

Review

# Police Perspectives on Road Safety and Transport Politics in Germany

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**Abstract:** Road safety is a key concern of transport governance. In the European Union, a Road Safety Programme was adopted in 2011, with the objective to reduce road deaths in Europe by 50% in the period from 2011 to 2020. Evidence suggests, however, that this goal will not be met. Against this background, this paper investigates police perspectives on traffic laws, traffic behaviour, and transport policy. Police officers working with road safety are in a unique position to evaluate and judge the efficiency of road safety policies, as they record traffic offences, fine, investigate, and witness in court. Geographically, focus is on transport policy in Germany, a country with a dense road network, high levels of car ownership, and a large number of car manufacturers. A total of 14 semi-structured interviews were carried out with police officers in a wide variety of positions within the traffic police in Freiburg. Thematic analysis is used to analyse content and to identify aspects that represent major areas of concern. Officers affirm that traffic laws question traffic safety, for instance with regard to speed and speed limits, or elderly drivers. Specific recommendations for changes in transport policies are made, and results are discussed in the context of their implications for road safety and the European Union's Road Safety Programme.

**Keywords:** Germany; police; road safety; traffic; transport behaviour; transport policy; vision zero

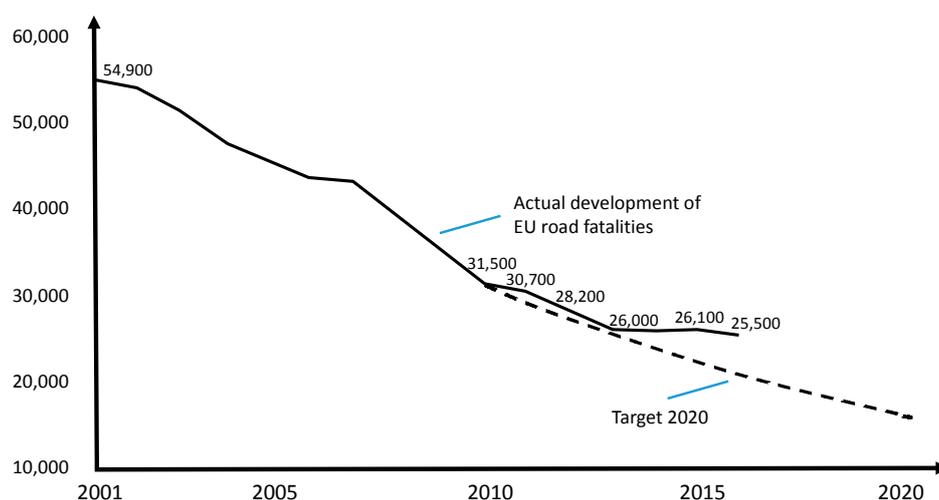
## 1. Introduction

Transport policy has a wide range of objectives. The European Union highlights, for example, that transport is a major contributor to the economy and that major political challenges in maintaining a functioning transport system include congestion, oil dependency, greenhouse gas emissions, infrastructure quality, and competition [1]. The European Commission (EC) for Transport also underlines the need to promote mobility that is efficient, safe, secure, and environmentally friendly ([2], see also [3]). Road safety in particular is a long standing concern of transport planners and politicians. With the growth of the automotive system, road traffic crashes have become the 9th leading cause of death for humans, with 1.25 million fatalities per year, and 50 million injured [4]. By 2030, the World Health Organisation [4] expects road traffic injuries to become the seventh leading cause of death, after organ failures, cancer and diabetes; a development mostly driven by growing vehicle numbers on roads in low- and middle-income countries. As outlined by WHO [4] (p. x): “In many of these countries, necessary infrastructural developments, policy changes and levels of enforcement have not kept pace with vehicle use”. Notably, apart from its human cost, traffic deaths and injuries are estimated to entail a 3% loss of global GDP [4].

According to WHO [4], the main behavioural risk factors for accidents worldwide are speed, drink-driving, failure to use motorcycle helmets, seat belts and child restraints; with strong evidence that where legislation addresses these aspects, accident numbers decline significantly. Yet, in 2014, only 58% of countries (105 out of 180) had laws meeting best practice standards for seat belts, 29% for child

restraints, 26% for speed, 24% for helmets, and 19% for drunk-driving. Speed, one of the major causes of accidents [5], is also an example of the importance of controls, as only 15% of countries rate their enforcement of speed laws as “good”. WHO [4] (p. 18) consequently emphasizes that law enforcement is a critical component of traffic safety: “[ . . . ] visible and high levels of enforcement may be needed to persuade the public that breaking the law in future may well result in a penalty”. The organization also underlines that “while some countries have dedicated traffic police, in many countries the cadre of police officers who are in charge of enforcing road safety laws have many other responsibilities” (ibid.). In the view of the World Health Organisation, high fatal accident rates are thus both a result of insufficient transport policies that do rarely meet best practice standards, as well as inadequate law enforcement (see also [6]).

To ensure traffic safety in the European Union, the European Commission adopted a Road Safety Programme in 2011, with the aim to reduce road deaths in Europe by 50% in the period from 2011 to 2020 [7]. The Commission noted that in 2011, more than 30,000 people died on roads of the European Union, with estimates that for every fatal accident, another four people are permanently disabled, and another eight have serious and 50 minor injuries. The number of fatal accidents has fallen since 2011, from 30,700 to 26,000 in 2013, but accident deaths have since oscillated, rising again to 26,100 in 2015 and declining to 25,500 in 2016 [7,8]. As shown in Figure 1, the Road Safety initiative is increasingly deviating from its 2020 objective.



**Figure 1.** Road fatalities in the European Union (EU) 2001–2016, in comparison to the 2020 target. Source: based on Europa 2017b.

### 1.1. Transport Politics and Road Safety

The WHO Road Safety report highlights the need for integrated transport policies, with best practice standards serving as blueprints for all countries: speeds, alcohol, or the use of helmets and seat belts increase traffic safety, irrespective of cultural or geographical context [9]. This appears to be equally true for enforcement, as traffic participants tend to ignore traffic rules without controls and penalties [10,11]. Evidence suggests that in many countries, transport policies do not reflect recommendations by supranational institutions such as the World Health Organization [4]. This resembles a considerable social and economic cost to society [12].

In the European Union, the integration of transport policies is a long-standing goal, with ambitions to consider economic, social; and ecological aspects. However, as Schöller-Schwedes [13] (p. 94) affirms, no evidence of such integration exists. Various reasons have been identified for the ‘implementation gap’ that comprises agenda setting, policy formulation, decision-making, and internal coordination [14]. On the EU level, institutional (structural) as well as individual (agency-based) barriers, such as inefficiency and inflexibility in admitting change, as well as personal viewpoints

and preferences of policy makers have been identified as underlying the implementation gap [15]. Nationally, governments may choose not to implement specific policies for reasons as diverse as one-sided public and political discourse emphasizing the benefits of transport systems ‘as they are’ [16]; (perceived) high restructuring costs [17]; or expected social resistance to transport system design changes that challenge the predominant transport mode, the car [18].

Within EU countries, transport ministries have various administrative bodies covering different aspects of transport governance, and decide on national policies within the wider EU governance framework. In Germany, it is the Policy Issues Directorate-General (PI DG) within the Federal Ministry of Transport and Digital Infrastructure (BMVI: Bundesministerium für Verkehr und Digitale Infrastruktur) that is responsible for transport governance. The DG develops policies “to ensure that federal transport infrastructure is demand-responsive”, and it oversees environmental impacts of the transport system [19]. There is also a Land Transport DG responsible for driving licenses and road user behaviour. These administrative bodies represent the legal institutions responsible for road safety in Germany. A notable aspect of German transport politics is that these are interwoven with economic interests, and have significant bearing on EU transport politics. As highlighted by Douglas et al. [20], car manufacturers spend 2.5–3.5% of their revenue on marketing and the funding of professional lobbyists and organizations who oppose fuel duty raises, emissions targets, or speed cameras. Douglas et al. [20] also note that German Chancellor Angela Merkel opposed EU-wide emission standards, watering down EU legislation. There is also evidence of (former) German politicians serving on the boards of car manufacturers or car lobby organisations [15].

### 1.2. Road Safety in Germany

Germany counted 3214 fatal traffic accidents in 2016, as well as 396,700 injuries [21]. While the number of traffic deaths declined by 7.1% in comparison to 2015, the number of injured increased. In total, 2.6 million accidents were registered in 2016, an increase by 2.8% over 2015, making it the year with the most accidents since the German reunification in 1989 [22]. While accident numbers have increased, the decline in fatal accidents is considered to be a result of safer cars, the availability of fast and professional pre-clinical and clinical rescue teams, as well as specific traffic laws, such as maximum speed limits on country roads, mandatory helmet use, or alcohol limits [23].

Table 1 shows the number of accidents in the study area, controlled by police in Freiburg. Accident numbers have grown from 22,680 in 2012 to 24,093 in 2016. Not all accidents resulted in bodily harm; in 2016, there were 3980 lightly injured, 931 severely injured, and 44 fatal accidents. No clear trend is recognizable in the data, as deadly traffic accidents peaked at 57 in 2015 to then reach a low at 44 in 2016. Inappropriate speeds, i.e., speeds exceeding speed limits or speeds too high in a given traffic situation, are the main reason for accidents, followed by insufficient distances kept by drivers. Police also reported that 44 accidents involved drugs, and 425 involved alcohol. There were 6030 hit-and-run cases.

**Table 1.** Overview of traffic accident outcomes.

Year	2012	2013	2014	2015	2016
Accident number	22,680	22,451	22,398	24,168	24,093
Lightly injured	4014	3861	4024	4038	3980
Seriously injured	931	905	1005	989	931
Fatal accidents	48	51	51	57	44
<b>Main reason for accident</b>					
Speed	1896	1754	1497	1345	1379
Safety distance not kept	1785	1945	1451	741	647

Source: Polizeipräsidium 2017.

As in other countries, law enforcement, i.e., the control of traffic flows and road user behaviour, is the task of the police in Germany, who monitor and report traffic offences, hold drivers accountable in the case of minor violations, arrest serious offenders, or witness in court. Officers also investigate in the case of accidents, hit-and-runs, or criminals identified in traffic. The traffic police is also responsible for traffic safety in the context sports events, concerts or demonstrations, and officers visit primary schools to educate about appropriate behaviour in traffic. In urban contexts, it is city councils that control compliance with traffic laws, such as speed limits or parking. Traffic offences are punished with fines, along with penalty points (in the case of more severe offences). Penalty points are registered in a driver fitness assessment system, with specific numbers of penalty points leading to cautions by the police, written warnings, and, ultimately, withdrawal of the driving license [24]. As an example, to drive with inappropriate speed (fog, ice), to endanger children or elderly people, or to significantly exceed speed limits will result in one penalty point, along with a fine.

As outlined by Reiner [25] “good policing may help preserve social order: it cannot produce it” [25] (p. xiv): Policing is consequently a form of social control to maintain order, but the framework within which traffic behaviour takes place is set by wider social norms. To preserve order, requires responses to behaviours that threaten order, control, and sanctions. Laws and legislation specify traffic offences and the character of punishment, which may include fines, driving bans, or criminal prosecution. In some countries, there is a considerable degree of freedom as to how controls or traffic offences are handled by the police. Research shows, for instance, that traffic stop decisions (including outcomes of exit, frisk, search, penalty or arrest) are influenced by race, gender, age and social status of drivers, along with situational considerations [26,27].

There is general academic consensus that without enforcement of traffic rules, drivers will ignore speed limits more frequently, drive faster, use seat belts less often, disregard alcohol limits, and drive more aggressively [28], until practices become a new norm [29]. As indicated, behaviour is framed by social norms, spread in particular through media. Tranter and Martin [30] describe, for instance, how the BBC format ‘TopGear’ systematically ridiculed the “nanny state”, encouraging drivers to test boundaries. Corbett [31] highlights that speeding may not be viewed as a significant criminal act by drivers, drive instructors, legislators and even police, a finding aligned with Wells [32] observation that drivers distinguish “appropriate” and “acceptable” speeds. Perspectives on traffic behaviour and the police are thus largely shaped by cultural norms, or ‘safety cultures’, which reflect perceptions of practices, policies, procedures, routines, and sanctions [33].

Corbett [31] suggests that traffic violations can be explained through deterrence theory (penalties are not significant enough) and rational choice, suggesting that crime is a result of opportunity, benefit, and cost. In this view, the cost of violations is not significant enough, or controls are too infrequent. This is confirmed by observations that affluent individuals are more likely to challenge enforcement decisions [34], and, at least in developing countries, there is evidence that police are also more reluctant to control wealthier individuals [35]. Overall, findings suggest that law enforcement, i.e., the frequency of control and the severity of sanctions, determines compliance with transport laws, though within the wider transport cultures established by society and transport politics.

Against this background, perspectives of the police on road safety, traffic behaviour, controls and sanctions provide new views on transport governance, supplementing existing perspectives (e.g., [36–40]). As officers work in constant interaction with drivers, closely observing traffic behaviour, as well as studying the causes of accidents, their views on road safety can be presumed to have relevance for transport governance. Yet, police perspectives on traffic laws, traffic behavior and transport policies have never been studied, and are thus the focus of this paper.

## 2. Method

To gain insights into the perspectives of the police on road safety, interviews were conducted with traffic police officers in Freiburg, Germany. This approach was favored, as police officer’s perspectives necessarily had to be ‘local’, in the sense that officers interact with traffic participants and are confronted

with transport behavior. The Freiburg police is responsible for five administrative districts, including Emmendingen, Breisgau Hochschwarzwald, Lörrach, Waldshut-Tiengen, as well as the city of Freiburg itself; an area with 1.2 million inhabitants. The law enforcement unit is responsible for urban and rural road systems, as well as national highways. It employs 230 police officers working with traffic law compliance, accident reporting, and investigations [41].

To obtain permission to interview police officers, an initial contact with police headquarters was made in March 2015, and permission was granted to interview officers on all levels of the traffic police force. Starting at the top of the hierarchy, the administration provided contact details for officers working with tasks including traffic control (speed and distance keeping measurements; alcohol/drug use; other traffic offences), accident reporting, investigations, as well as traffic education. In total, fourteen police officers were interviewed in semi-structured, personal interviews between March 2015 and February 2016. All officers were assured anonymity, and details of their specific roles are withheld for this reason. Respondents are pseudonymed as R1–R14 in the presentation of the results. Interviews lasted between 46 and 100 min, and were recorded digitally.

All interviews followed the same procedure. The topic was introduced in broad terms (“Perspectives on traffic behaviour and transport policy”), and respondents were assured anonymity. To ensure that no quote could be traced to a specific officer, respondents were contacted again in July 2017 to confirm that they considered their quotes as untraceable. Interview questions addressed the officers’ current positions, their main tasks, as well as their general and specific perspectives on traffic behaviour and transport policy. An interview guide was used to prompt officers to talk about the current traffic situation, main reasons for accidents, as well as traffic laws and law enforcement. Where officers did not address this, additional questions covered views on speed and speed limits, alcohol, drugs, sanctions, parking, cyclists, and elderly drivers.

All interviews were transcribed and manually interpreted through thematic analysis [42]. For this purpose, categories were created on the basis of main themes, i.e., aspects related to the research focus (road safety) and with relevance for the understanding of viewpoints in relation to transport policy (cf., [43,44]). This involved the analysis of the material on an individual basis to the categorization of items, largely following interview lines of inquiry, and reflection of the comparison of results and their interpretation in the context of the research question. To illustrate views, verbatim quotations from participant interviews are included in the discussion of the categories [45], including an extensive quote number to illustrate consensus, diverging opinion, or complexity in the topics discussed and the views expressed. A separate discussion section assesses findings within a transport policy framework, i.e., their relevance for transport policy making, as seen against the background of insights derived from the transport literature.

A weakness of this research approach is that police perspectives are geographically focused, in the sense that traffic police in other parts of Germany may have diverging views on national road safety policies, or that traffic behavior may either be different or perceived differently in other parts of the country. Results are thus not generalizable, even though they would often seem to reflect a broader police view.

### 3. Results

Analysis of the transcripts resulted in the identification of several categories, including accidents, speed (limits), traffic density, elderly drivers, alcohol, non-German drivers, control frequencies, sanctions, justice, lobbyism, and transport politics. These are discussed in the following sections, and illustrated by verbatim quotes.

#### 3.1. Accidents

There is general agreement among officers that speeds higher than the speed limit, as well as inappropriate speeds (driving too fast under specific weather conditions such as rain, fog, or snow/ice) are the main reason for accidents, often in combination with insufficient distances kept to preceding

vehicles. Distractions are also considered an increasingly important reason for accidents, including the use of navigation systems, smartphones, radios, etc. Officers suggest that it is in many cases impossible to state with certainty whether an accident was caused by high speeds, ignorance of distances, or inattention; often, all three aspects may be involved.

*“The main reasons for accidents are speed [and] safety distances.” [R1]*

Police officers also highlighted that notions of risks and even the prospect of death had only very limited importance for drivers, noting that there was a tendency for drivers to believe in their driving skills. Officers also voiced anguish about the need to inform relatives about the death of loved ones.

*“Frustrating is when I have to tell a wife with three children that her husband will never return home again. That is frustrating. [...] That’s when I know why I do my work.” [R4]*

### 3.2. Speed and Speed Limits

Officers were in general agreement that high or inappropriate speeds are the main reason for accidents, irrespective of whether these occur in urban, rural, or highway contexts. In Germany, urban speeds are generally set at 50 km/h, while vehicles are allowed to drive up to 100 km/h on rural roads. On highways, drivers can freely choose their speeds, unless there is a sectoral speed limit. Officers agreed that a reduction in speeds would significantly increase road safety in all contexts:

*“What I don’t understand is why we don’t have a general speed limit on highways [...] and 80 km/h on rural roads.” [R4]*

*“50 km/h are often too fast to break in time, for example when a child runs onto the road between two cars. You simply have to make time when you are driving. Which is why I am a proponent of 30 km/h zones [in cities].” [R1]*

Most of the very serious accidents happen on highways, where high speeds are involved in crashes. Officers proposed that the national highway speed limit should be set at 130 km/h, emphasizing that risks increased because of differential speeds.

*“[A speed limit of 130 km/h on highways] would be meaningful. Very meaningful. Because differences in speed represent a considerable risk. [...] We are also the only country in Europe without a general speed limit.” [R6]*

*“You can compare this with other countries with a general speed limit. You achieve a more homogenous traffic if you don’t have differences in speed. [...] and the lower the speed, the less severe accidents. This principle is true for every road.” [R5]*

The perception of Germany as a country where no speed limits exist is also considered an invitation to foreign drivers, who may deliberately ignore traffic laws:

*“They meet with a purpose on the Swiss or on the French side, and then they come over here to race. [...] Traffic is slowed down, and those in front drive their race. [...] I also found this on Facebook [...] They have the whole route there, sometimes including Frankfurt-Freiburg, [complete] with price money.” [R3]*

*“We recently caught one, a multimillionaire from Switzerland, who drove close to 300 km/h [in a 120 km/h zone on the highway].” [R5]*

Officers affirmed that drivers showed a very limited overall compliance with speed limits, also out of a belief in technology and a poor understanding of physics and the kinetic energy involved in high speeds:

*“[...] when we stop someone driving 140 km/h with a 15 m safety distance to another driver, and he tells me he has ABS, ‘It’s not a problem’, such people have no idea about physics.” [R1]*

### 3.3. Traffic Density

Officers are in agreement that traffic density continuously increases, and that this leads to additional traffic risks, in particular because of growing emotions.

*"We are moving towards a constant traffic jam. [...] We have reached the limits." [R9]*

*"Traffic is denser, there are jams where we did not have them before [...]. All of this leads to the frustration of drivers, truck drivers, cyclists—every traffic participant. Frustration leads to aggression." [R8]*

Officers agreed that traffic density problems needed to be resolved within the existing road system, as it was unfeasible to continue building roads, perhaps with the exception of additional highway lanes. In cities, officers welcomed bicyclists, who are seen to reduce space requirements and air pollution.

*"[a problem] is the growth in traffic, which is why I am very positive about bicycles." [R1]*

Officers emphasized that cities should work towards increasing bicycle traffic, even though this would involve the re-allocation of space. It was also noted that perceived risks in traffic deterred 'potential' cyclists:

*"We need to support [cycling] as much as possible, if traffic can be removed from roads, from cars to bicycles, it helps everyone. This is why we should use all opportunities the city has, in terms of urban design, to support this, to build more [bicycle] infrastructure." [R5]*

### 3.4. Elderly Drivers

All officers considered elderly drivers a major issue for traffic safety. In Germany, driving licenses are issued for life, and there is no need to prove one's fitness to drive, irrespective of age. Officers highlighted that elderly drivers cause many accidents, including specifically severe accidents. Various reasons were given for this, including bodily and mental aspects, such as declining eyesight, reaction times, as well as medicines, which may affect drivers because they have been taken, or because drivers may have forgotten to take them.

*"There is a very, very large risk group that is currently developing, and that's elderly drivers. There is no adequate policy." [R10]*

*"With elderly drivers you increasingly often have medical issues, though these start with 40 or 50. Somebody saying after an accident, 'I felt ill', 'I blacked out', or 'I had a circulatory failure I have never had before' [...] And diabetes is a problem, once in a while. It's really difficult to tell, with diabetes and hypoglycaemia." [R6]*

In response, police officers asked for a model in which elderly drivers should regularly prove their fitness to drive, also renewing their understanding of traffic rules:

*"An age limit need to be set, and then [elderly drivers] have to participate in a safety training, every 2, 4, 5 years, including information about what's new in terms of car technology, legislation." [R5]*

### 3.5. Alcohol

Germany has a blood alcohol concentration limit of 0.05, though in case of an accident, 0.03 becomes legally relevant. Specifically, in rural areas, it is considered 'normal' to drink and drive. Fitness to drive is a decision that is inherently subjective, and perceptions of being fit to drive may be at odds with legal limits. Officers were not in agreement whether alcohol limits should be adjusted, but all of them acknowledged the difficulty of correctly assessing the threshold of becoming unfit to drive, or before legal limits are reached. Several officers also referred to personal experiences and experiments, concluding that decision-making with regard to alcohol is fraught with difficulty.

*"[In rural areas] alcohol is normal. Even high levels, up to 0.3 [BAC] alcohol level." [R11]*

*"From the viewpoint of traffic safety, zero alcohol would be the only meaningful legislation." [R5]*

### 3.6. Taking Responsibility and Proof of Culpability

Police officers reported that the majority of drivers showed respect for the police, and that many, though far from all, acknowledged mistakes. In some cases, drivers denied wrongdoing, however, or refused to co-operate, for instance with regard to the use of breathalysers. Some drivers were also found to engage in considerable efforts to find legal loopholes. As an example, it was mentioned that drivers involved in accidents may admit guilt at the accident site, but change statements after having received (legal) advice.

*“It’s about a third, I’d say, who admit that they have made a mistake. They pay the fine. About a third.” [R2]*

*“There are often comments to first aid helpers: ‘Ah, I fell asleep for just a second, damn it!’. [...] And when [drivers] have had legal advice, [...] they will deny responsibility. [...] Specifically when there is a serious accident and a lawyer becomes involved. [...] There are some who would not admit for life that they have made a mistake.” [R2]*

It was also suggested that willingness to accept responsibility declines:

*“This year, we have had 200 more hit-and-runs than last year. There is a growth trend—in all categories of traffic accidents.” [R3]*

### 3.7. Driving Outside the Law

The driving behavior of foreign nationals was considered by police to represent a significant issue for traffic safety, even though officers were adamant to underline that this concerned only a small share of drivers. A specific problem in southern Germany is that Swiss drivers with comparably high income levels can ‘drive outside the law’, as German ‘penalty points’ can only be assigned to nationals, while foreigners pay penalties. This means that unless they become involved in accidents, foreigners will not lose their driving licenses, even if they are found to repeatedly break traffic laws.

*“We have colleagues in Waldshut [...] they have a massive problem with motorcyclists, with all the Swiss coming, and when [the officer] tells them that they have to pay 100 Euro [...], they laugh, they laugh. Downright, they laugh at you.” [R3]*

*“It is extremely cheap [to be caught speeding] in comparison to Switzerland. [Swiss] motorcyclists in the Black Forest, [...] they have two wallets, one is for food and beverages, and one is for the police. [...] It’s [planned] in their budget that they are caught by the police at least once during a tour.” [R14]*

*“We have recently had several incidents with a [Swiss] SAP manager, who earns perhaps a million or two per year. A 1000 Euro fine does not hurt him at all. [...] So he can drive 100 km/h too fast, and if there is no accident, he can do that as often as he wants.” [R4]*

### 3.8. Control Frequency

Officers were adamant that controls are needed, because the meaningfulness of traffic rules is not generally established with drivers. Specifically, speed controls were considered necessary to reduce accident numbers:

*“Personally, I am a disappointed that in traffic, we obviously cannot get people to respect rules out of common sense. If we did not control speed limits [...] you would observe that speeds slowly increased. [...] It takes control pressure, apparently.” [R5]*

There is also broad consensus that there are not enough controls in traffic, which, in combination with moderate or modest fines results in a situation where drivers feel encouraged to ignore traffic laws:

*“We have 60,000 vehicles per day, and 30 of these are controlled, that’s . . . I mean, you can discuss whether that’s enough.” [R11]*

*“In some areas, there is no police presence any more. [...] There used to be time, two, three hours, and then we also did controls. But with all the tasks and the declining staff, controls are suffering. And traffic participants note this.” [R14]*

A specific issue in cities are speed controls, which are organized by the municipality, even though the police can set up additional control points. Several officers voiced concerns that city controls are established with a view to contribute to municipal budgets, not to prevent accidents:

*“We should measure [speeds] where it makes sense in regard to accidents. [...] If you look where the city measures, at which times, then [it is clear] that these measurements serve the purpose to generate an income already included in the [city’s] budget.” [R9]*

### 3.9. Fines and Sanctions

Officers distinguish traffic offences punishable with fines, those that also imply ‘penalty points’, and those that constitute criminal offences that will be negotiated in court. Officers agreed that sanctions are necessary, and that thresholds for significant penalties may often be large.

*“There needs to be punishment [...] Without sanctions, it just does not work. And these sanctions need to have an impact.” [R13]*

As an example for thresholds, one officer discussed that in measurements of speeds, 2–3 km/h are deducted during measurement as a general error margin, with an additional tolerance threshold of three per cent. As only speeds in excess of 10 km/h above speed limits are fined, drivers have to exceed speed limits considerably in order for speeding to even become an offence. As an example, in a 100 km/h zone, a driver would have to drive 115 km/h in order to face a fine.

*“Whoever is fined deserves to be fined. [Only] 21 km/h and more [above speed limit] will be reported, but those driving 10, 15 km/h too fast, we don’t stop them, because then you could stop virtually everyone.” [R1]*

Views on the relative level of fines varied, with some officers noting that fines should be seen as a reminder of traffic rules, not serious punishment, while others advocated higher fines. Officers were in agreement that fines have differential impacts, depending on driver income, and noted that for many drivers, the threat of driving bans or prosecution has considerably greater relevance than payments:

*“I generally think that fines are on a level where they will not seriously affect even a low-income taker.” [R1]*

*“We had a sheik, he drove 242 km/h in the 120 km/h zone. [...] That’s 1275 Euro. [ . . . ] In Switzerland, he’d go to jail for a year. If a millionaire goes to jail for a year, that hurts. But a fine doesn’t hurt at all.” [R4]*

As a suggestion, officers suggested to make fines dependent on incomes:

*“In many, many areas, fines are just too low. [...] There are people, of course, who earn less, and fines may hurt them, but those earning more, they are hardly bothered at all.” [R8]*

*“In Switzerland you have [fines] that depend on income. Flat up to an annual income.” [R3]*

### 3.10. Justice

Various officers outlined that it takes repeated and severe traffic offences to be punished with driving bans or to lose a driving license. Officers voiced frustration that repeat offenders all too often continued driving, even though there was limited evidence that they would change behaviour:

*“There are also psychopaths [in traffic]. They have an issue with being overtaken by someone, or if somebody makes a mistake, then they believe they have to show people. These cases exist, yes. And I think, people who are repeatedly reported because of assault or endangering others, they should no longer be allowed to drive.” [R1]*

*“[This guy] is on probation for the second time, and then a third time [in spite of repeated severe traffic offences]. That’s when I wonder what ‘probation’ really means. [ . . . ] It happens that you stay [in court], when you really want that someone will be convicted, then you rather stay. Because it could be that they’ll make some kind of deal, and they don’t dare if you stay.” [R11]*

### 3.11. Lobbyism

Officers highlighted many instances in which traffic safety was affected by lobby groups. In particular, officers highlighted speed limits and elderly drivers, while criticizing the overall influence of different lobbies on transport governance:

*“If they [drivers of heavily motorized cars] cause accidents, these accidents are spectacular. [...] As long as the car industry wants to sell such cars, they will always be against speed limits. That’s a strong lobby we have in Germany. They reach all the way into the Ministry of Transportation, because even there, they are against speed limits.” [R4]*

*“They [Allgemeiner Deutscher Automobilclub] do a lot of lobbyism that is not focused on safety, rather than directed at [a specific] clientele of drivers” [...] [R12]*

*“We have the hauliers and the truck traffic, we have speed limits, we have emission limits [...], then there is forensic medicine [...] who want blood sampling and drug tests. [...] There is a lot of lobbyism.” [R4]*

*“Lawyers would be against [reform], of course, because then a large income source disappears. Yes, I think that’s what they are, a big lobby.” [R3]*

### 3.12. Politics

A wide range of laws and transport system designs were questioned by police officers, who requested changes in legislation perceived as unsupportive of or even counterproductive to traffic safety. Officers highlighted the complexity of traffic rules and sanctions in the current policy mix:

*“People talk about a ‘traffic sign forest’, and we do have a forest of signs. [...] It is incredible how many signs there are in one spot sometimes, [...] it is impossible to absorb them simultaneously. [...] If people behaved more rationally, we would need fewer signs, but in Germany, everything has to be regulated. It is over-regulated.” [R13]*

Officers also outlined that many laws are inadequate or outdated. As an example, officers wondered why illegal drugs had to be detailed, rather than to make any substance affecting traffic safety illegal. Similarly, changes in transport behaviour were not adequately considered in politics.

*“There are new drugs every day. [...] These are not covered by the law. Why don’t we have a law that says all intoxicating substances are prohibited?” [R9]*

*“We have a road traffic act in Germany, with a paragraph 3 that says: within cities, 50 km/h. [...] In Freiburg, 85% of roads are no longer 50 km/h, they are 30 km/h or play streets, or they are 10 km/h*

*or 20 km/h. When 85% of the roads no longer correspond to the road traffic act, then that traffic act is outdated. [...] It is easier to say: within cities, 30 km/h. [...] We lack clear politics.” [R9]*

There was also disappointment with politics in addressing specific issues, including traffic infrastructure operating at its capacity limits; the traffic risks posed by elderly drivers; highway speed limits; or insufficient bicycle advocacy:

*“It is unpopular [to introduce legislation for elderly drivers]. Members of parliament or other politicians, they only want to push popular issues.” [R1]*

*“If you controlled the entire highway with section control, you would not even need a single police officer for speed controls. Speed can be controlled with technology. It’s even self-financing. But it’s a political issue, because no politician likes to have speed cameras installed.” [R4]*

#### 4. Discussion

Interviews revealed consensus in the perspectives of police officers regarding accidents, speed and speed limits, elderly drivers, control frequency, traffic density, and sanctions. In the view of officers, all of these issues are insufficiently addressed in current transport policies. The opinion of officers is in principle aligned with road safety recommendations by the World Health Organisation [4] as well as insights presented in the wider transport literature, indicating that local experiences mirror the global situation.

In the view of police officers, traffic laws are considered ‘aspirational’ by a significant share of traffic participants. Where no controls exist, legislation is widely ignored, with prominent examples including speed limits (car drivers) or red traffic lights (cyclists). This view is confirmed in the literature: Mitchell-Taverner et al. [11] found, for example, that car drivers regularly exceed posted speed limits by 10 km/h or more (see also [28]). Regular red light infringements of cyclists have also been confirmed in various studies (e.g., [46,47]). These are examples of transport behaviour that is ‘normal’ in the absence of controls and penalties, as also highlighted in other contexts, such as diplomat compliance with traffic laws [29].

Even though officers expressed hopes that awareness of the necessity and meaningfulness of traffic rules would grow in the population, there was agreement that laws are only respected if offenders faced significant sanctions. Officers outlined that countries can balance the level of penalties (insignificant—tough), their character (monetary—criminal prosecution), as well as controls frequencies (laissez faire—continuous). Within this ‘sanction triangle’, officers highlighted that in comparison to other countries, German legislation favoured low to moderate monetary sanctions, and limited enforcement. Several officers noted that fines served as a reminder to respect traffic rules, but not as a serious deterrent, and that these affected drivers unevenly, as they ‘hurt’ depending on income. Officers thus requested that more serious traffic offences should entail driving bans or be considered criminal offences. This view is also reflected in the literature. Research in Australia suggests, for example, that there is no evidence for higher fines to have a significant impact on driving behaviour [48,49]. Fines were originally introduced with a view to punish without sending offenders to jail [50], but they fail to have a significant impact on drivers for reasons that may also be found in the psychology of driving, i.e., including motivations founded in risk taking or rebellion [51]. Sanctions focused on assets or agency, such as driving bans, may thus be more successful approaches, mirroring O’Malley [50], who advocates for towing away illegally parked vehicles instead of parking tickets, or the cancellation of licenses instead of imposing fines for speeding.

Officers also acknowledged that only a fraction of traffic flows is controlled, and that in particular speed control frequencies needs to increase in urban, rural, and highway contexts. Even though this was not explicitly mentioned by officers, a particularity of German laws is that it is legal for local radio stations to announce mobile radar stations, or for navigation systems to warn about upcoming speed section controls. Officers noted that the combination of limited controls and insignificant (monetary)

sanctions prompted a share of foreign nationals, specifically Swiss drivers, to deliberately ignore speed limits. These observations have considerable relevance because speed is widely acknowledged as a key reason for traffic accidents [4,5,52], determining the likelihood and severity of accidents. However, particular relevance in the context of Germany is the finding of Aarts and van Schagen [53] that greater differentials in speeds increase crash rates. This highlights the importance of acting on repeat and severe traffic offences, specifically in the context of very high speeds in speed limited zones.

Insufficient distances kept to preceding cars are another major reason for accidents. To ignore safety distances is a form of reckless behaviour [54], which may be reinforced through perceptions of being 'in control' of vehicles furnished with a growing number of assist systems. These include brake, park, blind spot assist; stability and traction control; or cornering brake control. Cars also have reinforced vehicle body structures, full set airbags (including curtain and side airbags), collision warnings, or automated ambulance calls, which may persuade drivers that they are always in control and safe inside the car. Such views are likely to influence driving styles: Simulations of adaptive cruise control resulted for example in significantly higher average speeds [55].

Two emerging accident trends were also mentioned by officers, distractions and accidents caused by elderly drivers. Inattention in traffic is owed to the growing use of navigation systems and smartphones while driving. Interrelationships of distraction and accident rates have been confirmed in the literature, with surveys showing that it is for instance common for young drivers to use smart phones while driving [56,57]. Elderly drivers cause a growing share of accidents, and represent a major concern to law enforcement. Even this is supported by the broader literature suggesting that elderly drivers face reduced fitness as a result of medication or functional limitations. Specifically, drivers aged 75 and older have been found to be disproportionately often involved in accidents ([58], see also [59]). Yet, there is no age limit or fitness requirement in German law.

Less consensus existed among officers regarding alcohol and drink-driving. This was partially a result of the difficulty to identify a reliable indicator of perceived compared to actual drunkenness. Drivers do not know when they exceed critical legal limits, and, according to police experiences, blood alcohol concentration (BAC) levels do not necessarily determine whether a driver is too drunk to drive. This challenges medical views that specific BAC levels are measurable on the basis of alcohol intake, body weight, and time since ingestion (e.g., [60]). To illustrate this, officers recounted personal experiences in which they had felt drunk, yet remained within legal driving limits; as well as encounters with heavily drunk drivers, who did not show outward signs of drunkenness. While there was consensus that a zero alcohol limit would be the only way to avoid this conundrum, officers also underlined the social and political infeasibility of introducing such legislation. According to WHO [9], 5–50% of fatal accidents are related to alcohol consumption, but only 14% of countries have a zero-tolerance limit (0.0 blood alcohol concentration, the WHO recommendation). Where 0.05 BAC levels have been introduced, fatal accident numbers have significantly declined [60,61], and zero alcohol limits are known to prevent further fatal accidents [62]. To reduce accident numbers further would consequently imply a zero alcohol limit: In 2013, 9% of road traffic deaths in Germany involved alcohol [4].

Various other aspects of the transport system were discussed by officers. Freight transports were mentioned as a key problem in the context of traffic density, affecting highways and truck stops. In cities, parking required increasingly more space, with illegal parking incidences becoming more common. Officers suggested that traffic density fueled negative emotions, reflecting on research that confirms linkages between congestion and stress, aggression, and anger [63–65]. Perceptions of density and traffic risks already have repercussions for transport behaviour, according to officers. For example, traffic safety concerns were assumed to be significant for a share of cyclists (cities) and drivers (highways), leading to avoidance behaviour.

Out of these observations, officers developed a range of suggestions for transport governance (Table 2), including lowered speed limits on most roads (highways, rural, residential); more frequent speed controls; fitness tests for elderly drivers; legal acceptance of the validity of breathalyser results;

drug bans; owner responsibility for cars; fines adjusted to income levels; earlier and more frequent driving ban sanctions, including criminal prosecution; more frequent parking controls in combination with higher fines; and co-operation between countries to identify and sanction repeat offenders, notably racers from Switzerland. Officers also highlighted the need to address the influence of transport lobbies. In discussions, frequent reference was made to transport policies in Switzerland, which are considered superior to those in Germany.

**Table 2.** Road safety issue and policy change suggested by police officers.

Issue	Suggested Policy Change
Speed limits	Speed limits of 130 km/h on highways, 80 km/h on rural roads, and 30 km/h in residential areas in cities
Speed controls	More speed controls, specifically where accidents occur frequently
Elderly drivers	Driving fitness tests, along with update on traffic laws
Alcohol tests	Breathalyser results sufficient for assessment of BAC
Drugs	Ban of any substance influencing driver capabilities
Owner responsibility	Car owner is responsible for vehicle where driver is unknown
Fines adjusted to income levels	Level of fines dependent on income
Driving bans	Driving bans should be invoked earlier, with less leeway given to repeat offenders
Parking	More frequent controls, higher fines
Cooperation between countries	Identify opportunities for co-operation to sanction foreign offenders

In summary, the discussion reveals considerable similarities between local police positions on road safety and those found in the academic literature, as well as policies advocated by the World Health Organisation. This raises the question as to why transport policies are not more proactive. Evidence suggests that lawmakers shy away from decisions perceived as politically difficult, or inviting opposition from lobby organisations [66,67]. As long as this is the case, is unlikely that the objectives of the EU's Road Safety Programme can be met.

## 5. Conclusions

Results suggest that there are considerable differences in perspectives of legislation and enforcement between existing transport policies on national as well as local levels, and priorities for road safety as requested by the police. Views of police officers are much aligned with scientific evidence, supporting the argument that road safety could be significantly improved through legislation better addressing the main reasons for accidents. Given the development of the transport system, it is unlikely that current legislation will move the transport system significantly closer to reduced accident numbers.

Police officers questioned current traffic laws with regard to speed limits, reckless driving (keeping minimum distances), elderly drivers, control frequency, and the character of sanctions. Changes were requested in legislation perceived as unsupportive of or even counterproductive to traffic safety, with laws that seem inadequate or outdated. Officers also highlighted that growing traffic volumes required measures supportive of bicycling, to reduce space requirements and air pollution.

The lack of progress on transport governance in the context of road safety raised questions regarding the role of lobbies in watering down or preventing legislation that increases traffic safety, such as speed limits on highways. As noted by police, traffic laws may often be unduly influenced by car lobbies. Future research should address the role of transport lobbies in preventing legislation focused on environment or safety.

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