalaches	29.8%
Nord-du-Québec	29.8%
Centre-du-Québec	28.2%
Abitibi-Témiscamingue	27.3%
Lanaudière	22.3%
Saguenay-Lac-Saint-Jean	21.5%
Capitale-Nationale	21.4%
Estrie	19.9%
Montréal	19.8%
All of Québec	19.1%
Mauricie	19.0%
Laurentides	18.2%
Outaouais	13.2%
Laval	10.6%
Montréal	9.2%

The proportion of accidents resulting in bodily injuries caused by speeding per region is obtained by dividing the number of accidents resulting in bodily injuries caused by speeding by all accidents resulting in bodily injuries whose causes are known. The table on the left lists the administrative regions in decreasing order of this proportion.

The proportion of accidents resulting in bodily injuries caused by speeding is especially concerning in the less populated regions of Québec. This proportion represents more than one out of three accidents in the most affected region (37.7%) and less than one out of ten accidents in the less affected region (9.2%).

The highest proportions of accidents resulting in bodily injuries caused by speeding occur in the Gaspésie-Îles-de-la-Madeleine (37.7%), Côte-Nord (32.5%) and Bas-Saint-Laurent (30.7%) regions. The proportions by region show that a relationship exists between the low population density of a region (lower population and greater area) and the significance of its *proportion of accidents resulting in bodily injuries caused by speeding* (correlation coefficient  $r = -0.6$ ).

The regions where this proportion is lowest are: Montréal (9.2%), Laval (10.6%) and Outaouais (13.2%). These regions are the only three where proportions are below 15%.

Source: Accident reports, 2012.



 Accidents resulting in bodily injuries caused by speeding are more numerous in the Montréal and Montérégie regions.

However, these types of accidents are most overrepresented in the Gaspésie-Îles-de-la-Madeleine and Nord-du-Québec regions.

Administrative region	Distribution of accidents by region		Ratio
	Accidents resulting in bodily injuries caused by speeding	Accidents resulting in bodily injuries	
Gaspésie-Îles-de-la-Madeleine	2.7%	1.3%	2.09
Nord-du-Québec	0.7%	0.4%	1.97
Bas-Saint-Laurent	4.8%	2.8%	1.71
Côte-Nord	2.3%	1.4%	1.68
Centre-du-Québec	5.4%	3.5%	1.55
Chaudière-Appalaches	8.8%	5.8%	1.52
Abitibi-Témiscamingue	3.3%	2.2%	1.50
Lanaudière	8.6%	7.0%	1.23
Saguenay-Lac-Saint-Jean	4.5%	3.8%	1.18
Capitale-Nationale	9.0%	8.1%	1.10
Estrie	4.4%	4.0%	1.09
Montérégie	18.8%	17.7%	1.06
Mauricie	4.5%	4.3%	1.05
Laurentides	7.5%	7.8%	0.97
Outaouais	2.9%	4.5%	0.65
Laval	2.8%	4.9%	0.58
Montréal	9.2%	20.8%	0.44

The table on the left presents the distribution of accidents by region of Québec for accidents resulting in bodily injuries caused by speeding and accidents resulting in bodily injuries.

The proportions of accidents resulting in bodily injuries caused by speeding are greatest in the Montérégie (18.8%) and Montréal (9.2%) regions. However, the magnitude of these proportions is certainly related to the high population in these regions.

To illustrate the significance of speeding as a factor in accidents resulting in bodily injuries by region, we calculated the ratio of these proportions. This indicator reveals that the Gaspésie-Îles-de-la-Madeleine (2.09) and Nord-du-Québec (1.97) regions are the ones where accidents resulting in bodily injuries caused by speeding are most overrepresented.

Source: Accident reports, 2012.



 The regions where speeding offence rates are highest are Nord-du-Québec and Laurentides, and excessive speeding offences are highest in Laval and Montréal.

Administrative region	Rates of offences per 100,000 driver's licence holders - 2012	
	for speeding	for excessive speeding
Nord-du-Québec	<b>16,627</b>	191
Laurentides	<b>15,518</b>	188
Laval	14,387	<b>240</b>
Lanaudière	13,364	203
Outaouais	13,300	115
Estrie	13,150	129
Montréal	13,059	163
Saguenay-Lac-Saint-Jean	12,161	109
Mauricie	12,132	84
All of Québec	11,875	166
Abitibi-Témiscamingue	11,615	135
Gaspésie-Îles-de-la-Madeleine	11,484	157
Chaudière-Appalaches	11,142	117
Centre-du-Québec	10,749	122
Côte-Nord	10,713	133
Bas-Saint-Laurent	9,955	108
Montréal	9,457	<b>238</b>
Capitale-Nationale	8,750	104

Although the number of offences is partly due to resources attributed by police forces for control activities, it remains a reliable statistic to understand the magnitude of the phenomenon. The number of statements of offence served in 2012 was 616,875 for speeding and 8,625 for excessive speeding.

Because the distribution of the number of offences per region is also partly a function of the number of driver's licence holders in those regions, we have used the rates of offences per 100,000 driver's licence holders to reduce the effects of population size. The distribution of rates is presented in the table on the left.

Two regions stand out because of high rates of offences (above 15,000) for speeding per 100,000 driver's licence holders: the Nord-du-Québec region, with a rate of 16,627, and the Laurentides region, with a rate of 15,518, are by far the regions with the highest rates.

With respect to excessive speeding offences, two regions have rates that stand out compared to others: Laval (240) and Montréal (238).

Sources: *Les infractions pour grands excès de vitesse et pour l'utilisation d'un téléphone cellulaire pendant la conduite d'un véhicule routier, 2008-2011.*

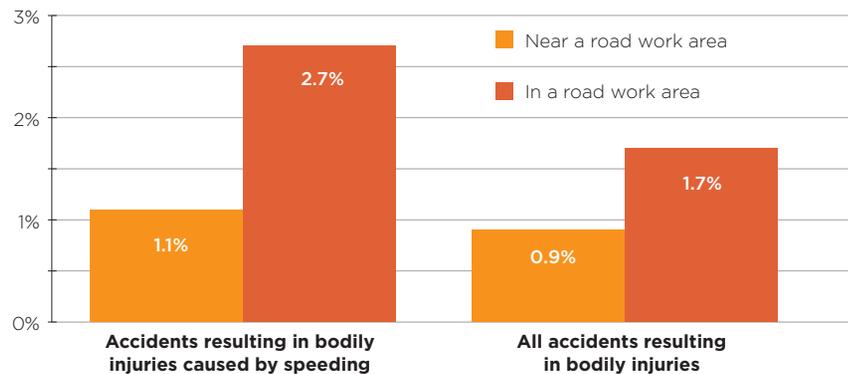
*Les infractions et les sanctions reliées à la conduite d'un véhicule, 2003-2012.*



## Speeding in road work areas is a major concern.

Lanaudière and Nord-du-Québec are the regions where rates of offences for speeding in or near road work areas are greatest.

Distribution of accidents in or near road work areas



Road work areas are special when it comes to speed limits, as limits are lower than usual because of narrower roadways or the presence of workers. Accident reports reveal whether an accident occurred in or near a road work area.

The graph above shows that the proportion of accidents resulting in bodily injuries caused by speeding in or near road work areas is greater than for all accidents resulting in bodily injuries. There is therefore overrepresentation. However, caution is necessary when interpreting these proportions, because these events remain rare and data is based on a small number of accidents.

Administrative region	Rates of offences for speeding during road work - 2012 <sup>1</sup>
Lanaudière	494
Nord-du-Québec	401
Laurentides	377
Bas-Saint-Laurent	359
Mauricie	346
Capitale-Nationale	345
Outaouais	331
Chaudière-Appalaches	326
Centre-du-Québec	312
All of Québec	280
Montréal	273
Saguenay-Lac-Saint-Jean	266
Laval	244
Gaspésie-Îles-de-la-Madeleine	236
Côte-Nord	219
Estrie	218
Montréal	134
Abitibi-Témiscamingue	121

1. Rate calculated for 100,000 driver's licence holders according to the region of residence



# Where?

Detailed profile  
of facts and statistics regarding  
**SPEEDING**

Speeding offences committed in road work areas result in doubled fines. In the case of an excessive speeding offence, special penalties apply.

In 2012, driver's licence holders were convicted of 14,562 speeding offences in or near road work areas. Offence rates per region are presented in the table on the previous page.

Two regions stand out because of their high rates of speeding offences in or near road work areas (more than 400) per 100,000 driver's licence holders. These regions are Lanaudière, with a rate of 494, and Nord-du-Québec, with a rate of 401.

Conversely, the Montréal (134) and Abitibi-Témiscamingue (121) regions have the lowest rates, and are the only regions with a rate below 200.

Sources: *Les infractions pour grands excès de vitesse et pour l'utilisation d'un téléphone cellulaire pendant la conduite d'un véhicule routier, 2008-2013.*

Accident reports, 2012.

