

The process required to achieve an effective noise reduction in a city

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Summary

This paper presents an introduction to the workshop: "European noise policy: where do we go?" It's about the future of the European Noise Directive. This special organized workshop is supported by the European Commission DG Environment. The paper is to support the 10 minutes oral contribution during the workshop.

This paper is on the process required to achieve an effective noise reduction in a city and for the authorities responsible for the regional and national roads railway lines and airports.

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1. Scope and Background

The European Environmental Noise Directive addresses national and local authorities and wants them to engage into a set of consistent actions. Two more technically oriented tasks have received a lot of attention. These were the task to assess the exposure to noise from the four main sources and to develop actions to reduce noise where it was potentially harmful. Other tasks, although explicitly mentioned in the END, have rather been omitted. These were the task to inform and involve the general public and to protect the noise quality in cases where it was already good.

The action plan, intended to be directed towards mitigation of hot spots, is interpreted very differently in different countries and amongst different competent authorities. There is room for different interpretation, particularly because the actions are on a voluntary basis. The European Commission is reluctant to state obligatory limits or action thresholds, as this is the national state's exclusive responsibility under the subsidiarity principle.

Clearly, some ambitious cities can be identified, who have made available substantial budgets to

improve the noise situation of their citizens. But many others consider the effort of producing a map to be sufficient.

One reason for a lack of motivation may be the limited impact of mitigation measures, particularly when local measures such as quiet road surfaces are concerned. An action plan with these measures focuses on the highest noise exposure levels in the city and intends to eliminate these spots. The effect of the road surface, usually 2 to 4 dB(A), reduces the small numbers of highly exposed residents, but leaves the large numbers of lower exposed people unaffected. The result in terms of annoyance is likely to be disappointing, in particular for the city politician who would have wanted to celebrate the success with his or her voters.

The present paper proposes a process of targets and decision making steps that would allow a more effective noise reduction in the city. This will have the implicit result that both the citizens and the decision makers are more aware of what environmental noise is all about, which would persuade both of them to put more effort into this promising process.

2. Awareness

It all starts with awareness. Without a sense of urgency the citizens will not participate in the process of decision making about mitigation measures. And without active participation of the citizen, measures will be expensive and less effective.

Without participation of the citizen, the city's politicians will not be interested, as there is nothing in it for them. They are keen to present success stories and share them with their voters.

Awareness comes at a price; it is simply not present automatically. Media attention, noise awareness days, websites, citizen's forums, but also obvious signs in the city space, indicating calm areas as a contrast to noisy and busy areas, including acoustic quality into the creation phase of new urban space; all this will add to create and enhance noise awareness, thus creating the audience for the performance of the city's authorities.

3. Need for action

Ever since the early days of the END, there has been a call for obligatory action, saying that the European Commission should simply set limit values which would then have to be complied with by the Member States. The obvious objections are still valid: the Commission would probably adopt the highest limit value around amongst the EU27, not wanting to put too much pressure on the MS. And – as stated before – it would be against the subsidiarity principle. But nothing speaks against adding an article to the END which enforces that each Member State defines a national limit for mitigation of unacceptable situations, and subsequently adheres to this limit. This would render the information from the strategic noise map more relevant and would substantially raise the interest of citizens and politicians with the process of noise mapping.

4. Policy Definition

The Noise Action Plan as requested by the END is not a policy statement, i.e. not a tool for political planning as it does not define policy objectives. Neither is it an obligatory project plan, stating all the planned actions for the period until the next action plan. Developing a policy statement allows more relevant interaction with the public. An Environmental Noise Plan for a city should state,

what sort of city we want to be in terms of noise and tranquility. It should enable citizens to engage into these actions and to work out plans on how to become such a city. Preferably, citizens should be able to participate in the “conceptual design and detailed engineering” of the urban soundscape.

5. Options and scenarios

Mitigation measures can be categorized according to the approach chosen by the city authorities and the citizens themselves. In many cities, the emphasis has been on “solid, local measures with a predictable efficiency”, such as noise barriers and quiet road surfaces.

Currently, there is a much wider range of measures conceivable; generic measures, i.e. which bring about a reduction in the entire city, may consist of incentives to stimulate small quiet road vehicles (based on the future labeling of road vehicles, or, on a more abstract level, making the city virtually inaccessible for private cars, compensating for that by improving public transport in all its forms.

“Acoustic wellness” could be brought about by introducing protected calm areas, where relaxation from the busy city life can be found. Alternatively, a high noise exposure on the one façade can be compensated by a calm environment on the other façade of the same dwelling. Cities should be allowed to book in the positive effects of such “soft local measures” in their exposure assessment.

The attraction of these options is that they are available at relatively low cost and that they enhance the active participation of the citizens, much more than a quiet road surface would do.

6. Cost and benefit

Each serious option or scenario developed in step 5 should be analysed in terms of its cost and benefits. Various instruments are available to assess these aspects with reasonable accuracy. These could be based on e.g. hedonic pricing, willingness to pay, willingness to accept compensation, etc. For reasons of comparison it would be recommendable if the Commission could refer to a Good Practice Guide for “hedonic cost benefit analysis”, with a particular emphasis of the citizen's participation in assessing the cost and

benefits. Ideally, the citizen could even be engaged in the realization of the preferred option or scenario.

7. Reporting

Reporting the results of the above steps, including the measures actually introduced, the achieved results and the cost involved will be a condition sine qua non. It should be avoided that the process and all its steps remain within the city hall. Once the reporting is completely transparent and public, it will contribute essentially to the further awareness of both the citizens and the policy makers.

8. Actions

The concrete action for noise reduction measures must be carried out. This is the proof of the pudding and should give some enlightenment in the annoyance. An important aspect is that small reduction measures, which help for large groups of citizens, will not be notified by single human being. This will not give much support for these actions. And that brings us back to step number 1 "Awareness" and the process can start all over again.

9. And the real need for noise reduction?

One important question is whether the process is complete with the correct and the most effective requirements. According to the information the noise map gives, we can have lots of discussions on the needs for noise reduction measures versus an evaluated annoyance on the human needs. According to [2] the strategic noise map doesn't provide all the information for a comprehensive approach on environmental noise. For this reason it is necessary to use information gained in a population study to address priorities to both bottlenecks and measures. It has become clear that for organizational or other reasons, significant measures in the past have not been realized. For this reason it has been investigated how presented measures must be supported. The result of the first stage is an officially supported action plan from which an administrative/politically supported choice can later be made. It consists of two parts. On the one hand a set of noise reduction measures and their effectiveness and costs. The measures are embedded in a broader set-up: the Environmental Policy Plan. On the other hand an

officially supported foundation for the measures in the shape of an enumeration of the bottlenecks experienced in Amsterdam and appropriate possibilities for solving these.

10. Search for combinations

Good opportunities and real chances become clear when we look for opportunities to make projects with projects. Creating work with work, or a bit more extension in a project, what was already scheduled are possibilities.

We need to find a link between sound policy with other more urgent matters such as maintenance and construction of roads, etc.

11. "Do we have to keep it quiet?"

This was the title of a report of the Dutch ministry of environment. In one sentence it gives the conclusion of the contradiction of lots of environmental officials, who do have more and more less funding for noise reduction measures and more and more less time to even do their job. "Less attention to this subject gives me no hassle so why should I". Also for this reason the awareness did not have the attention it should and the attention on noise policy will fade away.

12. Conclusion

The process required to achieve an effective noise reduction in a city and close to major noise sources is dominated by the circle awareness, need for action, policy definition, options and scenarios, cost and benefits, reporting and the real actions. After this real action we should have the awareness on the action; does it make any sense? Besides this control loop we do have some aspects which influence this control loop.

References

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