ENFORCEMENT

Consider in parallel all the PART 3. sheets
Driver, Enforcement, Vehicle, Immission, Tyres/roads

DESCRIPTION / DEFINITION:

- **ENFORCEMENT** (in the context of sound emissions) means the activities to ensure vehicles are and remain compliant to the regulations.
  The applicable regulations are related to bringing-vehicles-into-the-market (type approval, market-surveillance) and the use of vehicles in the jurisdiction (roadworthiness, Periodic Technical Inspection, roadside inspection, sound cameras, manipulation).

- ***Keywords***: Sound limits, PTI, roadside check/sound cameras, roadside equipment, measurement uncertainties, ASEP (Additional Sound Emission Provisions), manipulation, market surveillance, policy documents.

GENERAL FINDINGS/STATEMENTS FROM THE PRESENTATIONS/REPORTS

- Different studies in Europe, UK and Japan address single events as a cause for disturbance and annoyance
- Main causes of single events are:
  - Driver behaviour related (acceleration, over speeding, high revs, horn)
  - Manipulation of exhaust system
  - Modification of mufflers
  - Illegal exhaust systems
  - Poorly maintained vehicles (e.g. broken exhaust)
- Roadside inspections are considered more effective than PTI to act on manipulation and illegal exhaust systems
- The research for sound monitoring (sound camera) is increasingly effective in distinguishing the contribution of single vehicle sound emissions from its environment
  - This includes the detection of vehicle license plate, speed, acceleration, engine speed and noise.
- Loopholes in the implementation of vehicle sound regulation in the EU allow the usage of older regulations for replacement silencers
- The performance of NORESS aftermarket silencers seems not in-line with original silencer systems

NEEDS & QUESTIONS FOR FURTHER CONSIDERATION FROM THE ORIGINAL PRESENTATIONS/REPORTS:

- Single event:
  - Traffic monitoring research gives necessary insight in specific causes of single events (especially in cities)
  - Sound cameras seem to be a solution for the enforcement of single events related to driving style and exhaust system (illegal, modified and manipulated exhaust systems).
    - Technology needs to be further developed
    - Research should be stimulated
  - The sound performance of aftermarket NORESS seems to be louder than original silencer systems. This needs more research to confirm conclusions.
    - An increase of effort on market surveillance of NORESS will improve the insight in their sound performance

- Average sound emissions (source)/ immission (receiver):
  - Speed reduction is a solution for noise reduction (in cities)
  - Increase market surveillance effort (and effectiveness) on aftermarket products (NORESS)
  - Future worldwide automotive electrification including the AVAS (Acoustic Vehicle Alerting System) has to be considered for the future works of the group because this should have an impact on the environmental sound level.
  - Works of the group not limited to M1/N1 only but to all M & N. Data needed for all vehicle categories.
  - To be able to identify where the noise issues lie, to build a kind of cross-matrix between traffic noise situations, contributing factors and major complaints as shown as an example in doc. TFSL-01-05 Rev.1 Page 9.

To sort out what is important as noise countermeasures beyond the Phase 3 of (EU)540/2014 or UN-R51-03, it is needed to continue to share issues and initiatives at TF-VS.

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