

**(UK) DFT (DEPARTMENT FOR TRANSPORT) ACOUSTIC
CAMERA RESEARCH**

**NOISS & MANIPULATION
SINGLE EVENTS
ENFORCEMENT
DRIVING BEHAVIOUR
DRIVER AWARENESS**

MAIN MESSAGES FROM THE PRESENTATION(S)

- Roadside enforcement of excessive vehicle noise is complicated and time consuming.
- Softer measures such as driver awareness or signage have been shown to be ineffective.
- The objective of these projects is to provide local authorities or the police with enforcement tools capable of identifying noisy vehicles (especially for illegally modified vehicles, drivers revving engines unnecessarily and single events) from the roadside and capturing sufficient evidence for prosecution.
- Results of the work should be provided in 2023.

SUMMARY

1. Noise complaints received between 2018 & 2021 in the UK indicate that excessive vehicle noise is an issue and not only in rural areas.
A two-phase research project was commissioned in 2018:
 - Phase one - Desktop review of existing technologies and practices related to the measurement and enforcement of vehicle noise
 - Phase two - Roadside trials of technology identified in phase one
 - Trial of noise camera device using microphone, ANPR (Automatic Number Plate Recognition) & video camera.
 - driving behaviour, such as decelerating, and acceleration was shown to have an impact. Some difficulties identifying vehicles were met when the traffic is complex. Software could be improved to reduce processing time and make interpretation of results easier.
 2. Based on the findings of previous work:
A 3-part research project was commissioned on ways to enable more effective enforcement of excessive vehicle noise.
 - Focus is on single events of excessive vehicle noise, and illegally modified vehicles.
 - Publication of results is expected in 2023.The 3 parts of the ongoing work:
 1. Defining excessive noise → identification of a series of simple guideline noise threshold including tolerances. The possibility for having a noise threshold dependent on the speed limit is also explored.
 2. Track testing of noise cameras including investigation of the impact of convoys creating complex traffic situations.
 3. Roadside trials linked to an amount of seasonal variations and modified vehicles to check the effectiveness of the noise cameras in different urban & rural environments to:
 - test out the technology in real conditions,
 - find out how the technology can interface with signs, road furniture and electrical connections.
 - allow police and local authorities to gain some experience and confidence in using these noise cameras which may encourage uptake in the future.
- No data available for the time being but some data are expected in the coming months.

ADDITIONAL POINTS FROM DISCUSSIONS IN THE TF-VS

- In the 2018 study, 75dB(A) was used as a threshold for investigation but not a limit – microphone was located at 6m height.
- When driving, the driver is able to see his speed from the dashboard, but he is not able to know how much noise he is producing.
- The driving style is in relation with noise and should be explored.
 - o More and more ‘road-devices’ to be able to check the noise → it is important to learn: one side L_{EQ} and other side very loud vehicles; traffic noise vs. individual vehicle.
- The UN Regulation No.51 represents noise from vehicles with ASEP (Additional Sound Emission Provisions) for M1/N1 and soon RD-ASEP (Real Driving-ASEP).
- This presentation shows a lot of opened questions to be understood to be able to improve our understanding related to noise issues: what are the priorities?
- Complaints or long-term exposure with negative impact on health? Driving behavior? Illegal manipulation? Traffic? Weather conditions? Wet vs. dry road? Speed? Road surface? How to define the blanket noise? ...
A good knowledge is needed to be able to work on what UN-R can regulate.
- More issues due to single events rather than general traffic noise → Need to identify where the concerns are coming from.
- Roadside devices could allow authorities to tackle problem from single event not only for noise emissions but also for exhaust emissions.
- Introduction of panels displaying the sound measurement (as for speed limits) could be a good solution to reflect the noise measurement and stimulate people regarding the effect of their behaviour. Not necessarily with a fine, but at least information.
- The idea of having a general limit linked to the speed and perhaps the category of the vehicle with measurement by a noise radar to give information you are too loud. Similar approach in the US (75dB at 50m without questioning from which item is the noise coming), only to say you are too loud.
- Different levels/threshold of noise depending for instance on speed is an interesting approach.
- It was suggested to think if it would not be now the good time to separate discussion between type-approval of vehicles/limit values, manipulation/behaviours and roads.
- Maybe the good time for our TF to sort what needs to be done in our group that deals with the limits of new vehicles, and what needs to be done on the road, against manipulation and aggressive driver’s behaviours.

REFERENCES

- [TFVS-04-06](#) (UK): DfT Acoustic Camera Research
→ Final report webpage: <https://www.gov.uk/government/publications/roadside-vehicle-noise-measurement-study-enforcement-and-technology>
- [TFVS-08-03](#) (UK): DfT Noise Camera Research (3-part research project → result expected in 2023)