

Transmitted by the expert from EC

Informal document GRB-72-25
(72nd GRBP, 7-9 September 2020,
agenda item 3)



Data Analysis
and
Consultancy

Study on sound level limits of M- and N-category vehicles

On behalf of the European Commission

Subject and aim of the study

To study the sound level limits of M- and N-category vehicles and investigate on such limits update

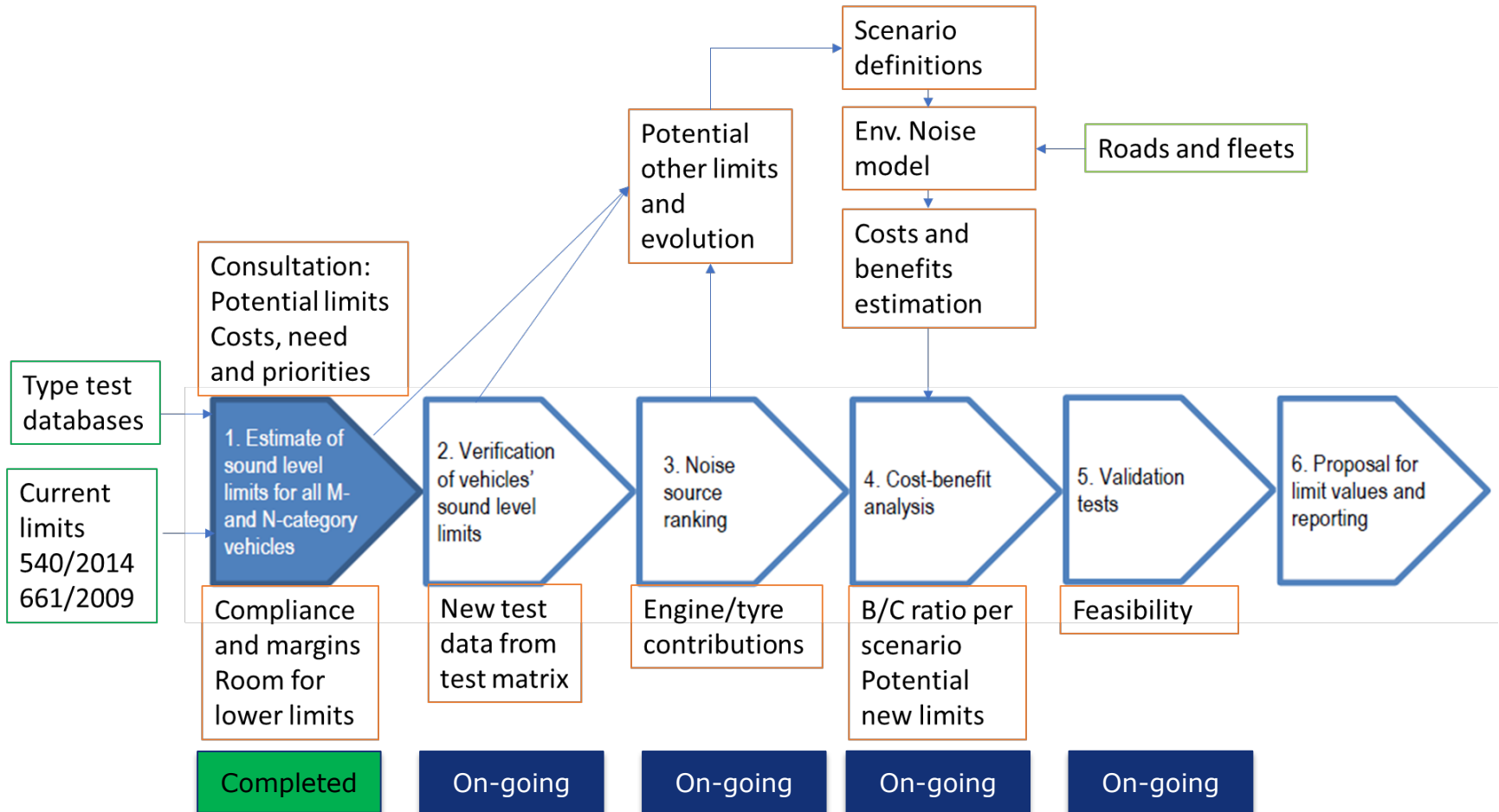
Background

- M- and N-category vehicles constitute a big part of the European fleet; as a result, they contribute significantly to the overall sound emissions
- Consequently, sound emission limits are legislated and need to represent the state of the art sound emission levels
- There is legal obligation of the Commission for a detailed study on sound level limits by 1 July 2021 and submit, as appropriate, a legislative proposal – Regulation (EU) No 540/2014

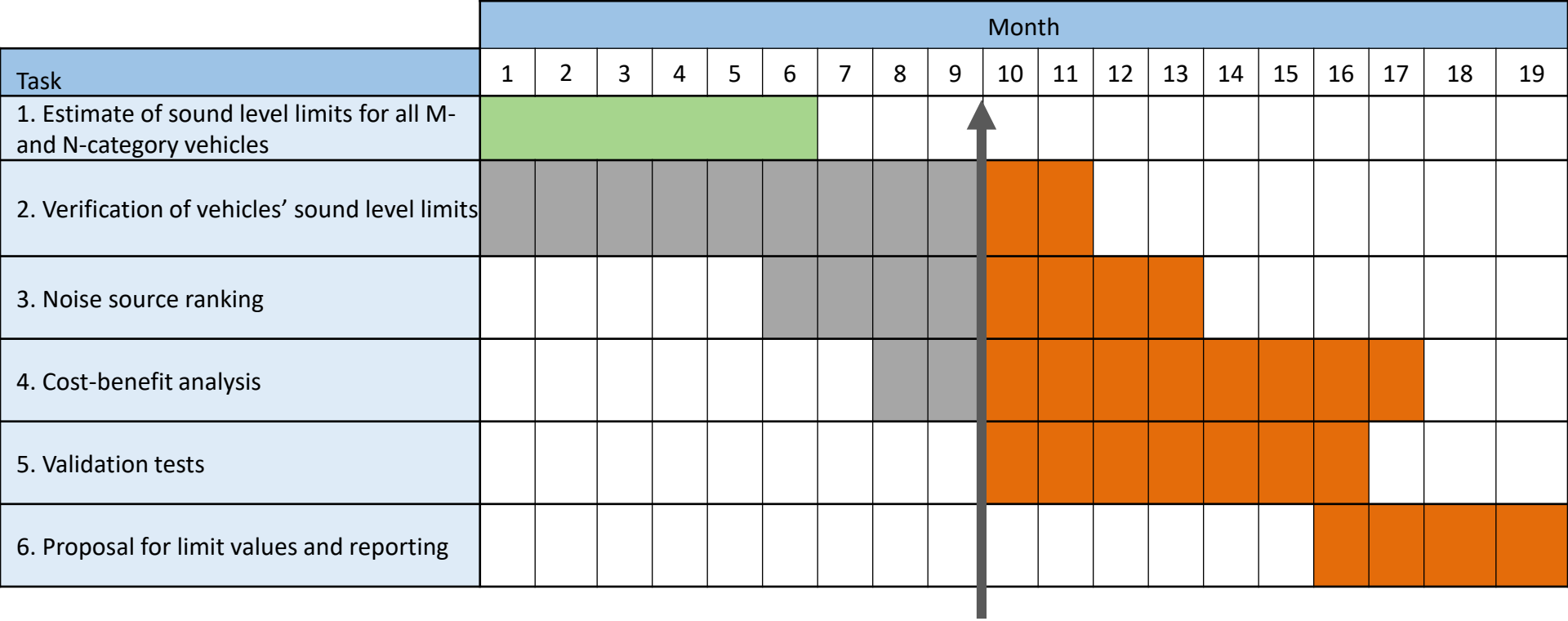
Objectives

- Investigate the current sound emission levels of M- and N-category vehicles
- Propose possible new (improved) sound level limits for the next phases of the Regulation (EU) No 540/2014 in the coming years
- Overall: protect the environment and human health and contribute in the reduction of the so-called 'noise pollution' and real-world traffic noise

Task overview and interaction



Time plan



■ Completed tasks
 ■ Time elapsed
 ■ Remaining time for each task

The final report is expected by the end of June 2021

Estimate of sound level limits for all M- and N-category vehicles (Task 1)

Description

Feedback gathering procedure with questionnaire to stakeholders

Literature review to explore the current state-of-the-art sound emissions control technology

Main findings

- **Sound limits**: There seems to be some potential for reduction, with the exception of some vehicle types
- **Testing conditions**: Better coverage of operation conditions is considered to be required for thorough sound emissions control
- **Technology**: Potential reductions will require advancements in both vehicle and tyre technology
- **Additional measures**: Regulation enforcement is a recurring item that goes beyond current regulation but is known to provide sound benefits

Vehicle testing

Description

Vehicle testing includes CoP tests, ASEP and extended ASEP range testing

Current status

- **M1, M2 and N1** vehicle testing for **Task 2** has been **concluded**
- **33/47 of the planned measurements** for **Task 3** and **Task 5** have been **completed**
- **Additional testing beyond the agreed test matrix is planned** (e.g. testing under an extended ASEP range), that will be beneficial for the study's final outcome
- **Preliminary test results** are currently being analyzed

Cost-benefit analysis (CBA) (1/2)

CBA Topics

- Environmental model and input data
- CBA procedure, costs and benefits
- Description and motivation of scenarios
- Input from consultation, type test databases and new test results
- Scenario analysis and CBA results

Cost-benefit analysis (CBA) (2/2)

Description

Several scenarios in order to assess the economic feasibility of potentially modified sound level limits

Current status

- **Proposed scenarios for CBA (2020-2045)**

Scenario	Remark
0. Baseline	Vehicle and tyre limits as foreseen in Reg. (EU) 540/214 and 2016/1350 stage 2
1. Available limit space	Use available limit space in Lurban and LWOT for all vehicles
2. Targeted limit tightening	Available limit space + tighter limits for cars and lorries/trucks/buses
3. Same as 2 but with cap at 75 dB(A)	Encouraging electric lorries, trucks and buses
4. Add restriction on LWOT	Encouraging electric cars and reducing engine noise, lower urban noise
5. Expand ASEP range and tighter ASEP limits	Excluding noisier operation modes
6. Tighter tyre limits than stage 2	Limiting rolling noise