

Road Safety: From driver training to human behaviour, how we can encourage safe behaviour – Unanswered Questions

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- **Q1:** What are the main factors that decrease the likelihood of an accident?
 - A: Joakim – Human factors are shown to be the most frequent causes of road traffic crashes. Hence, recognizing the human risk factors are key, such as attitude, emotion, and physical condition.
 - A: Dan - The main immediate causes of road crashes are
 - 1) **attention failure** – the driver doesn't see a hazard until it's too late, or doesn't see it at all;
 - 2) **judgement failure** – the driver decides to do something that is unsafe or incorrect;
 - 3) **violations** – reckless driving, deliberately violating the highway code, engaging in unsafe driving because the driver doesn't know any better; and, finally,
 - 4) **mechanical failure**, e.g. burst tyre.

The last case is the least likely to cause a road crash, although things like poor tyres can definitely contribute.

On a more practical note, most drivers tend to drive too fast for the conditions, and they don't leave enough space (following distance, or from the sides). They also don't look far ahead, or use their mirrors enough. When something unexpected happens, they cannot react quickly enough.

Secondary causes include road, weather and light conditions; peer and time pressure; road design; and so on. Root causes are organisational in nature: planning, policies, procedures, values and leadership. If you have consistent road crashes, it means your system is not working right, and may actually be encouraging unsafe driving behaviour.

Having an organisation that values safety, training drivers in safe driving behaviours (and then reinforcing these), and engaging in good journey planning, will significantly reduce road crashes.

- **Q2:** Any recommendations for defensive driver training?
 - A: Dan - The PRAISE Report #2 from the European Transport and Safety Council, [Fit for Road Safety: From Risk Assessment to Training](#), provides very good guidance on this.

What you should look for in provides:

 - **Qualifications** – do the trainers have specific qualifications? Being in the army or police does not qualify you to be a driver trainer. Nor does '25 years of driving experience'.
 - **Methods** – you want to see behavioural, experiential learning methods that include a lot of practice. If they can't tell you what their methods are, that is a warning flag.
 - **Duration** – per the ETSC, a 1- or 2-day training is unlikely to be ineffective

- **Realism** – whilst there is a place for the driving track, most of the time should be spent on the road, in the conditions that driver is expected to encounter. Track-based courses are ineffective unless paired with road practice.
 - **Material** – what is the training based on? It should have a specific reference. For example, the Road Safety Program uses *Roadcraft*, the UK Police training program, which has been in place since 1935 and is reviewed by a panel of experts every 5 years.
 - **External Assurance** – there are organisations that offer accreditation and external quality assurance. Organisations offering defensive driver training should have this if they are concerned with quality.
- A: John – Defensive driver training has no formal definitions. I have seen 'defensive' driver trainings advertised from 45 minutes e-learning to 2 weeks intensive practical, behind the wheel, training.
 - Identify your organisational need, define what you want and then go out there and look for it. Ask the provider what standards they train to and under what accreditation scheme. If they do not have clear answers, do not use them.
 - Why be a defensive driver, defending against what? Go for a 'safe' option. In my understanding, 'defensive' driver training is related to 'protection' duties whereby the driver had to drive in a way that allows for armed personnel, inside the principal and backup vehicles to be able to engage the enemy. No a driving skill most NGOs need.
- **Q3:** Are you suggesting neurological screening is a requirement for driver recruitment?
 - A: John - No. People with neurological issues know whether they can drive or not. Always helpful to evaluate drivers behind the wheel before giving them the job.
 - A: Joakim - Most neurological factors negatively affecting driving skills should become apparent during the coached sessions of the ASDT, in which case it would be natural to try and work out a solution with the driver – Worst case being that he is not deemed fit to drive. Continuation of contract could for instance be reliant on passing the ASDT.
 - A: Dan - Drivers should have regular medical checks, which typically include a neuro screening for mental state, motor function, sensory function. Drivers should also have eyesight checked regularly.
 - **Q4:** How can the drivers deal with external factors (bad driving from others, road condition etc.)?
 - A: John – The advanced safe driver training skills deal with that. It is part of the system of car control and advanced mental skills which develop situational awareness. It is part of the 'behaviour' of driving.
 - A: Joakim – A “driver and journey check” is a protocol which would make the driver aware of some of these factors before setting off on a journey - So that's

the Awareness part. As for other road users, detecting threats as early as possible is a key skill which can be trained and fine-tuned through coached sessions.

- A: Dan - At TGS, we use the UK *Roadcraft* 'system of vehicle control' that consists of 5 stages: **Information** (**taking** it, through scanning and observing hazards; **using** it, through anticipation and planning; and **giving** it, through signals, etc); **Position**, by adjusting, as required, the position of the vehicle to create as much space as possible; **Speed**, by adjusting it so that you can always stop safely if required; **Gear**, to match the speed; and then **Acceleration**, once clear of the hazard.

The application of a systematic approach to perceiving and pro-actively responding to hazards allows you to compensate for any external hazards on the road, no matter where you are, and how others are driving. However, it requires practice, on the road, from a qualified trainer, to get it right.

A driving course that only takes place at a track cannot provide this, and will not allow you to practice in a realistic environment, which is required if you are going to be able reach proficiency.

- **Q5:** Are there any international standards we should be aware of when hiring new drivers?
 - A: Dan - There are various associations that have recommendations, but typically the standards governing the hiring of new drivers are based on the specific national regulations and applicable Highway Code.
- **Q6:** What are the main factors that increase the likelihood of an armed vehicle accident?
 - A: John – I believe this should read 'armoured'. Unfamiliarity of the vehicle. Armoured vehicles can be up to 3 tons heavier than a thin skin vehicle, with adjusted suspensions, different turning circles, acceleration and braking differences, higher centre of gravity, etc. Being unfamiliar with it's capabilities and characteristics will contribute to accident's. That goes for every vehicle.
 - A: Dan - I'm assuming that this refers to an 'armoured vehicle' crash. Beyond the factors that apply to all road crashes, AVs have different handling characteristics, particularly at higher speeds. AVs weigh twice as much, or more, than LVs, and they have a higher centre of gravity. This increases the chance for them to lose stability if there are harsh control inputs, particularly at higher speed.
- **Q7:** How much can behaviour change be effective for road users, especially thinking of pedestrians who are not drivers, but can pose threat to road safety?
 - A: Joakim -A good behaviour for any type of road user is to be aware of the human risk factors (Attitude, emotions, physical and mental conditions). A pedestrian without the correct focus or concentration will become a hazard to others.

- A: John – Behaviour change is especially effective for road users, especially the most vulnerable, pedestrians.
 - A: Dan - Safe driving behaviour includes applying a systematic approach to driving that consists of proactive hazard perception. We should anticipate that pedestrians and other vulnerable road users may step into the roadway, particularly children, and adjust the position and speed of the vehicle accordingly. Anticipation can be defined as answering these three questions: 1) What can you see? 2) What can't you see? 3) What might happen?
- **Q8:** Could we make SOPs more realistic and applicable through more specific Local Driver (traffic) Safety Rules, which can be issued for each premise respectively?
- A: John – Yes, SOPs should reflect local context, including local laws, emergency response capacity, road use culture, etc.
 - A: Joakim – In my organization, we may have employees like myself with international certificates who are legally allowed to drive elsewhere. For those employees – local traffic regulations outside the framework of international standards are good to have included in that office's SOP. This is also useful information managers should know for monitoring and enforcement purposes.
 - A: Dan - Procedures and training should always be contextualized. For example, giving information through signals is different from country to country. A quick flash of the high beams may mean 'go' or it may mean 'stop'. A horn may be considered essential for indicating intent, or extremely rude. We should be careful, however, because this can be used to justify at-risk behaviour, e.g. 'no-one else wears seat belts, so we shouldn't' or 'it's normal here to overtake on a solid line, just before a blind corner'.
- **Q9:** In your experience, are there some technological resources/tools, designed to identify mechanical issues on vehicles?
- A: John – Yes, most modern vehicles have an engine diagnostic computer system that can be accessed with a plug in device.
 - A: Dan - Depending on the telematics present in the vehicle, or if you have an OBD-II (on-board diagnostics) device, you can potentially diagnose issues reported by the vehicle. Your dashboard warning lights will obviously also tell you if there is an issue. There may be OBD-II devices that you can purchase locally, if you don't have in-vehicle telematics systems.