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1 Introduction.

The Points Based Licensing System is a tool for penalizing infractions committed by drivers with the aim of reducing road accidents in the countries or regions where it is applied.

- At a theoretical level, the Point License System is an appropriate measure to influence the recidivist driver.
- This happens because it is a measure that affects all users homogeneously, having the same sanctioning power.
- Other punitive measures, such as economic fines, modulate their capacity to be effective depending on the socioeconomic level of the sanctioned driver, the Points Based License System potentially has the same impact regardless of the characteristics of the user.

Dimensions of the Point License System:

Punitive	Ø	Because it penalizes traffic offending behavior.
Preventive		Because it promotes the necessary deterrent effect both on the driver and on other road users.
Reinforcer	[]	Because it promotes that the driver keeps all the assigned points in exchange for some benefit from public and private entities.
Re-educator	2	Because the driver will be able to recover points through awareness courses and attitude change programmes.
Rehabilitator	ô	Because it allows a driver who is a repeat offender due to an unidentified disease or medical condition to be properly diagnosed.
Conditional	口	Because there are generally different conditions for particularly at-risk drivers such as novice or professional drivers.

Objectives of the report.

The overall objective of the work is to analyse the points-based licensing measure in terms of its capacity to **improve road safety** by identifying its impact on drivers in terms of its potential change in offending behaviour and its potential impact on reducing traffic incidents. For this purpose, two comprehensive review tasks will be undertaken:

- 1. From the existing scientific literature on this specific subject.
- 2. From the Points Based Licensing System implemented in different countries.

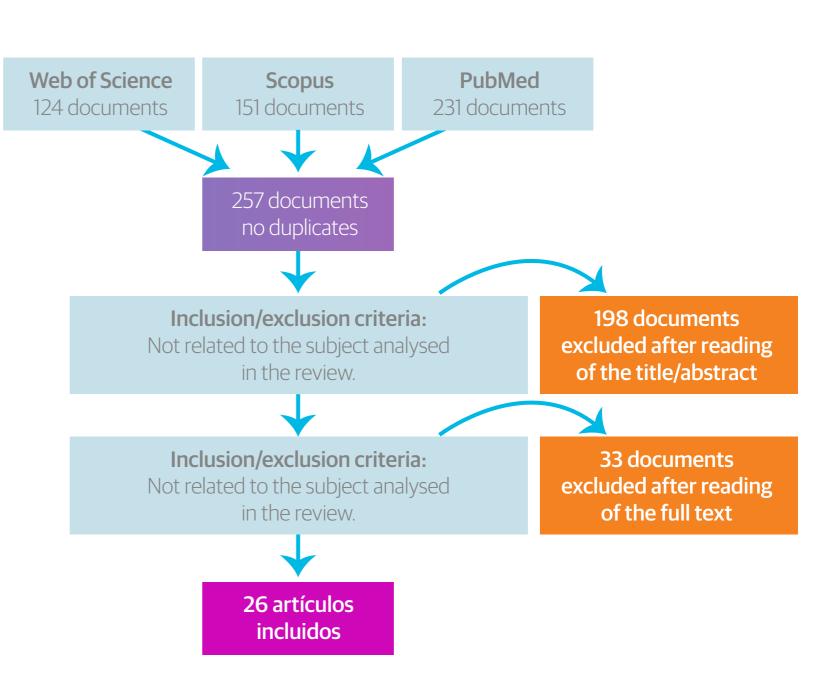
3. Part 1: Review of the scientific literature



Methodology.

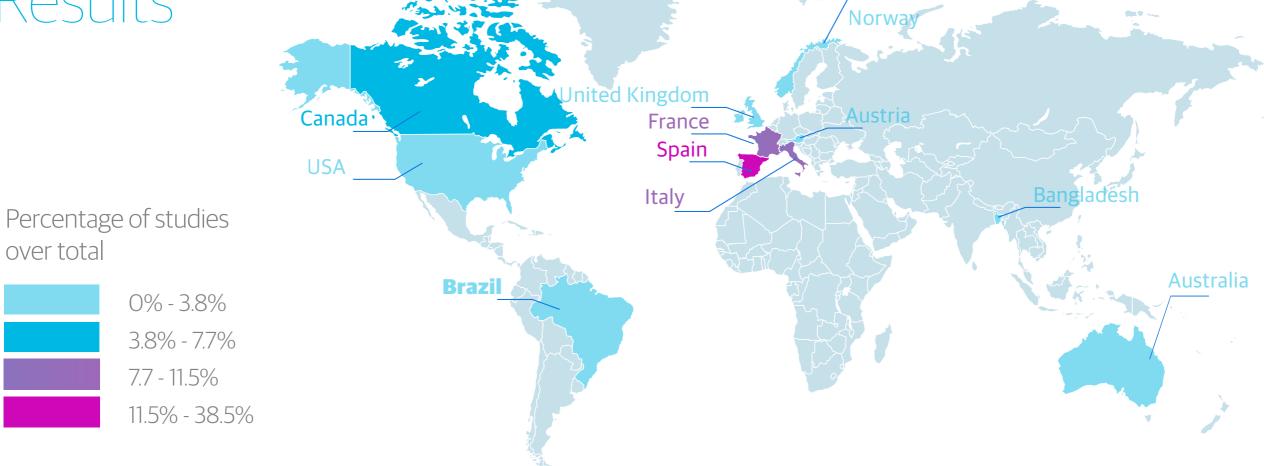
Systematic review with PRISMA methodology:

- 1. Identification of the research question.
- 2. Search for relevant studies.
- 3. Selection of studies.
- 4. Charting and data collation.
- 5. Summarizing and communicating the results.



Geographical distribution (country of origin) of selected studies.

Results



Distribution of the selected studies according to their specific subject matter.



Percentage of studies over total

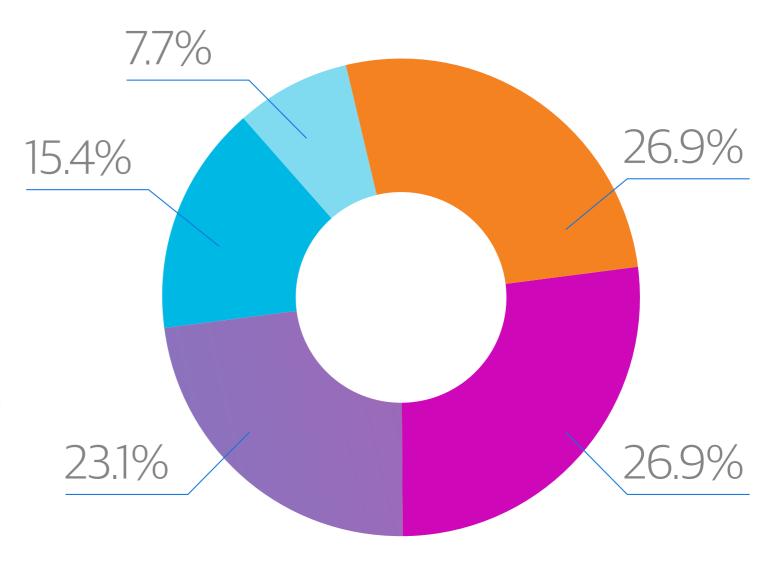
Impact on accidents.

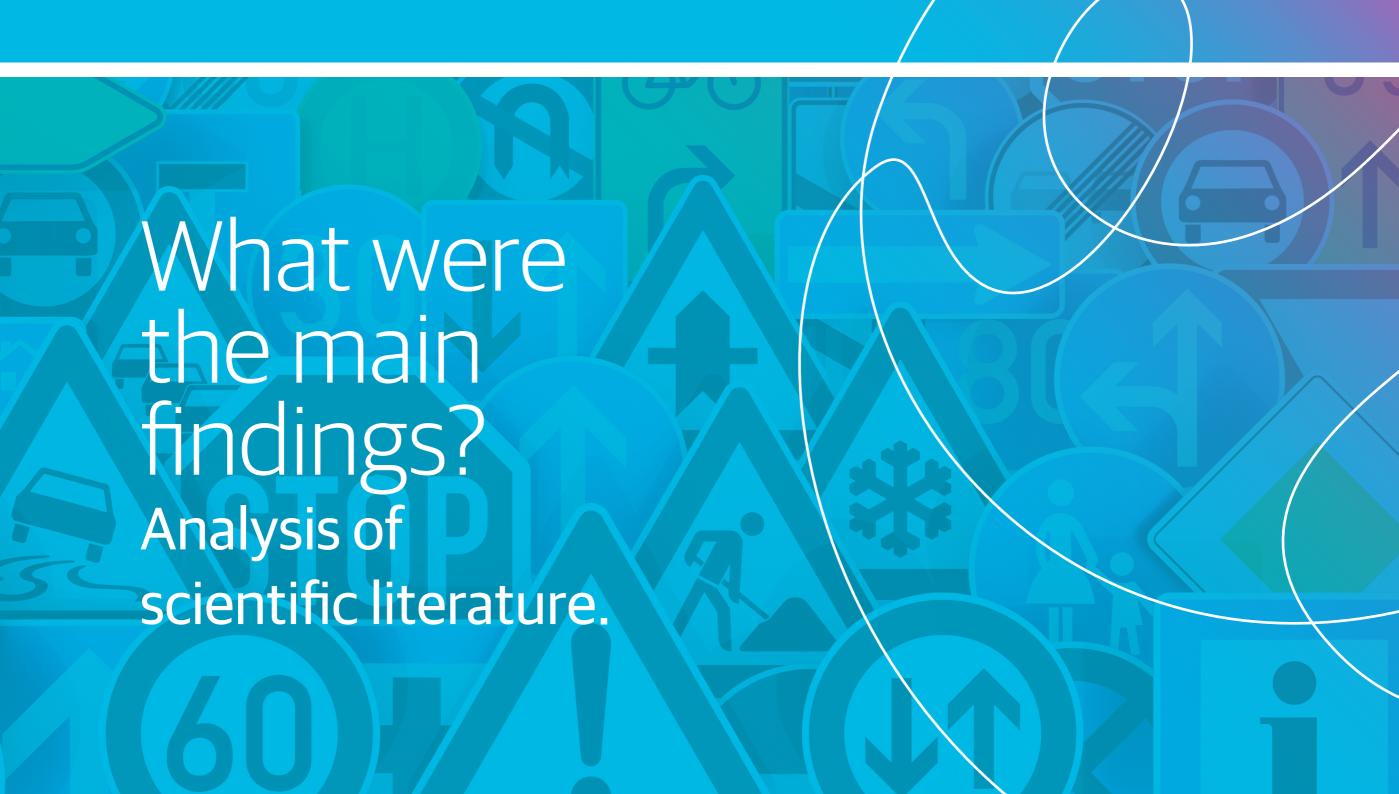
Prevalence of infringements.

Impact on accident rates and offenses.

Social perception.

Legal aspects.





D_I Findings.

Impact of the Points Based Licensing System

- Scientific evidence finds that the Points-Based Licensing System motivates drivers to obey traffic rules for fear of losing their licence and helps reduce traffic incidents significantly.a
 - Reduction in overall traffic crashes: up to 12%.
 - Fatal and injury road accidents: 17% reduction.
 - Traffic accidents with material damage: 9% reduction.
- There is an effect on offending drivers as they tend to be more respectful of the rules for fear of more penalty points.

Impact of the Points Based Licensing System.

- Complementary measures that benefit this system:
 - Additional penalties and surveillance: improve the effectiveness of the Points Based Licensing System.
 - Improvement of road infrastructure and communication campaigns: increase the deterrent effectiveness of the system.
- It presents an economic model with a satisfactory cost-benefit ratio: The savings from the reduction of accidents exceed the costs of the system
- Great results in road safety education and reduction of offences: In countries such as Spain, out of 850,000 drivers in point-recovery courses, only 1,850 re-offended
- High acceptance and effectiveness of re-education courses: 93% feel conscientious and 97% ensure safer practices after the course.

In conclusion, scientific evidence indicates that the Points Based Licensing System is an effective tool for improving road safety, reducing accidents and promoting safer driver behavior. Its success is maximized when combined with additional preventive measures and re-education programmes

Social perception

- APositive Acceptance: Almost 90% of respondents rate the Points Based Licensing Scheme as a positive measure.
- Improved positive rating after 1 year of implementation, showing increasing acceptance over time.

Purpose of the Points Based Licensing System

- Users perceive that the main objective of the Points Based Licensing System is to improve road safety and raise driver awareness, rather than to penalize or collect money, in an equitable manner regardless of economic status.
- The fact that each offense has an associated number of points guarantees the same penalty for all drivers, which promotes behavioral changes and reduces risky behavior in an equitable manner.

4.

Part 2:
Analysis of its application in different countries.



Countries analyzed

Notes:

- 1. Data from Mexico City.
- 2. There is a mandatory sensitization course but it does not eliminate the points acquired.
- 3. National with different penal legislations.
- 4. Data from California.
- 5. The number of points depends on time.
- 6. The number of points depends on previous violations.

Country	Existence of the Point License System	Area of application	Type of permit	Number of points up to withdrawal of license	Differences according to the type of user	Existence of a re-education course (voluntary or mandatory).	Psychophysical /medical tests
Spain	Yes	National	Loss	15	First timers	Yes	No
Mexico ¹	Yes	State	Profit	12	No	No	No
Chile	No	-	-	-	-	-	-
Colombia	Proposal	National	Loss	20	First timers	Yes	No
Perú	Yes	National	Profit	100	No	Yes	No
Italy	Yes	National	Loss	30	First timers	Yes	No
United Kingdom	Yes	National	Profit	12	First timers	No	No
France	Yes	National	Loss	12	First timers	Yes	Yes
Germany	Yes	National	Profit	18	First timers	No ²	No
Austria	Yes	National	Profit	3	No	Yes	No
Bulgaria	Yes	National	Loss	39	First timers	Yes	No
Australia	Yes	National ³	Profit	14	Depends on license type	No	No
United States⁴	Yes	State	Profit	Variable ⁵	No	Yes	No
Dominican Republic	Yes	National	Loss	20	First timers	Yes	Yes
Uruguay	Proposal	National	Loss	12	First timers	Yes	No
Costa Rica	Yes	National	Profit	12	Depends on license type	No	No
China	Yes	National	Profit	12	No	Yes	No
Japan	Yes	National	Profit	Variable ⁶	No	-	No
Cyprus	Yes	National	Profit	12	No	No	No
Czech Republic	Yes	National	Profit	12	No	Yes	No
Denmark	Yes	National	Profit	3	First timers	No	No
Finland	Yes	National	Profit	4	First timers	No	No
Greece	Yes	National	Profit	25	No	Yes	No
Hungary	Yes	National	Profit	18	No	Yes	No
Ireland	Yes	National	Profit	12	No	No	No
Luxembourg	Yes	National	Loss	12	No	Yes	No
Malta	Yes	National	Profit	12	No	-	No
Netherlands	Yes	National	Profit	12	No	No	No
Poland	Yes	National	Profit	24	First timers	No	No
Slovenia	Yes	National	Profit	18	No	-	No
Romania	Sí	National	Profit	15	No	Yes	No

Analysis.

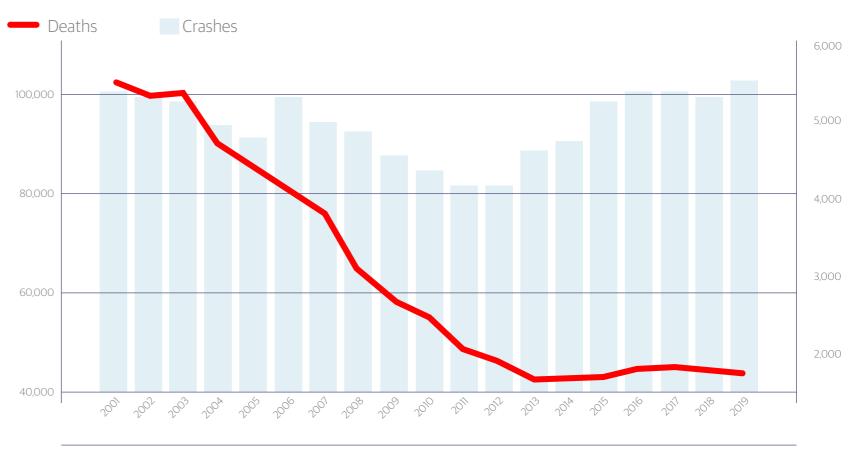
Accident reduction.

- Evidence indicates that the implementation of the Point License System has an impact on road accident rates.
- The European Automobile Commission estimates that the reduction in road fatalities is around 14.3%.

Accident reduction.

Spain: One of the most studied cases.

- After the first 3 months, the fatality rate decreased by 16.6%.
- Deterrent effect on the entire driving population, even if not penalized with points, influenced by the fear of losing the Points Based Licensing System.



Evolution of road accident and mortality figures in Spain. Data from the Spanish National Institute of Statistics. (2020).

Accident reduction.

Other success stories (Lobo, 2011):



 France reduced its fatality rate by 11.6% after 1 year of implementation.



• The United Kingdom did so by **8.2%** after 1 year of application.



• Italy reduced it by 7.3% after 1 year of applicationn.



• After **5 years**, Japan has seen its number of road traffic accident fatalities decrease by **29.7%**.

Application.

Differential variables.

The effectiveness of the Points Based Licensing System may vary depending on its implementation and the specific characteristics of each country.

The differential variables found are the following:

- Area of application
- Gain or loss of points
- Recovery of points/driver's license
- Other variables

Area of application differentials.

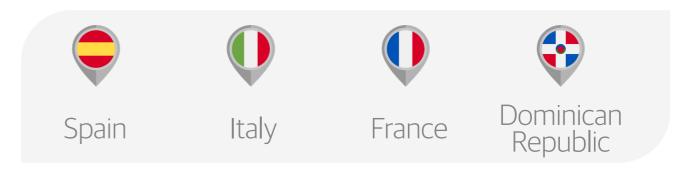
Countries such as Spain, Peru, Germany, Italy and France apply a common and uniform system throughout their territory. Whereas, in countries such as the United States, the systems vary from state to state in terms of number of points and regulations.

What are the advantages of the uniform system? **Consistency in standards** as it avoids confusion and ensures the same application throughout the country and **ease of information transfer** between regions.

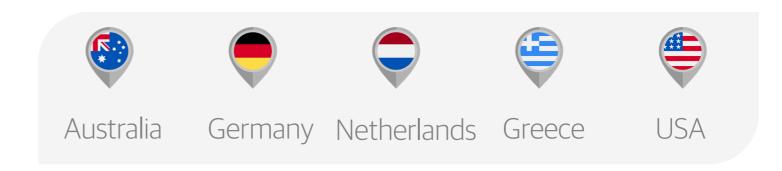
Disadvantages of the non-uniform Point License System? **Confusion for drivers** due to the possible lack of knowledge and uncertainty about the offending behaviors and **difficulty in the application of penalties and recovery of points** between states with different regulations

Possibility of loss or gain of points.

Loss of points: Drivers start with a points balance that is reduced when violations are made and, in the event of loss of all points, generally license withdrawal is applied.



Point gain: Drivers start with zero points and accumulate them as they commit infractions until they reach a maximum that generally entails the withdrawal of their license.



How points are recovered and re-educated?

• **Time-based recovery:** in some countries, points are recovered after a period without violations.



• **Re-education courses:** in some countries, re-education courses are required.



The re-education dimension requires the implementation of training courses for offending drivers, which is a more effective system compared to those who do not have this type of course.

Other differential variables:

- **Number of points:** The number of points associated with a driver's license differs from country to country. Likewise, the number of points associated with violations may also vary depending on the enforcement region.
- **Conditional dimension:** In some countries, certain risk groups have a different number of points than the rest of the drivers, being an effective condition to reduce the infractions produced by such groups.
 - First-time (novice) drivers
 - Professional drivers

C.

Effectiveness of the Point License System.

International experience has shown that to ensure the success of the Point License System, it is important that it meets certain criteria.

- 1. The existence of a close relationship between the points assigned to the infractions and the accident risks of these infractions. Minor infractions should not be considered in the system.
- 2. It must be a system that is easy to understand for drivers and other users.
- 3. Must be transparent.
- 4. It should provide the possibility to educate and train the offending driver.
- 5. There must be an adequate level of control and registration of offending drivers so that penalties are applied appropriately.

Registration and control systemsl.

These systems are intended to track driver behavior, record traffic violations and loss/earning of points, and ensure that appropriate sanctions are applied in accordance with established regulations. The components of registration and control systems may include:

- 1. A centralized database that stores information on drivers, their assigned points, infractions committed, penalties received, among other things.
- 2. Infringement tracking system that records infringing behaviors.
- 3. Notifications and warnings to drivers.
- 4. Systems for updating drivers' points after having committed an infraction or having completed a course for recovery/loss of points.

5. Conclusions.



Conclusions

- The scientific literature shows clear evidence that the Point License System is an effective measure to increase road safety, reducing accidents, encouraging driver responsibility, promoting safer behavior on the road and deterring drivers from committing traffic violations.
- The social perception of the Point License System is more positive than other preventive measures, due to the fact that users understand that it consists of a measure that equalizes all drivers, having the same punitive value for all of them regardless of their socioeconomic characteristics.
- Some recommendations to increase the positive impact of this system are to implement it uniformly nationwide, focus on re-education and show differences between types of users.
- The basic principles that any Point Based Licensing System should have in order to obtain optimal results are: punitive, preventive, reinforcement, re-education, rehabilitation and conditional.

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Road Safety We Are All!