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SPEED REDUCTION FROM 90 KM/H TO 80 KM/H ON FRENCH ROADS : ACCEPTABILITY OF THE MEASUREMENT.

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THIS IS AN AUTOMATIC TRANSLATION. TO CONSULT THE ORIGINAL TEXT PLEASE REFER TO FRENCH VERSION

SUMMARY

In France, since 1 July 2018, the maximum authorised speed has been reduced from 90 km/h to 80 km/h on two-way roads without a central separator. An evaluation was carried out to measure the impact of this measure on various dimensions, including its acceptability to users and the cultural change it brings about. The Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement des territoires (Cerema) was commissioned to carry out this assessment.

The purpose of this article is to present the results of the acceptability of the measure before it is implemented. A questionnaire was distributed to 5310 drivers representing the French population.

The results show that 30% of respondents are in favour of the measure and that 70% intend to respect this new speed limit. Other dimensions are studied, including the effectiveness of the measure, its equity and its ease of application. The follow-up to this research is discussed in the concluding section.

1. BACKGROUND INFORMATION

In France, the decision was taken to reduce the maximum authorised speed from 90 to 80 km/h on two-way roads without a central separator from ¹ July 2018. This decision was accompanied by the desire to draw up an objective evaluation after two years. This mission was entrusted to the Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement (Cerema) by the Délégation à la Sécurité Routière in April 2018.

Cerema, in agreement with the Delegation for Road Safety, has defined an evaluation methodology that must take into account different constraints. The data used must be available "before" and "after" the implementation of the measure in order to be comparable. Where they are missing, an appropriate collection system should be defined, taking into account the size of the network concerned and the principles of proportionality and progressiveness, as prescribed in the 2014 Government Instruction.

The objective of this measure is to reduce the number of fatalities by reducing speeds on two-way roads without a central separator. The methodology defined is based on two main axes:

- an analysis of the evolution of the accidentality and the speeds practiced "before" and "after" the implementation of the measure;
- a detailed analysis to understand the effects of the measure in terms of four themes: speed, accidentality, cultural change and societal effects.

For further information on the general methodology of this evaluation, it is advisable to refer to the article by M. Millot et al.[1] while the societal impact of the measure is developed in the article by V. Buttignol et al.[2].

The purpose of this article is to present the first results concerning the acceptability of the measure two months before its implementation.

2. THEORETICAL ASPECTS

The credibility of speed limits remains one of the main reasons given by drivers for non-compliance with the speed limit[3;4]. *"Credibility means that drivers consider speed limits to be sensible or appropriate to the characteristics and environment of the road"*[5] This concept is consistent with the concepts of "realistic"[6] or "acceptable"[7] speed limits.

The result of this concept is that if drivers consider a speed limit to be unreliable or inappropriate on a stretch of road, they will ignore the regulations and drive at the speed they consider most appropriate[8]. If speed limits are generally not in line with the road infrastructure and environment, public policies to limit speed can be challenged by drivers.

In the light of these elements, studying the acceptability/acceptance of a measure to reduce speed limits makes sense.

2.1. Acceptance of a speed reduction measure

According to a Dutch study, on a road limited to 80 km/h[5], drivers report driving 8 km/h above the speed limit. Such exceeding of the speed limit is in line with other research showing that respondents tend to drive 10% above the speed limit, whether it is 60 km/h or 100 km/h[9].

Exceeding the speed limit by 10% is not considered a risk behaviour by many respondents. Thus, several studies show that as long as drivers feel comfortable and think they have control over their vehicle, they do not consider exceeding the speed limit to be dangerous or morally reprehensible[10]. With regard precisely to the acceptability of reducing speed from 100km/h to 80km/ on dual carriageway roads, 78% of respondents surveyed in an Australian study would be in favour of such a reduction in authorised speed[11]

2.2. Acceptability of speed limits

Driver characteristics have an impact on the acceptability of speed limits. Thus, respondents with a high score on the "sensation seeking" scale[12] are also those with a strong appetite for speed[13].

The search for sensation, which is defined as in particular the tendency to take physical risks in order to feel intense emotions[12], is positively correlated with the number of

offences sanctioned, the number of accidents and the number of kilometres driven annually[5]. Similarly, this intra-individual characteristic is related to the age of the respondents. For example, young drivers tend to be more interested in thrills at the wheel[14]. Regarding the gender of respondents, the results are mixed although the vast majority of research shows that men report driving faster than women[15;16].

Standards (especially descriptive standards) also seem to play a role in the speeds used, more specifically the speeds used by other drivers. Thus, a driver who thinks that the drivers he observes on the road do not respect the speed limit will be more likely not to respect such a speed limit himself[17]. Similarly, Swedish drivers say that it is more important to drive like others than to respect the speed limit[18].

The reasons given for not respecting the speed limit are an underestimation of the danger of speed as mentioned above.

However, other motivations are put forward such as saving time and therefore arriving earlier at the destination (for 32% of drivers[19]) or in any case not arriving late (57% of research respondents[20]). Thus, drivers will underestimate the time saved for a speed going from 50 km/h to 60 km/h but will overestimate this time saving for a speed going from 85 km/h to 110 km/h.

On the other hand, a positive impact in terms of reducing the number of accidents but also their severity seems to be a convincing argument[11].

One of the consequences of an increase in speed is an increase in fuel consumption. For example, for 86% of respondents in a Canadian study[20], driving at 110 km/h instead of 100 km/h leads to an increase in fuel consumption. In addition, more men than women report that increased fuel consumption is one of the disadvantages of driving fast (20% of men).

In terms of environmental impact, only 6% of respondents spontaneously state that speed can have an impact on the environment.

When this information is brought to their attention, only 45% believe that speed can have an impact on the environment[20]. According to a literature review[21], if drivers believe that speed can generate noise pollution and have a negative impact on the environment, these elements have very little impact on their decision to drive at a higher or lower speed.

2.3. Leverages to improve compliance with speed limits

- Infrastructure

As mentioned above[5], infrastructure, traffic and weather conditions undeniably influence the acceptability of a speed limit.

Different authors demonstrate differences between the acceptability of a speed limit and the characteristics of the road. Thus, the absence of bends[5;22], housing along the road, good visibility[5;22] and the absence of obstacles or vegetation on the right side of the road[5] contribute to high speed.

However, other factors must also be taken into account, such as weather or traffic conditions[23].

- Repressive policies

One of the last elements in getting the driver to comply with speed limits is repressive policies[24;25]. Automated sanction control" has made it possible to encourage drivers to

reduce their speed, particularly in France[26]. A distinction is made between specific and general deterrence[27]. The first concerns the effect of enforcement action on drivers who have already been sanctioned. The aim is therefore to prevent a recurrence of the offence. General deterrence aims to encourage drivers to comply with a majority of traffic regulations. It concerns all road users. However, "a specific effect can help to reinforce a general effect"[27]. Thus, the increase in the severity of penalties, which initially concerns only infringing users, has a dissuasive effect on other road users, who will adopt behaviour that complies with the rules of the highway code. Cestac et al[27] detail and explain the complementarity of these two processes.

- Communication

While repression seems to be one of the most effective levers, education, which includes training and communication campaigns, remains a lever not to be neglected. Moreover, modifying only road signs is not enough to modify the speeds used[28]. Such a measure must be accompanied by communication actions.

3. METHOD

3.1 Objective

As mentioned above, studying the acceptability of this measure will make it possible to understand the behaviours observed in terms of speed and accidentality. Various studies show an evolution of acceptability once respondents have had experience with measurement, in short once they have been confronted with it, hence the importance of studying measurement before (acceptability) and after (acceptance) its implementation. Longitudinal monitoring seems all the more relevant to us because societal events can have an impact on the perception of a measure (for example, the increase in fuel prices, etc.).

The objective of this article is to present the results of the first wave of surveys conducted before the implementation of the measure. 1 to 2 waves of surveys are planned for the end of 2019.

3.2 Methodology

Different dimensions, based on the elements from the literature, will be studied in this study:

utility: the more useful a device is perceived as useful, i.e. as meeting a societal need, the more accepted it will be[29]. In road traffic rules, perceived utility is an important determinant of their acceptability. In short, does the public policy implemented meet a need? Returning to the acceptability of a reduction in speed, is there a problem of road safety related to speed for the French population?

Usability: this idea corresponds to the ease of use of a system, which will also determine the acceptance of the system by users. It is divided into several sub-dimensions: **effectiveness, satisfaction and ease of application[29]** Thus, a road safety rule will be all the more acceptable, as it is perceived by road users as effective (a 10 km/h reduction in the limit will reduce accidents), satisfactory (it does not create too much discomfort) and easy to apply ("reducing speed is not too difficult").

perceived equity: a measure will be all the more acceptable if it concerns all users. The importance of this factor is particularly relevant to the study of automatic control but is not studied by researchers interested in speed reduction.

the social environment: the acceptability of a rule can also be influenced by the individual's social environment[30]. As mentioned above, social norms play a role in the acceptability of public policy. The more the driver notices that other drivers comply with this new regulation (descriptive injunctive standard) and the more his relatives will encourage him to comply with it (injunctive standard) the more the driver will comply with this new regulation.

behaviour: the acceptability/acceptance or non-acceptability/acceptance of a public policy is reflected in behaviour, more precisely, in the achievement of consistent (users have complied) or inconsistent (users do not comply with the new limitation) behaviour with the new regulations but also in circumvention strategies (changing routes, using radar warning devices, changing travel modes by favouring carpooling or public transport, for example).

The various dimensions presented above, breaking down the notion of acceptability, were translated into a questionnaire that was distributed by a French polling firm to a representative sample of the French population. To this end, demographic issues (age, gender, etc.) have been introduced. Almost all questions are closed questions.

3.3. Population

The questionnaire was distributed between the end of April and May 2018, two months before the implementation of the measure, to 5,310 respondents aged 18 and over

These respondents have the following characteristics:

- 52.9% female (N=2809) and 47.1% male (N=2,501)
- the average age is 47.13 years
- concerning the mode of transport most used on a two-way road in the last 6 months:
 - the car is still used by the majority of respondents: 83.7% or 4,446 people;
 - public transport by 6.3% or 334 people;
 - the bicycle by 7.1% or 380 people;
 - two-wheelers powered by 2.5% or 138 people.
- the respondents reside:
 - 22.5% of them in a rural area (1193 people);
 - 18.1% of them in a city with a population of less than 20,000 (957 people);
 - 13.6% in a city with a population of between 20 and 100,000 (724 people);
 - 29.9% in a city with a population of more than 100,000 (1,590 people);
 - and 15.9% in the Paris conurbation (846 people).

4. RESULTS

4.1. General attitude

Respondents were on average against the measure: 40% were totally opposed to the measure and 30% were somewhat opposed.

Averaging this variable is useful for us to establish the link between the general attitude of respondents and the variables studied presented in the following paragraphs. The average is 2.01 on a 4-point scale (standard deviation =1.01), ranging from 1, quite opposite to 4, quite favourable. In summary, consistent with the previous results, respondents were on average "somewhat opposed to the measure".

4.2 Gender

Women have a more favourable attitude to measurement than men. Their average attitude is 2.07 (N=2809) unlike men who have a more negative attitude with an average of 1.93 (N=2501)[F(1;5308)=24.35; p=0.000001].

4.3 Age

The results show that the older the individuals, the more favourable they are to the measure. The correlation between these 2 variables is positive and statistically significant ($r^2=0.04$, $p \leq .05$).

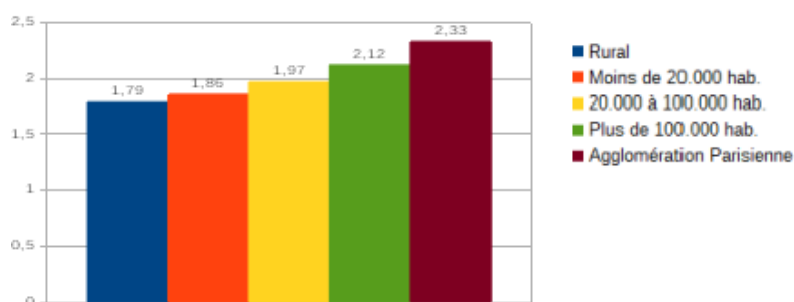
4.4 Area of residence

The denser the areas of residence, the more favourable the respondents are to the measure.

Figure 1 shows that there is no difference to be observed between users residing in a municipality with a population of 20,000 to 100,000 and those residing in municipalities with a population of less than 20,000 and rural residents. On the other hand, the other categories differ from each other.

In summary, the denser the areas of residence, the more supportive respondents are of the measure.

Figure 1 - Distribution of respondents by area of residence according to their adherence to the measure



4.5. Knowledge of the measurement

This measure has been translated into a three-point scale; 1: "no"; 2: "yes I see but not precisely what it is", 3: "yes I see precisely what it is". The results show that respondents who are not familiar with the measure (M=2.45) have a more positive attitude than those who do not see precisely what the measure consists of (M=2.31; F(1;5308)=24.98; $p=0.00001$) and those who are familiar with it precisely (M=1.98; F(1;5308)=21.099 ; $p=0.000004$).

4.6. Overtaking by 10 km/h and risk of accident

The results show that the more supportive respondents are of the measure, the more they consider that there is an increased risk of accidents if the speed limit is exceeded by 10 km/h ($M=2.23$) ($r^2=0.55$, $p<0.05$).

4.7. Effectiveness of the measurement

The objective here is to determine whether there is a link between the effectiveness of the measure and the attitude towards the measure. To do this, respondents were asked to rank on a 4-point scale on each of the impact points (1, no, certainly not; 2, no, probably not, 3, yes, probably and 4, certainly).

First, the effectiveness of the measure has a strong impact on the acceptability of the measure since it explains 60% of the attitude towards the measure [R^2 ajust=0.60 $F(16, 3950)=382.5$; $p<0.00000$]. However, it should be noted that environmental arguments are among the least damaging (see Table 1).

Table 1- Impacts of the measure as a function of membership (Review the format below to save space! Remove the chips)

Negative factors	Neutral" factors that do not appear in the analysis as statistically significant	Positive factors
<p>increase the risk of dangerous exceedances ($\beta=-0.04$; $t=-4.73$; $p=0.0002$)</p> <p>increase the risk of being sanctioned ($\beta=-0.09$; $t=-8.87$; $p=0.000$)</p>	<p>reduce the risk of collision because the stopping distance will be less ($\beta=0.0008$; $t=-0.05$; $p=0.95$)</p> <p>reduce fuel consumption ($\beta=-0.0009$; $t=-0.06$; $p=0.94$)</p> <p>reduce pollutant emissions ($\beta=0.005$; $t=0.75$; $p=0.45$)</p> <p>facilitate traffic flow ($\beta=0.09$; $t=0.38$; $p=0.69$)</p> <p>reduce frontal shocks ($\beta=0.02$; $t=1.61$; $p=0.10$)</p> <p>easily inserted ($\beta=0.02$; $t=1.35$; $p=0.17$)</p>	<p>reduce the number of deaths ($\beta=0.21$; $t=9.73$; $p=0.0000$)</p> <p>reduce the number of injuries ($\beta=0.11$; $t=-5.37$; $p=0.000$)</p> <p>reduce the number of material accidents ($\beta=0.11$; $t=5.90$; $p=0.000$)</p> <p>reduce the severity of accidents ($\beta=0.08$; $t=4.61$; $p=0.0004$)</p> <p>reduce the risk of collision because your field of vision will be smaller ($\beta=0.08$; $t=5.19$; $p=0.0000$)</p> <p>reduce the speeds practiced ($\beta=0.10$; $t=7.41$; $p=0.0000$)</p> <p>reduce off-road vehicle trips ($\beta=0.05$; $t=3.26$; $p=0.001$)</p> <p>facilitate intersection manoeuvres ($\beta=0.03$; $t=2.18$; $p=0.03$)</p>

4.8. Compliance with the measure

4.8.1. Frequency of compliance

The scale was coded in 5 points (1 never; 5 systematically). The more respondents agree with the measure, the more they report that they intend to comply with the measure ($M=2.92$; $r^2=0.44$ $p\leq 0.05$). 12.4% of respondents did not wish to answer this question ($N=659$) (see Table 2).

Table 2- Distribution of respondents according to their intention to comply with the measure

according to their adherence to the measure

	Quite the opposite	Somewhat opposite	Somewhat favourable	Completely favourable	
Never ever	6,1 % (N=120)	0,4 % (N=5)	0,2 % (N=5)	0,9 % (N=4)	131 (2,8%)
Rarely does it happen	15,6 % (N=309)	0,2 % (N=28)	0,6 % (N=5)	0,5 % (N=2)	344 (7,4%)
Sometimes	21,3 % (N=420)	10,1 % (N=140)	38 % (N=32)	1,8 % (N=8)	600 (12,9%)
Most of the time	39 % (N=770)	57,1 % (N=793)	54,5 % (N=462)	24,8 % (N=109)	2134 (45,9%)
Systematically	18 % (N=356)	30,5 % (N=423)	40,9 % (N=347)	72 % (N=316)	1442 (31%)
	100 % (N=1975)	100 % (N=1349)	100 % (N=848)	100 % (N=439)	4651 (100%)

4.8.2. Reasons for the intention to comply with the measure

Respondents who answered "consistently" or "most often" were asked why they intend to comply with the measure. For this purpose, a list of items was proposed to them from which several could be selected.

The analysis below aims to compare the responses provided by respondents who plan to comply with the measure "most often" and "systematically".

Respondents intending to comply with the measure "most often" and "systematically" differ on the following items:

- "always respects the highway code": 51% "most often" (N=1098/2134) and 72% "systematically" (N=1038/1442) (Chi2=150 ; p=1.16 e-34)
- "pay attention to pedestrians": 22% "most often" (N=471/2134) and 24.8% "systematically" (N=359/1442) (Chi2=3.85; p=0.04)
- "responsible for my passengers" 26.6% "most often" (N=569/2134) and 33.4% "systematically" (N=482/1442) (Chi2=18.96; p=1.33 e-5)
- "does not like to drive fast" 12.8% "most often" (N=275/2134) and 18.5% "systematically" (N=267/1142) (Chi2=1.33 ; p=1.33 e-14)

On the other hand, with regard to fear of punishment, more users who plan to comply with the measure "most often" (N=1303/2134; 61%) reported having this type of practice than did "systematically" (N=548/1442; 38%) (Chi2=183,20; p=9,67 e-42).

With respect to the following items, there is no difference between users who report that they intend to comply with the measure "most often" and "systematically":

- "Fuel savings": 8.7% "most often" (N=187/2134) and 7.14% "systematically" (N=103/1442) (Chi2=3.03 ; p=0.082).
- "4.1% "most often" (N=88/2134) and 5.2% "systematically" (N=75/1442) (Chi2=12.29; p=.13).
- The "allows you to drive slower": 2% of respondents "most often" (N=44/2134, 2%) and 1.9% of respondents "systematically" (N=28/1442) (Chi2=0.07 ; p=0.08).

4.8.3. Reasons for the intention not to comply with the measure

Respondents who answered "sometimes", "rarely" or "never" were asked the reasons given for not complying with the measure. For this purpose, a list of items was proposed to them and they could select several of them.

The analysis below compares the responses provided by respondents intending to comply with the measure "sometimes", "rarely" and "never".

Users "rarely" differ on the following items from users "never":

- on "having little chance of being controlled": 3% of "never" (N=4/131) and 10.7% of "rarely" (N=37/344) (Chi2=7.14; p=0.007); "I am in a hurry": 8.4% of "never" (N=11/131), 14% of "rarely" (N=76/344) (Chi2=11.89 ; p=0.0005)
- "no risk, I control my vehicle": 26% of "never" (N=50/131) vs 36.9% of "rarely" (N=127/344) (Chi2=13.54 ; p=0.00002)

Users "sometimes" differ from users "never" on the fact of liking to drive fast: 26% of "never" (N=20/131) and 8.6% of "sometimes" (N=8.6%) (Chi2=5.27; p=0.02) and users "rarely" on vehicle control no risk : 36.9% "rarely" (N=127/344) (Chi2=13.54; p=0.00002) and 30.3% "sometimes" (N=182/600) (Chi2=53.84; p=2.15e-13).

On the other hand, no difference appears on the other items:

- "the road allows me to go fast": 35.1% of "never" (N=46/131), 32.2% of "rarely" (N=111/344) and 35% of "sometimes" (N=210/600)
- "I am caught in a stream of vehicles": 27.5% of "never" (N=36/131), 31.6% of "rarely" (N=109/344) and 30.6% of "sometimes" (N=184/600)
- "while driving fast I am less embarrassed": 13.7% of "never" (N=18/131), 13.3% of "rarely" (N=46/344) and 10.1% of "sometimes" (N=61/600)

4.9. Equity: attitude towards young and heavy goods vehicle drivers

Since the speed allowed by young and heavy goods vehicle (HGV) drivers was before the introduction of 80 km/h, the aim here was to ask respondents about the relevance of reducing the speed of these two categories of road users. In short, the authorized speed must be less than 80 km/h.

The results show that the more respondents support the measure, the more they would support a speed reduction for young drivers ($r^2=0.34$ $p \leq 0.05$) and also for heavy goods vehicles ($r^2=0.34$ $p \leq 0.05$).

4.10. Ease of use

A measure will be all the more acceptable if it is considered easy to apply. To test this, we asked respondents to what extent compliance with this new regulation is perceived as easy for them but also for other drivers.

The results show that the more supportive users are of the measure, the easier they find it to apply themselves ($t=41.37$; $p=0.00$) ($M=2.48$) but also the easier it will be for others to comply ($t=-10.177$; $p=0.00$) ($M=2.14$).

4.11. Travel time

As we have read in the press, a recurring argument concerns lost time. Respondents were asked to evaluate the impact of the measure on their travel time on their typical trip. 6 response modalities were proposed ranging from 1 - the travel time will be reduced - to 6 - the additional travel time will be more than 20 minutes.

The 4 categories of answers are different from each other. In summary, the more supportive respondents are of the measure, the less likely they are to think it will waste their time (see Table 3).

The "opposite" ("completely opposite" and "rather opposite") users consider that the measure will cause them to lose between less than 5 minutes and between 5 and 10 minutes. On the other hand, favourable users ("quite favourable" and "rather favourable") estimate that the time lost would, in the worst case scenario, be less than 5 minutes. Knowing that the average journey length is between 20 and 30 km, unfavourable users therefore estimate that the loss of time will be in the order of 10 to 15s of a kilometre. For favourable users, it will be less than 10s of a kilometre.

Table 3: Impact of the measure on travel times according to the degree of adherence to the measure on a scale from 1 (reduced travel time) to 6 (additional travel time greater than 20 minutes)

	Quite the opposite	Somewhat opposite	Somewhat favourable	Completely favourable
Travel time	3,64	3,35	2,82	2

4.12. Adaptation strategies

In order to evaluate the strategies considered by respondents following the implementation of the measure, different strategies were proposed to respondents who could choose several.

Respondents who are "strongly opposed" to the measure are more likely to report that they do not intend to change their habits.

There are more respondents who are "somewhat opposed to the measure":

- to declare that they intend to use a speed limiter more than other respondents;
- not to change their habits. However, fewer of them have chosen this option than "completely opposed" users.

There are fewer of them in:

- declare carpooling;
- to use other modes of travel such as 2WD.

Respondents who were "somewhat in favour of the measure" were more likely to report:

- intend to use a speed limiter only by "completely opposed" and "rather opposed" users. However, they do not differ from "completely favourable" users;

- intend to use other modes of travel than the "completely opposite" and "rather opposite" users. However, they do not differ from "completely favourable" users;
- intend to carpool and use a 2WD that "opposite" ("completely opposite" and "rather opposite") users but less than "completely favourable" users);
- use other modes of travel such as public transit than the "opposite" ("completely opposite" and "rather opposite") respondents. The percentages are roughly equivalent between the "very positive" and "somewhat positive" respondents.

Fewer of them report:

- intend to use a speed limiter only by "completely opposed" and "rather opposed" users. However, they do not differ from "completely favourable" users;
- not intend to change their habits than the "opposite" ("completely opposite" and "rather opposite") users but more than the "completely favourable" users;
- to report using other modes of travel such as public transit than the "opposite" ("completely opposite" and "rather opposite") respondents. The percentages are roughly equivalent between the "very positive" and "somewhat positive" respondents.

Respondents who were "strongly in favour of the measure" were less likely to report that they intended to use a speed limiter or not change their habits.

More of them are reporting:

- intend to use other modes of travel, carpool or use a 2WD;
- use other modes of travel such as public transit than the "opposite" ("completely opposite" and "rather opposite") respondents. The percentages are roughly equivalent between the "very positive" and "somewhat positive" respondents.

5. DISCUSSION

5.1. CONCLUSION

According to the literature, for such a policy to be accepted, drivers must have been aware of a road safety problem (accidentality) resulting from a specific behaviour (speed). They must also consider that the public policy put in place is effective, fair and easy to apply and be prepared to comply with the standards and instructions set by that public policy[32].

The majority of respondents are opposed to the measure, specifically 40% are "strongly opposed" while 30% are "somewhat opposed". According to the literature[15;16], these are mainly men and rather young. The most unfavourable respondents to the measure are also those who believe that a "low" exceeding the speed limit, i.e. 10km/h above the authorised speed, is not a risk factor. Such a result is consistent with those found in other countries but also in France[33].

In any case, it is the effectiveness in terms of reducing accidentality but also the severity of accidents and speeds practised that influences the acceptability of the measure in accordance with the above-mentioned work[11]. On the other hand, and in line with Elvik's (2010) work, environmental factors in terms of reduced fuel consumption and pollutant emissions have no impact on acceptability.

In terms of usability, i.e. the ease of complying with this new limitation, it should be noted that the more respondents are in favour of the measure, the easier they consider it to reduce their speed. However, this seems easier for them than for other drivers. We therefore find here a phenomenon known in social psychology as "the self-indulgence bias"[34].

For those most in favour of the measure, this reduction in speed should also apply to young and HGV drivers, who will continue to drive at 80 km/h. On the other hand, the least favourable drivers believe that reducing the speed limit for these subcategories of road users is not desirable. This result is not surprising since they consider that a slight exceeding of the speed limit is not a risk factor.

On the other hand, these respondents, i.e. the most hostile to the measure, tend to overestimate the time lost, which they estimate to be between 5 and 10 minutes for a journey of between 20 and 30 km. However, the results presented by V. Buttignol et al[2] suggest that the time lost, on a trip that includes a majority of two-way roads without a central separator, is in the order of one second per kilometre, or 20 to 30 seconds for a trip of 20 to 30 km.

While the vast majority of respondents say they do not agree with the measure, more than 70% of respondents say they intend to comply "most often" or "systematically" with the future speed limit. The reasons given mainly concern compliance with the highway code and fear of punishment. Fuel savings and pollution reduction are reasons given by less than 5% of respondents. Concerning the 10% of respondents who state that they intend to comply with the new limitation only "never" or even "rarely", the reasons given concern "the road" (the road allows me to go fast), the control of one's vehicle and the fact of being caught in a flow of vehicles. In short, based on previous studies, the reasons given for this sub-population of respondents relate to the impact of infrastructure, over-confidence in driving ability and the behaviour of other drivers (the descriptive standard).

While a large majority of respondents state that they intend to comply with the measure, the drivers who are least in favour of the measure are those who say they do not want to change their travel practice but are willing to use a speed limiter. The most favourable users, on the other hand, are considering other modes of travel.

5.2. ACTION TO BE TAKEN

Logically, we assume that the users most likely to change their attitude towards the measure more positively are the "rather opposite" users. According to some authors, drivers tend to oppose lowering the speed limit, although most of them gradually accept the new limit[32]. The survey waves that will be conducted after the implementation of the measure will allow us to test this hypothesis.

In addition, the analyses to be carried out in the following waves will make it possible to provide information on the acceptance of the measure, its evolution and the cultural changes induced, but also to enrich the results from the other components of the evaluation, presented in the paper by M. Millot et al.[1], in order to assess this measure as comprehensively as possible.

In any case, it should be borne in mind that it seems difficult or even impossible to have a speed limit that is acceptable to all drivers in view of the large disparities in terms of acceptable speed for the same road situation. These distinctions are due to intra-individual differences (e.g. personality traits)[5].

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