

Road safety or safe mobility?

The challenge of adherence to rules in the road space

¿Seguridad vial o movilidad segura? El desafío de la adhesión a las normas en el espacio vial

José Nesis

Medical Psychiatrist (UBA), and Licensed Psychologist (UBA). Specializes in the psychosocial aspects of Road Safety.

jose.nesis@gmail.com

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Abstract

The challenge of adhering to the rules in the road space Understanding the factors that influence respect for the rules at the time of driving allows us to design public policies that reduce the number of road accidents. In the context of transport safety, the road space represents perhaps the most complex challenge regarding the number of players and resulting interactions. It is also the area of human circulation that claims the most victims. Due to its cross-cutting nature, almost the entire population is part of the road space, whether on foot or in a vehicle. Focusing efforts on who drives and how they drive can be key to reducing the accident rate.

Resumen

Este artículo analiza el desafío de la adhesión a las normas en el espacio vial. Entender qué factores inciden sobre el respeto a las disposiciones al momento de conducir permite diseñar políticas públicas que reduzcan el número de siniestros viales. En el contexto de la seguridad en el transporte, el espacio vial representa, quizás, el desafío más complejo en términos de cantidad de integrantes e interacciones resultantes. Además, es el ámbito de circulación humana que se cobra más víctimas. Por su transversalidad, casi la totalidad de la población forma parte del espacio vial, ya sea de a pie o al mando de algún vehículo. Focalizar esfuerzos en quienes conducen y cómo lo hacen puede ser clave para reducir la siniestralidad.

In the context of transport safety, road space represents perhaps the most complex challenge in terms of the number of participants and resulting interactions. Furthermore, it is the environment of human circulation that claims the most victims. Due to its transversality, almost the entire population is part of the road space, whether on foot or behind the wheel. Focusing efforts on drivers and how they behave can be key to reducing accidents.

To achieve this, public policies must be designed in line with the regulations that govern the road space, both those governing interactions (usually expressed in the framework of traffic laws) and those characterizing the personal state of drivers (psychophysical abilities, substance use, use of devices, among others).

In very broad terms, all these rules can be classified into the two sets of norms established by the jurist W. Michael Reissman. The first group includes written rules, which in democratic societies usually arise from legislative processes. The second group comprises the so-called norms of the practical code, which instruct individuals on how to act based on knowledge that arises from customary social practice and depends on the place and time. These two types of norms do not always coincide. For example, in our country, the rule that governs right-of-way at unmarked intersections indicates the right-of-way to the vehicle on the right, but few people know what the rule says when there is traffic congestion at the same intersection. In surveys, the majority responds that they act according to a maxim that is not taught in driving schools but is passed down through generations: "nudge your way in, because otherwise, you won't get through." This way of behaving is a clear example of Reissman's Code of Practice norm. Another common example is the disconnect between the rule that gives priority to pedestrians in the pedestrian crosswalk and the tendency of drivers not to respect it, with the general acceptance of pedestrians taking precedence. The greater the distance between written rules and those of the practical code, the greater the social dysfunction. This gap in the road space translates into a significant cost in terms of lives and resources. Any approach to public policy should consider both sets of norms when seeking to strengthen compliance.

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Why do we comply (or not) with rules?

Normative adherence, intuitively speaking, is associated with the punishment that may result from non-compliance. This is the focus of Gary Becker, known as the Simple Model of Rational Crime (SMORC)¹, in which normative non-compliance arises as a product of a cost-benefit analysis, not always conscious, that results from weighing the following factors: 1) the benefit that can be obtained from non-compliance, 2) the likelihood of being caught, and 3) the magnitude of the presumed punishment.

For a long time, states considered this perspective as the only and exclusive one, generating policies accordingly: increasing both the probability of detecting violations (or the perception thereof) and the severity of penalties. It should be noted that the first set of measures is much more costly than the second. Thus, the more "tempting" trend is to increase punishments. The age-old human rhetoric prescribes that "where there's a dead person, there's a guilty one," so the demand for harsher penalties is an easy, readily available resource that captivates without too many reservations. The problem is that it is not effective because it addresses only one aspect of the much more complex set of factors that lead to non-compliance. Another drawback of approaches primarily based on increased punishment (whether by increasing penalties or detection probability) is that their effects tend to diminish over time.

If the SMORC approach proves insufficient to address the issue of normative non-compliance, what other tools can help us?

1. Becker, Gary S. (1968). Crime and Punishment: An Economic Approach, *The Journal of Political Economy*, vol. 76, núm. 2.

Law, Morality, and Culture

On the one hand, there are the developments of Nobel laureate Douglass North, which were translated into public policies by the philosopher, mathematician, and two-time mayor of Bogotá, Antanas Mockus². The idea is that compliance arises from the unique and singular result of a behavioral matrix that includes legal, moral, and cultural dimensions, expressed through positive and negative modalities. This perspective adds richness and complexity to the question of normative compliance. This approach complements that developed by Law Professor Mauricio García Villegas³, who investigates the roots of normative non-compliance, especially in Latin America, and thus proposes a classification of what he calls non-compliant mentalities. These contributions have resulted, in the case of Mockus, in high-impact public policies and, fundamentally, a reformation of civic culture.



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Biases, Automatism, and the Challenge of Not Getting Used to Non-Compliance

The second group of factors associated with normative non-compliance addresses Behavioral Sciences. Here, we have aspects of general human behavior and some specific issues in road safety. Behavioral Sciences reveal a wide range of biases and barriers that govern our conduct. The optimistic bias, for example, expressed in the idea of “it won’t happen to me,” leads drivers to adopt reckless behaviors because they overestimate their abilities or their chances of being in a road accident. But perhaps the most important contribution from this perspective is the discovery that humans operate both mentally and attitudinally in two systems: one fast, spontaneous, automatic, intuitive, known as System 1, and another more rational, slow, and precise, System 2⁴. Driving on the road mostly occurs in System 1, a mode that consumes less energy. The shift from System 1 to System 2 occurs when there is a situation that requires active thinking. Just as Vision Zero⁵ suggests rethinking road infrastructure with the assumption that people will make mistakes, knowing that we operate in System 1 also helps in designing roads that unconsciously influence our driving behavior, making it safer.

Behavioral Sciences emphasize what is called the architecture of decisions, and from that perspective, the concept of a “nudge”⁶ was developed: low-cost interventions that predictably influence this architecture, without significant economic incentives and

2. Mockus, A. (1994). Anfibios culturales y divorcio entre ley, moral y cultura. *Análisis Político* 21.

3. García Villegas, M. (2009). *Normas de papel: la cultura del incumplimiento de reglas*. Bogotá: Siglo de Hombres.

4. Kahneman, D. (2012). *Pensar rápido, pensar despacio*. Ed. Debate.

5. Vision Zero. <https://visionzero.global/es>

6. Thaler, R. y Sunstein, C. (2008). *Nudge: Improving Decisions about Health, Wealth and Happiness*. Yale University Press.

without legal coercion. For example, speed indicators that inform drivers of their current speed or optical and auditory cues on the pavement are signals that influence driving behavior without constituting rules or imposing sanctions but still modifying behavior. Lastly, Behavioral Sciences have also identified that the balance between fear of punishment and the desire to be honest is fragile: discomfort decreases as the "practice" of non-compliance increases. It has even been determined to some extent what the neural basis of this adaptation is, hence, the title of the article "The Brain Adapts to Dishonesty"⁷ which addresses the issue. The hypothesis is that, through small non-compliances and over time, the brain becomes accustomed to the initial discomfort, leading to a sort of "tolerance," with the threshold increasing. From this perspective, the most effective approach is to detect non-compliance and intervene early. It is worth noting that the approaches of Mockus and García Villegas, as well as those of Behavioral Sciences, can guide new forms of governance.

Changing Words to Improve Legitimacy: Language, Tone, Voice

Finally, the third factor associated with the issue of normative compliance is the perception of the legitimacy of authority. This approach, developed mainly by Tom R. Tyler, a professor of Psychology and Law at Yale⁸, emerges as a questioning of punishment as a deterrent tool. According to Tyler's theory and experiments, deterrence in the style of SMORC, i.e., by increasing punishment or the probability (or perception) of being caught, is of much lower power than increasing the legitimacy (or perception) of authority when it comes to achieving favorable rule compliance.

What characteristics should authority have to "gain" legitimacy? Tyler highlights some key traits in his experiments with a population of drivers in their interaction with the police: the voice, neutral tone, reliable motivation, and the requirement for an expression of respect (e.g., gratitude from the police at the end of a checkpoint). Individuals who receive treatment with such characteristics trust the rules more and tend to comply with them to a greater extent and over time⁹.

It is noteworthy that the approach based on increasing the legitimacy of authority implies a friendly interaction with citizens, the opposite of considering drivers as suspects of an offense from the start. Almost like a language trap, the term "safety" simultaneously includes, without discrimination, both the safety associated with the intrinsic risk of behavior or the use of a good and the safety linked to the danger of intentional harm to integrity or property. In the first case, examples could be the installation of a railing for using a staircase or a fence for a swimming pool. The second case can be exemplified by anti-theft alarm systems or regular security personnel providing protection. In the first group, there is no intentional plan for harm, which exists in the second group. In English, these two types of safety are referred to as "safety" and "security", respectively. Treating road safety as a matter of "security" can lead us to interpretations and approaches that distance us from the nature of the transport system in the road space. Welcome are the attempts to rename it as "safe mobility" or similar, and may it not be just a change of words but a new and comprehensive perspective.

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7. Garrett, N., Lazzaro, S.C. y Arieli, D, Sharot, T. (2016). The brain adapts to dishonesty. *Nat Neuroscience* 19 (12): pp. 1727-1732.

8. Tyler, T. R. (2006). *Why People Obey the Law*. Princeton University Press.

9. Mazerolle, L., Bennett, S., Antrobus, E. & Tyler, T. R. (2012). Shaping citizen perceptions of police legitimacy: A randomized field trial of procedural justice. *Criminology*, 51.