

***A STUDY INTO THE ECONOMIC, ENVIRONMENTAL, AND TRAFFIC IMPACTS OF A SUNDAY DRIVING BAN FOR HGVS IN THE WALLOON REGION***

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***Abstract.*** *14 out of the 27 countries of the European Union do not allow heavy goods vehicles to travel in their territories on Sundays, each by its own specific regulations. Among Belgium's neighbour countries only the Netherlands have not taken such a measure, since Luxembourg and Germany followed the example of France on 1st May 1997.*

*For many years Belgium and the Walloon Region have undergone the consequences of this situation. Although HGV traffic is reduced on Sundays, vehicles in transit have been observed to accumulate on parking areas close to the borders, with excess arrivals occupying nearby entry slip roads, emergency stopping lanes, and other roads. An additional safety problem arises when all these vehicles resume their journeys as soon as the driving ban expires in the neighbour countries.*

*In May 2010, the Belgian Road Research Centre was commissioned by the Service Public de Wallonie to assess, in cooperation with the consultancy firm Transport & Mobility Leuven, the economic, environmental, and traffic impacts of such a prohibition in the Walloon Region. Although several countries have enforced a driving ban, very few are able to justify the reason for such a measure and even less to specify its impacts. As early as in 1998 Europe regretted this lack of assessment of the actual economic, environmental, and social consequences of driving bans.*

***Keywords:*** HGV, Sunday driving ban, safety, sustainable mobility

## **1. Introduction**

14 out of the 27 countries of the European Union do not allow heavy goods vehicles to travel in their territories on Sundays, each of them by its own specific regulations. Among Belgium's neighbour countries only the Netherlands have not taken such a measure, since Luxembourg followed the example of Germany and France on 1st May 1997.

For many years Belgium and the Walloon Region have undergone the consequences of this situation. Although heavy-goods vehicle (HGV) traffic is reduced on Sundays, vehicles in transit have been observed to accumulate on parking areas close to the borders, with excess arrivals occupying nearby entry slip roads, emergency stopping lanes and other roads. An additional safety problem arises when all these vehicles resume their journeys as soon as the driving ban expires in the neighbour countries.

In this context, the regional Walloon policy declaration for 2009-2014 entitled "*Une énergie partagée pour une société durable, humaine et solidaire (Shared energy for a sustainable, human and solidary society)*" provides, in the section on developing sustainable goods transport of its chapter on promoting sustainable mobility for all, for a study into the possibility of introducing a Sunday driving ban on HGVs, in consultation with the Belgian or even the European level. A decision to prohibit driving is, indeed, a federal matter, whereas the provision of parking facilities is the competence of the regions.

In May 2010, the Belgian Road Research Centre was commissioned by the directorate for the economic and environmental impacts of roads within the operational general directorate for roads and buildings of the "*Service Public de Wallonie*" to evaluate, in cooperation with the consultancy firm Transport & Mobility Leuven, the economic, environmental, and traffic impacts of such a prohibition in the Walloon Region. Although several countries have introduced a driving ban, very few are able to justify the reason for such a measure and even less to specify its impacts. As early as in 1998 Europe regretted this lack of evaluation of the actual economic, environmental, and social consequences of driving bans.

The study first analysed foreign practice in this field, in order to develop in consultation with the Service public de Wallonie a series of working hypotheses consistent with the applications beyond the border. They provided the basis for evaluating the consequences of a prohibition measure.

The working method used consisted, on the one hand, in interviewing most of the Belgian actors closely or remotely affected by such a measure (transporters, shippers, other transport modes, ...). On the other hand, using their reflections as well as information and data collected at the regional,

national and international levels, a second stage consisted in quantitatively evaluating certain impacts by means of the transport model TREMOVE developed by the consultancy firm TML.

The quantitative evaluations or, where not possible, the qualitative assessments obtained from this study should make it possible to support the position of the regional authorities on a possible driving ban with objective arguments.

## 2. Methodology

The methodology used aims at quantitatively evaluating or, where not possible, qualitatively assessing each impact of this ban, with a view to replying, at the completion of this study, as objectively as possible to the question what would be the consequences of a Sunday driving ban on HGVs in the Walloon Region.

This methodology was built around two important principles.

- 1) The analysis of foreign practices: this consisted, on the one hand, in analysing existing foreign literature and experience with Sunday driving bans on HGVs and, on the other, in analysing the measures taken by the countries of the European Union for such bans, so as to be able to suggest consistent working hypothesis to be used as a basis for the study.
- 2) Data acquisition: four types of data were used in addition to the foreign data described above.
  - **Qualitative data obtained from the actors involved:** face-to-face or telephone interviews were taken from some thirty actors directly or indirectly affected by a driving ban (actors in Belgian road transport, shippers in Belgium, representatives of other transport modes in Belgium, managers of multimodal freight terminals and motorway parking areas, ...). The list of these actors is appended to this synthesis.
  - **Quantitative data from SPW:** this data relates to the parking capacities of rest and service areas along Walloon motorways. It was collected in June 2009.
  - **Quantitative data from the Belgian federal service of mobility and transport:** this data includes the number of kilometres/vehicle per hour and the average speed per hour for an average hour in the morning, during the day, in the evening and at night; it covers all the regions in Belgium for the year 2007.
  - **Quantitative data from TREMOVE 2007.** The following data obtained with this simulation model were used in the study:
    - average vehicle speeds;
    - profiles of speed versus emission factor (derived from COPERT IV1);
    - vehicle fleets (cars, HGVs).

This set of quantitative and qualitative data was used as a starting point to evaluate the impacts of a Sunday driving ban on lorries in Wallonia.

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<sup>1</sup> <http://lat.eng.auth.gr/copert/>

### **3. Analysis of foreign practices**

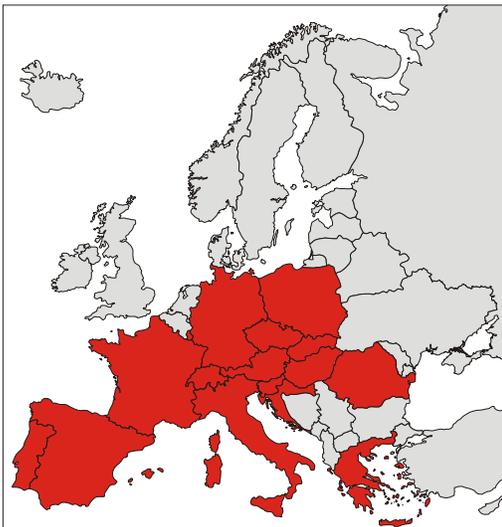
**The analysis of literature and foreign experience** revealed that none of Belgium's neighbour countries had any specific studies or numerical data to evaluate the consequences of a driving ban on lorries in its territory. Only the European Commission emphasizes a series of adverse consequences of such a measure, while recognizing that little objective data is available to substantiate these findings.

The reasons invoked – if they are known – to justify the implementation of such measures are, therefore, manifold:

- environmental aspect (Germany);
- safety aspect (France, Luxembourg, Germany);
- social aspect (France, Germany);
- parking issues (Luxembourg).

**The analysis of measures taken by the countries of the European Union** for driving bans on HGVs revealed the existence of a vast number of such measures in European countries. Whereas some countries, like Belgium, ban such vehicles from certain well-demarcated urban areas (local prohibitions)<sup>2</sup>, others implement this type of driving ban throughout their territories (general prohibitions). 16 out of the total of 29 countries analysed (Europe of 27 plus Switzerland and Croatia) have this type of general prohibition measure, as shown on the map below.

**Figure 1**



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<sup>2</sup> Another example is Great Britain, which prohibits the driving of HGVs in the London area only, by well-defined regulations.

As each county has its specific features both for the type and the field of application of prohibition measures, a detailed analysis of the various measures to prohibit the driving of HGVs had to be made first. When this analysis was completed, working hypotheses consistent with the other countries were suggested. These hypotheses were used as a basis for conducting the study.

#### 4. Working hypotheses

The working hypotheses considered in this study after validation by the Service Public de Wallonie were as follows:

- **Banning hours:** 10 p.m. on Saturday to 10 p.m. on Sunday.
- **Tonnage above which the prohibition applies:** vehicles with a maximum permitted mass greater than 7.5 tonnes, used for goods transport;
- **Possible waivers:** vehicles transporting perishable goods and living animals.
- **Roads concerned:** the whole road network (regional, provincial, municipal).
- **Additional days for application (public holidays, very busy summer periods, ...):**

10 p.m. on the day before the public holiday to 10 p.m. on the public holiday considered;

7 a.m. to 7 p.m. one five Saturdays in July and August (summer prohibitions);

Prohibition restricted to Belgium, or prohibition involving the Netherlands as well, or prohibition all over Europe: restricted to Belgium.

These hypotheses are contained in the following concise statement.

**All goods transport vehicles with a maximum permitted mass greater than 7.5 tonnes are prohibited to travel in Belgium on the whole Belgian road network from 10 p.m. on Saturdays to 10 p.m. on Sundays. Additionally, on public holidays this prohibition shall apply from 10 p.m. on the day before the holiday to 10 p.m. on the public holiday considered. Finally, summer prohibitions shall apply from 7 a.m. to 7 p.m. on five Saturdays in July and August.**

This rule is waived for vehicles transporting perishable goods and living animals.

When considering the year 2010, the implementation of these Belgian prohibition measures would have resulted in banning HGVs from our roads for a total of **65 days**:

- Saturday 10 p.m. – Sunday 10 p.m.: 51 days;
- Public holidays not falling on a Sunday: 9 days (1/01, 5/04, 1/05, 13/05, 24/05, 21/07, 1/11, 11/11, 25/11);
- Saturdays in the summer period: 5 days.

## **5. Analysis of the impacts of a Sunday driving ban on HGVs in the Walloon Region**

The measure to prohibit HGVs to travel on Sundays can be viewed in the more general context of “developing sustainable goods transport” as stated in the Walloon regional policy declaration for 2009-2014. Consequently, the potential impacts of this prohibition measure identified at the outset of the study (16 in total) were shared out between the three aspects or pillars (“3 P’s”) of sustainable development: economic impacts (Prosperity), environmental impacts (Planet) and social impacts (People).

### **5.1. Economic impacts**

#### 5.1.1. Impact on the modal split of transport

This impact was evaluated using information collected from the actors involved.

The latter rated the modal shift from road to waterway as negligible or even nonexistent, for various reasons including:

- the Sunday ban on river transport;
- the fact that this measure will have little effect if it is not combined with others (e.g., financial incentives);
- break of load issues;
- the high density of the road network and the strong competitiveness of road transport.

Modal shift from road to rail was also rated as negligible or nonexistent by the actors, for the following reasons:

- the low railway activity on Sundays;
- the inadequate geographic coverage of the territory by rail;
- the inefficient management of single wagons;
- the high density of the road network and the strong competitiveness of road transport.

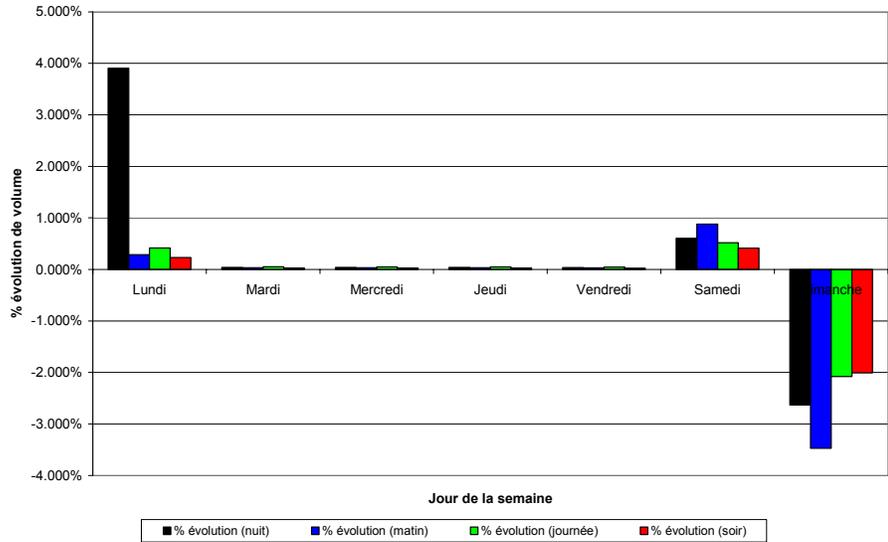
In view of these multiple reactions collected during interviews, the modal shift to waterway and rail triggered by a Sunday driving ban on HGVs was set at **1 % of the goods transport by road** on Sundays. This percentage was approved by most of the actors surveyed.

#### 5.1.2. Impact on total motorway traffic

Various results were obtained from the information provided by both the actors involved and the regional and federal authorities.

**As far as the volume of motorway traffic is concerned**, prohibiting HGVs to travel on Sundays would, according to the graph presented below, **cause this volume to increase mainly during**

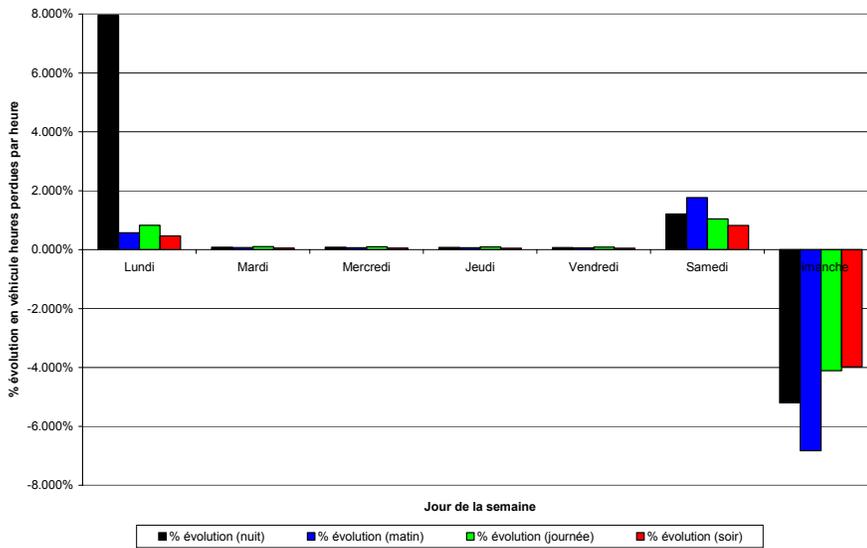
**the night to Monday, by about 4 %.** More precisely, from the information gathered in the various interviews it appears that this increase would be **concentrated mainly on the night from Sunday to Monday (10 p.m. to 6 a.m.).**



**Table 1**

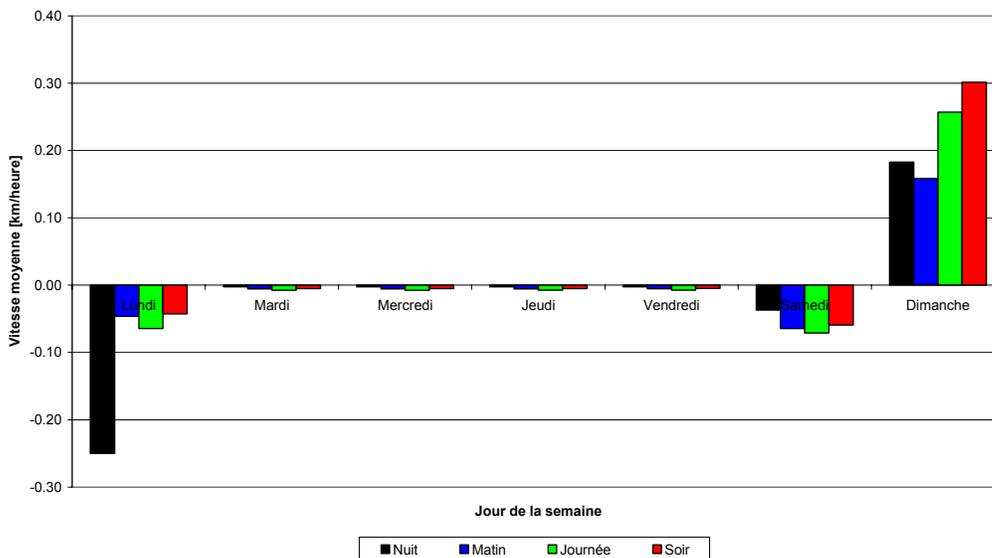
**As for journey times before and after the ban,** estimates indicated that **no significant changes would be experienced in average journey times.**

**With respect to traffic congestion** expressed in hours lost, the graph presented below shows that **according to the interviews the loss of hours would be greatest – of the order of 8 % – on the night from Sunday to Monday (10 p.m. to 6 a.m.).** This means that the increase would occur during off-peak hours, when traffic density is lower. Consequently, no influence on congestion periods is to be expected.



**Table 2**

Finally, after the ban **the average speeds driven by motorists would change by up to about 0.3 km/h**. On Mondays the average speed would decrease by 0.05 to 0.25 km/h and on Sundays it would increase by up to 0.3 km/h. These changes are marginal.



**Table 3**

### 5.1.3. Impact on foreign policies

An assessment was made for Belgium's neighbour countries.

- The Netherlands: if introduced in Belgium, such a measure would meet with considerable **resentment on the part of the Dutch authorities**.
- France and Germany: **no major change** in the prohibition policies of these two countries should result from the implementation of a ban in Belgium – except for the **Ghyvelde corridor**, which would need to be revised.
- Luxembourg: this country would have to **adapt its legislation** in order to synchronize the measures.

Consequently, and generally speaking, if Belgium decides to ban lorries from its territory on Sundays, it will first have to refer back to its neighbour countries and especially to the Netherlands, so that both the political and organizational consequences can be dealt with in advance.

#### 5.1.4. Impact on shippers

The analysis of the current context showed that although most of the shippers reduce their operations on Sunday, some sectors such as distribution do maintain some activity on that day. On the other hand, Saturday is a day of increased activity for a greater number of enterprises, including those involved in distribution.

For shippers, the main consequences of a Sunday prohibition would be:

- a disruption of the shipment process;
- an increase in strategic stock, resulting in reduced stock savings;
- a tendency or need to charge the adverse effects to the consumer;
- a hardly bearable situation on Saturday in certain sectors (e.g., distribution);
- greater annoyance as more deliveries would have to be made in busier periods.

According to the actors involved, interrupting HGV traffic on Sunday would have **considerable adverse effects on the shipment and consequently on the availability of goods, as well as on their price**. In certain cases the consumer would have to bear the consequences.

#### 5.1.5. Impact on transporters

**As regards professionals in goods transport by road**, schedules for drivers may need to be changed to make sure that they are back in time. In addition, changes may occur in vehicle fleets.

- Change in the number of lorries: the loss of a delivery day would mean that the amounts usually distributed in 7 days have to be distributed in 6. Meeting this need would require more lorries in operation that would make fewer journeys, thereby reducing returns on investments.

- Change in lorry type: since the ban would be only on HGVs with a maximum permitted mass greater than 7.5 tonnes, transporters may be inclined to invest more in vehicles with a smaller tonnage. However, it appears that they would do so only for bulky but low-mass goods.

Any change occurring in HGV numbers and types would require more drivers to transport the same amounts of goods. **This increase in staff would entail higher labour costs for transporters, which would be charged to the end consumer.**

**As for the other transport modes,** whereas a Sunday ban on HGVs **is not expected to bring about any change in activity for river and rail transport operators** in view of their very low or zero activity on weekends and public holidays, **air transport could suffer more severe consequences.** For example TNT, which works to full capacity during the week, would not be able to intensify its activity on weekdays to make up for reduced activity on Sundays. A prohibition would, therefore, seriously harm this company, which would be forced to cut down its activity and consequently consider relocation to Amsterdam.

#### 5.1.6. Impacts on the country's road transport infrastructures

Since the total traffic volume would not be altered by a Sunday ban, no change is to be expected in road use and, consequently, in the traffic loading of the infrastructure in general. On the other hand, there would be consequences for point infrastructures, especially for HGV parking facilities.

An evaluation made in this study of the situation on motorway parking areas before and after a Sunday ban indicated that this ban would relieve those areas during the day and in the evening on Sundays, as shown in the table below. However, at night between Sunday and Monday, and to a smaller extent during the day on Mondays and Saturdays and at night between Saturday and Sunday, sometimes considerably greater numbers of HGVs would be found parked on them. Introducing a Sunday prohibition could, therefore, solve the Sunday evening problem near the national borders, but would have adverse effects at other times during the week.

Maximum number of additional parking places required along motorways, in comparison with the situation without Sunday ban on HGVs (TML calculations)

	Night	Morning	Day	Evening
Monday	1007	65	207	64

Tuesday	11	8	25	8
Wednesday	11	8	25	8
Thursday	11	8	25	8
Friday	11	8	25	8
Saturday	149	72	217	79
Sunday	-663	-88	-672	-327

**Table 4**

5.1.7. Impact on the country's other transport infrastructures and on multimodal freight terminals

**For river and port infrastructures** the impacts were evaluated as follows.

- **Inland waterways:** the maximum 1-% increase in transport (total modal shift estimated at 1 %) would have no effect on the Walloon waterways, as these can accommodate a marginal growth in river traffic due to the introduction of a Sunday driving ban on lorries.
- **Inland port infrastructures:** these would suffer only minor effects on their activity, since most of them are closed on weekends.
- **Infrastructures** of seaports like the port of Antwerp: the effects on the activity of the port would be adverse. Moreover, Rotterdam would draw a competitive advantage of the situation, which would even more detrimental to the port of Antwerp as competition on the market is fierce.
- **Multimodal (water-road) freight terminals:** these would not be affected by a Sunday prohibition, since most of them are closed not only on Sunday but generally also during the whole weekend.

**For rail infrastructures** such a driving ban on lorries would, in the present state of affairs, have no effect on the activity of the sector. Nor would it have any consequences for multimodal (rail-road) freight terminals, which are virtually all closed on Sunday.

**Finally, airport infrastructures** would be affected much more, to the extent that certain companies established recently on the site of the airport may consider relocating their activity – with serious consequences both for the economy and for local employment.

Whereas banning HGVs from the Belgian territory on Sundays and a few specific other days would have only **very minor implications for port or rail infrastructures** because of their low activity during these periods, **the consequences for airport infrastructures would be much more severe** and may in some cases even lead certain companies to relocate their activity.

#### 5.1.8. Impact on thefts of or from lorries

As suggested previously in the analysis of parking facilities along motorways, the number of parked lorries would be smaller on Sunday but greater and more evenly distributed over the territory during the other days of the week. As a result, the number of lorries that may be stolen (or stolen from) would not change, or hardly. It appears, therefore, that a Sunday driving ban on lorries would have a **moderate or insignificant effect on lorry or cargo thefts.**

#### 5.1.9. Impact on economic development near parking facilities

This impact was analysed by contacting the managers of 3 different parking areas for HGVs.

- **Motorway parking area at Hondelange:** the manager evaluated the harm a Sunday driving ban on HGVs would cause to his activity at about 10 to 15 % of his turnover on Sundays. However, it appears from the results obtained in the study that this adverse effect as evaluated by the manager should be revised downwards, so that the **impact of such a ban should be rated as limited in the long run.**
- **Truck Centre at Habay:** a Sunday driving ban on lorries in Belgium is expected to have **serious adverse consequences for such an infrastructure** in terms of turnover and, consequently, in terms of employment (loss evaluated at about 20 % of current staff).
- **Secured parking area at Bierset:** according to the manager of this facility, a Sunday driving ban on HGVs **should not modify the occupancy of the parking area**, since most of the lorries would come and park on other days of the week. However, as the facility was opened only recently no data and estimates are available to date to support this reflection.

It may be concluded that a Sunday prohibition for HGVs to travel on the Belgian road network would have **considerable adverse effects on turnovers and, hence, on the employment generated by parking areas reserved for HGVs (with the exception of secured parking facilities).**

#### 5.1.10. Impact on administrative workload

Whereas the **impact on administrative workload would remain limited for transporters**, it is expected that **public authorities and managers** in charge of monitoring the ban **would be faced with a heavier workload.** The prohibition would, therefore, have an adverse effect for them.

#### 5.1.11. Impact on control/enforcement organizations

To ensure maximum observance of the prohibition, one measure to be considered would be to strengthen the presence of police during banning hours. However, **this would require time to be spent by police forces and would, therefore, inevitably generate an economic cost.**

## **5.2. Environmental impacts**

The impact of such a driving ban on global (CO<sub>2</sub>) and local (PM and NO<sub>x</sub>) pollutant emissions was evaluated.

### 5.2.1. Global pollutant (CO<sub>2</sub>) emissions

A reduction in global pollutant (CO<sub>2</sub>) emissions could result from the following two main factors:

- **a decrease in the volume of road traffic:** this effect would be negligible, since only a tiny percentage of Sunday goods transport (1 %) would shift to other modes of transport;
- **a change in average speeds:** the consequences would be negligible, since the change was estimated earlier in the study to be not greater than 0.3 km/h and a 1-km/h decrease in average speed would reduce CO<sub>2</sub> emissions by less than 0.4 % for cars and less than 0.5 % for HGVs.

In view of such marginal changes, it cannot be concluded that a Sunday driving ban on HGVs would have a significant effect on CO<sub>2</sub> emissions.

### 5.2.2. Local pollutant (PM, NO<sub>x</sub>) emissions

As the volume of road transport remains virtually the same with or without the prohibition, total noxious emissions would not change either.

The only thing that would change is the distribution of emissions over the week, particularly during the hours just before or just after a banning period. However, most goods transport takes place on off-peak hours, while peak concentrations of PM and NO<sub>x</sub> actually occur during peak hours.

Also, the absolute number of HGVs to be redistributed over the 6 other days would be so small that the reduction in average speed and the speed-emissions profile do not permit us to conclude that emissions would develop in one way or another. In practice, so many other circumstances (e.g., stop-and-go traffic) may affect the emission factors that the effect of a 1-km/h reduction in average speed would be almost negligible.

**By way of conclusion, it can be stated that the environmental impacts of a Sunday driving ban on HGVs would probably be marginal.** With the working hypotheses considered in this study

there would, indeed, not be a significant increase in road congestion or any significant modal shift. **There is, consequently, no environmental consideration to support the introduction of a Sunday driving ban on HGVs.** It should, however, be noted that this assessment makes no allowance for predicted increase in goods traffic in the years to come.

### 5.3. Social impacts

#### 5.3.1. Impact on noise level and vibration emissions

Several reflections on the consequences of a driving ban on HGVs for these emissions were made in the various interviews with the actors involved.

- **Shift in time of the emissions to Sunday night**, as the lorries would leave at 10 p.m. instead of Sunday afternoon. This effect was assessed as adverse.
- **Shift in time of the emissions to the other days of the week**: since traffic would move to the other days of the week, the impact on these emissions would be beneficial only on Sunday and adverse on the other days of the week, albeit in varying proportions. This effect was evaluated as zero.
- **Increase in emissions due to the shortened time period for distribution**: the shortening of the time period for distribution by one day would inevitably result in more intense delivery peaks at warehouses and, consequently, in more annoyance. This effect was considered as adverse.
- **Changes in emission peaks at borders**: the emission peaks currently observed at the borders with France, Luxembourg and Germany would shift to the Belgian-Dutch border, i.e., the problem would only be displaced.

In conclusion, it seems that prohibiting lorries to travel on Sunday would have **a beneficial effect on noise emissions during the banning period, but an adverse one on the other days of the week** and even right after 10 p.m. on Sunday.

#### 5.3.2. Impact on user safety

When analysing the various possible effects of an HGV ban on road safety, several impacts and causes improving safety or, conversely, increasing road safety problems can be identified.

- 1) Primary safety

A change in time of the journeys made (and the associated kilometres travelled) may have an effect on road safety, both for HGV drivers and other road users. Two impacts were evaluated.

- **Impact on the number of accidents:** as stated before, HGV journeys which can no longer be made on Sunday because of the prohibition would be made on the other days of the week, with a variable distribution. More particularly, the number of journeys made on the preceding Saturday (especially during the day and in the evening) and the following Monday (from the very first hours till the evening) would increase. When analysing the situation before and after the ban it is found that the number of Sunday accidents involving HGVs would decrease – sometimes even down to level 0 for fatal accidents. On the other hand, the number of accidents during the rest of the week would increase with the increase in traffic volume. **The aggregate impact may, therefore, be considered as zero.**
- **Impact on the occupancy of motorway parking areas:** as stated before, when analysing point road infrastructures it was estimated that a driving ban on lorries would entail an increase in the number of lorries parked on rest and service areas along motorways, which are currently already saturated at night. This increase would occur mainly on Monday early in the morning and to a smaller extent on Saturday evening and on Monday during the day. As a result, there could be a greater risk of queues building up on approaches to motorway parking areas. A fine analysis into this revealed that there was a small possibility for the introduction of a driving ban to cause real capacity problems on parking areas. The risk would be present mainly in the night from Sunday to Monday. On the other hand, since the Sunday evening problems at the German, French and Luxembourg would be eliminated, **the consequences for road safety would be zero or even beneficial.**

## 2) Secondary safety

- **Impact related to the use of other goods transport vehicles (MPM < 7.5 tonnes):** assuming that the number of accidents increases with the number of kilometres travelled, it may be expected that there would be more accidents than in a situation with no such shift in means of transport. However, **since this shift was rated as limited, the same would apply to this increase in number of accidents.**
- **Impact related to drivers' rest periods:** the introduction of a Sunday ban would leave most HGV drivers an extra day of rest. **This advantage could have a beneficial effect on road safety, by reducing the number of accidents due to fatigue.**

**In conclusion, the consequences of a Sunday prohibition for road safety would be variable owing to the many effects generated by such a measure. Whereas a decrease in the**

**number of accidents is anticipated on Sunday, it seems that an increase is to be expected on the other days. Also, the prohibition measure would have a beneficial effect on the road safety problem raised by lines of lorries on motorways or on the rest periods of drivers, but an adverse one in the form of increasing in numbers of commercial vehicles.**

#### 5.3.3. Impact on drivers

- **Impact on the rest periods of drivers:** whereas a Sunday driving ban would be beneficial for the rest periods of drivers on motorway parking areas, it would have an occasional adverse effect on drivers' rest times on other days. **The overall balance may, therefore, be considered as zero.**
- **Impact on the risk of aggression of drivers:** since the evaluation of this impact is similar as for theft of and from lorries, the result is similar, i.e., **a moderate or insignificant effect on the risk or the number of aggressions.**
- **Impact on the unsafe feeling among motorists:** a prohibition to travel on Sunday would **reduce the unsafe feeling caused among motorists** by the gathering of HGVs during the banning period. On the other hand, this feeling could be strengthened on other days.
- **Impact on the work schedules of drivers:** a direct consequence of the ban would be the prohibition for drivers to work on Sunday. Such a measure would, therefore, have **a beneficial effect on the quality of the social life of most road drivers.**

## **6. Conclusion**

The analysis of foreign experience with general driving bans<sup>3</sup> on HGVs made in this study showed that no country implementing such a ban had evaluated the consequences of it – neither economically nor environmentally or socially. As a matter of fact, the European Commission has underlined this lack of evaluation in a project for the harmonization of all driving prohibition measures at the European level.

Since the Sunday driving ban for HGVs as considered in the present study is to be viewed in the broader context of “developing sustainable goods transport” in Wallonia, the three aspects of sustainable development (economic, environmental and social) were investigated. The final objective of the analysis was, therefore, to determine whether such a measure is consistent with a logic to promote sustainable mobility or, on the contrary, promotes an opposite trend.

In the economic evaluation of a Sunday driving ban, consideration was given to a total of 11 impacts that may affect the economy of Wallonia. 7 out of these were assessed as economically adverse, whereas for the other 4 no substantial changes were observed with respect to with the present situation. As a result, no evidence was found of a significant beneficial effect supporting such a prohibition measure from an economic point of view. Generally speaking, although several effects were assessed as beneficial in the banning period (traffic loading, saturation of motorway parking areas at the border), they were systematically cancelled out by adverse effects in off-banning periods. The most relevant adverse effects were reported for airfield sites and some motorway parking areas, where the harm caused by the prohibition was rated as considerable or even severe in the case of Liege Airport.

By contrast, the environmental evaluation did not indicate any marked beneficial or adverse whole-week effect of a Sunday driving ban on HGVs. Whereas minor advantages were found in the banning period, pollutants would be released in slightly higher quantities at other times. The overall balance of the measure would, therefore, be zero. The environmental consideration is, consequently, not an argument in favour of the introduction of this type of ban.

Finally, the social evaluation did reveal a beneficial effect of the driving ban on the quality of the social life of road drivers. On the other hand, no further social advantages were found, neither in terms of road safety nor of noise and vibration levels.

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<sup>3</sup> Applying territory-wide, to the whole or part of the road network.

As a result, it can be concluded from a detailed analysis of a total of 16 potential impacts that **a prohibition for HGVs to travel on Sundays and a number of specific other days on the whole national and regional network in Belgium is not consistent with the objective of sustainable transport development in Wallonia.** On the contrary, especially when looking at the impacts on the economy of Wallonia this measure would run counter to the investments already made by the Walloon regional authorities to develop the economy and strengthen the logistics sector in Wallonia.

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