Roles for public participation in the generation of robust knowledge about urban air quality in Europe:
making models more robust through public engagement

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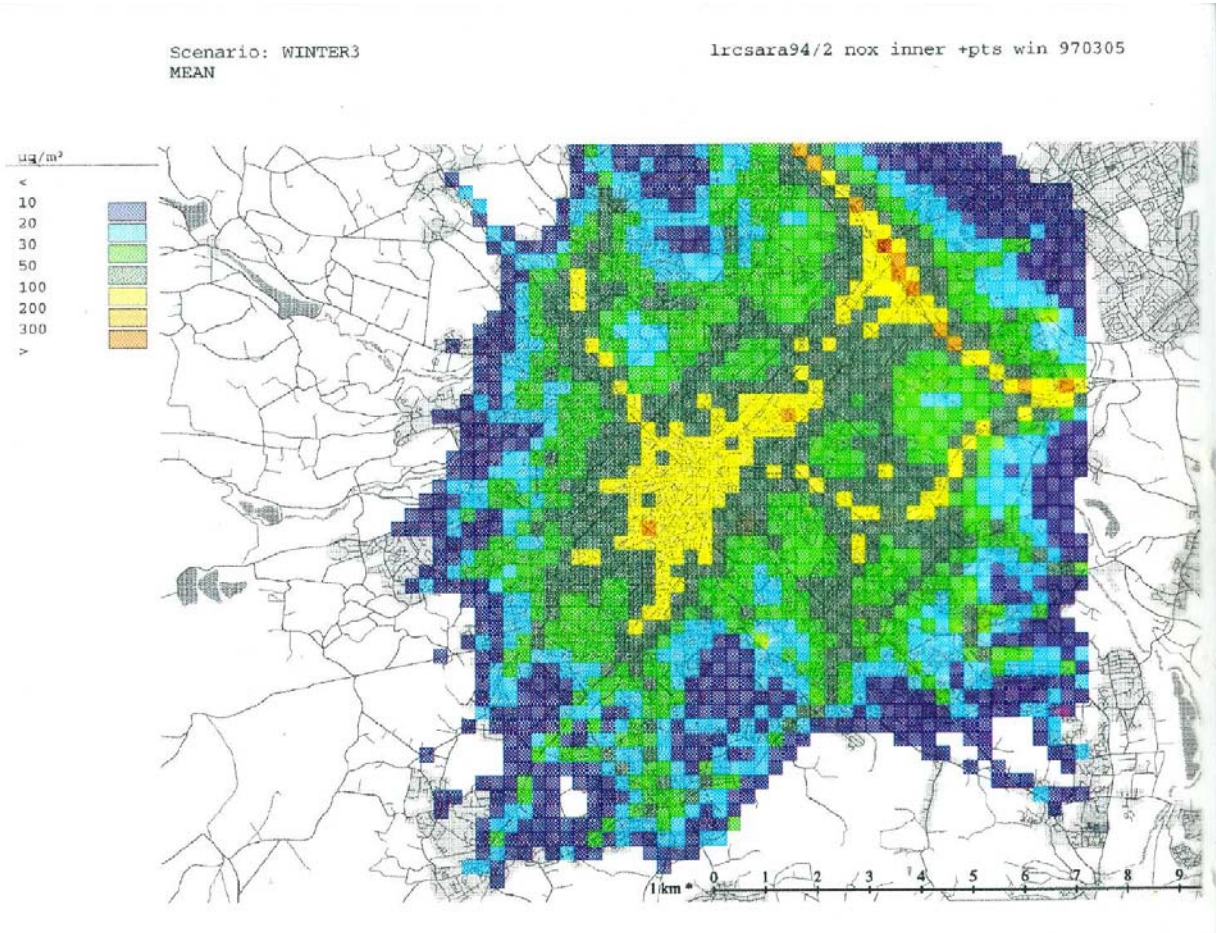
Outline

Three cases of air pollution where there may be potential for public engagement:

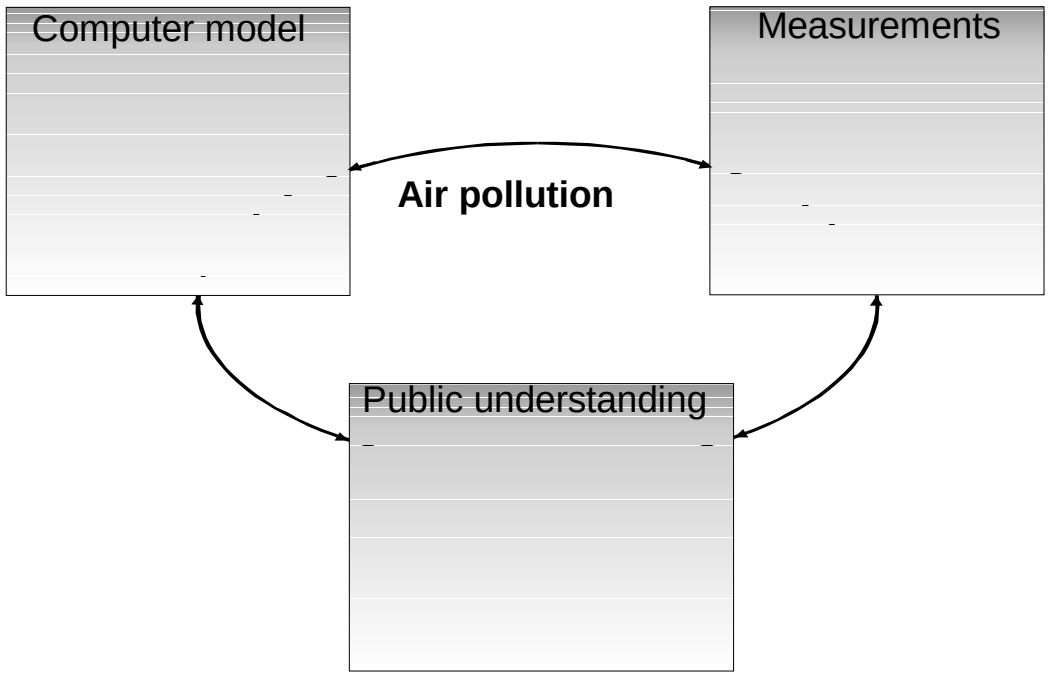
- public assessment of a model in Sheffield
- participatory mapping exercises in the UK
- LRTAP-type issues

Relation to “sustainability science” arguments.

Illustrative model output from Sheffield



Approach taken in ‘Citizen Groups’



Summary of responses from ‘Citizen Groups’

1. A concern with the value of the enterprise
2. A concern about the extent of monitoring and therefore the validity of the modelled projections
3. A concern about unchecked assumptions, for example about factory emissions or traffic surveys
4. A worry about how the model is used (or not) in council processes

Chief results from Sheffield study

- In this case, the public was capable of meaningful engagement;
- The public's role in this case was similar to that labelled as ‘extended peer review’ except that their engagement ranged far more widely than this term usually suggests.

Facilitating public engagement spatially

Initial study was limited because participants were largely unable to present their knowledge spatially. New approach adopted:

- Captures local stakeholder knowledge in a spatial framework
- Represents knowledge in a form compatible and comparable with the outputs and inputs of computer models
- Intended to be useful for creating dialogue between local stakeholder and planners, modellers and policy makers

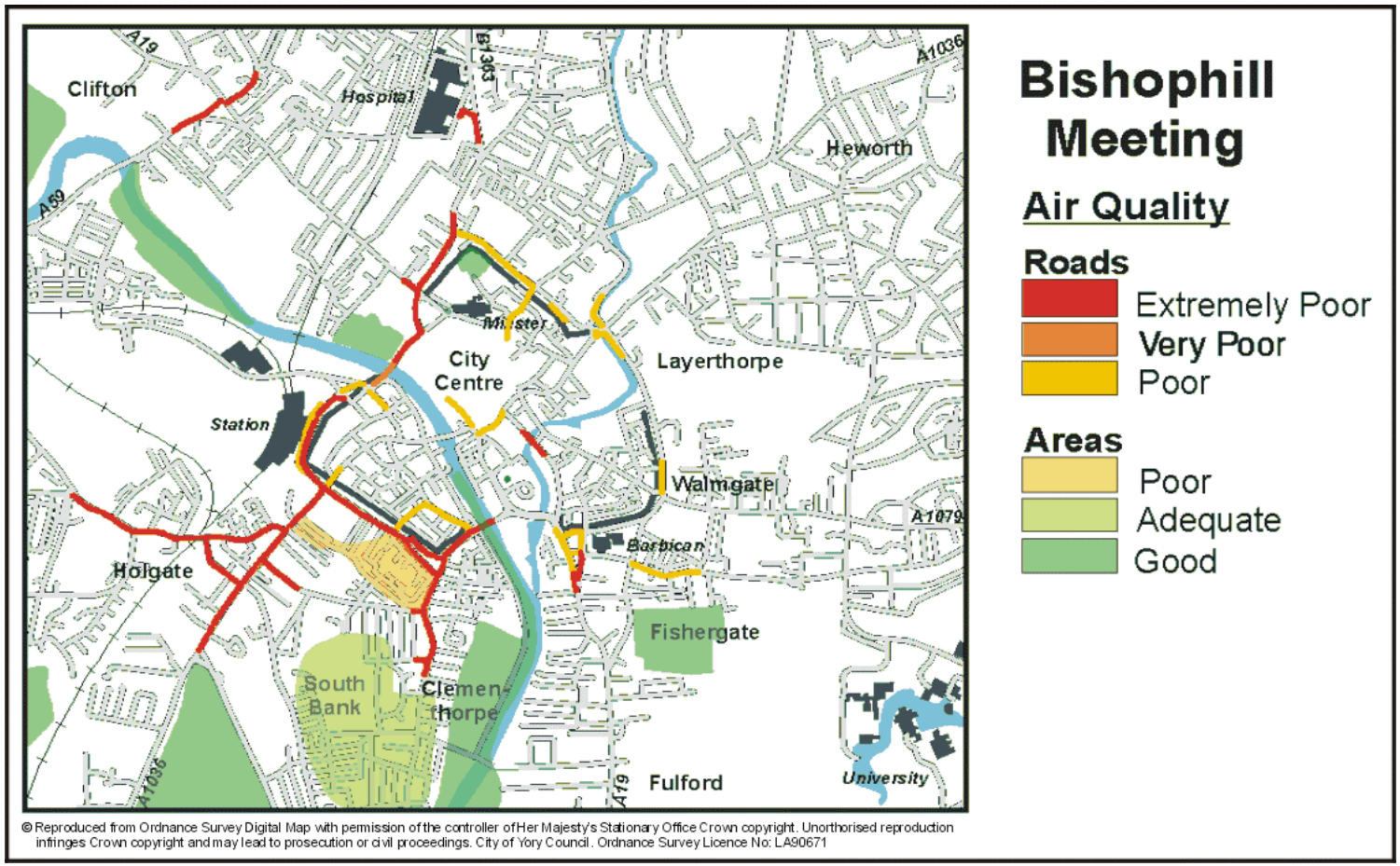
Four stages of the engagement process

Stage 1 – Local stakeholder framing of the issue(s)

- air pollution from transport
- air pollution from industry and agriculture
- dust problems
- smells
- noise (transport, industry)
- health impacts of air pollution

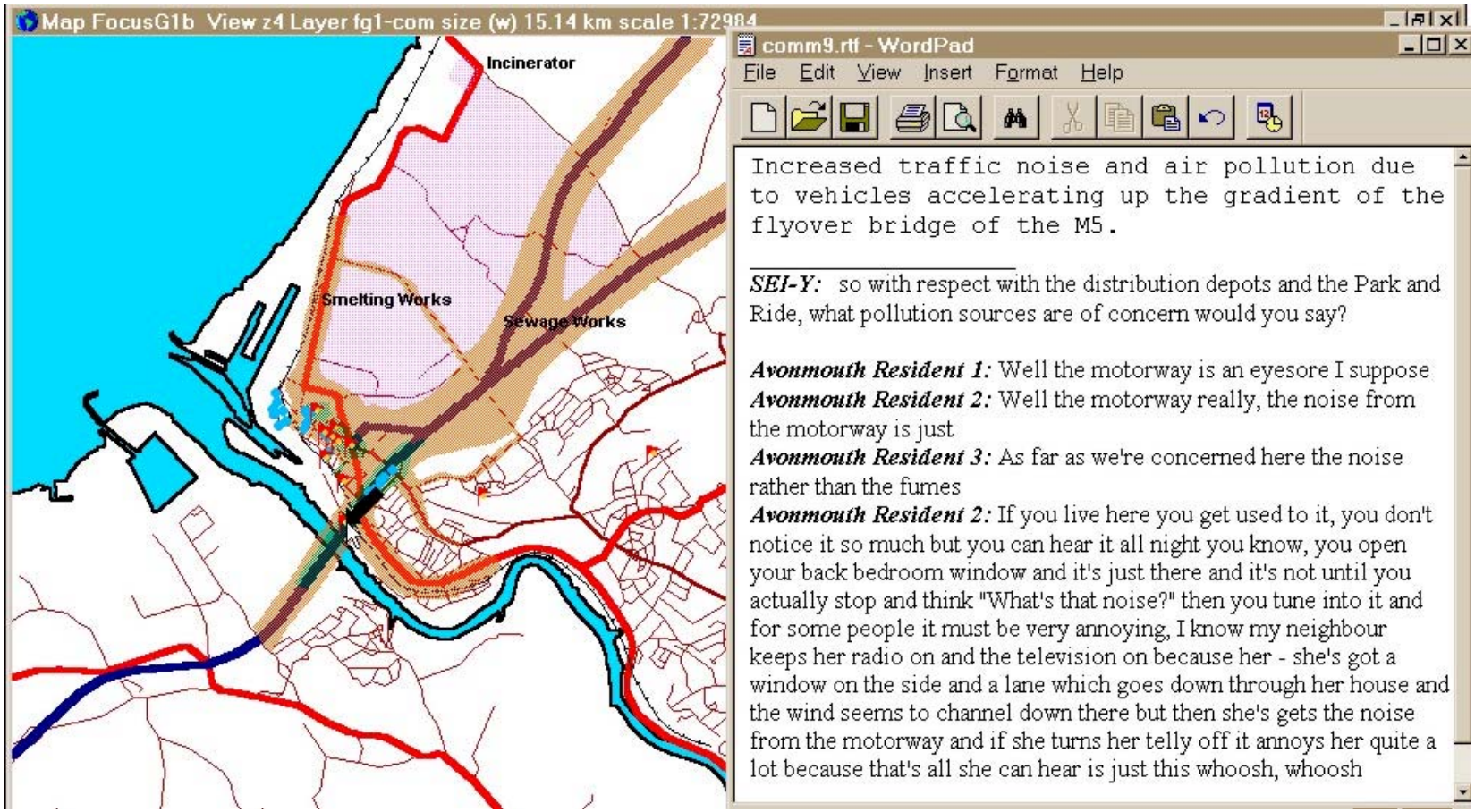
Second stage of the engagement process

Capture of local knowledge in a spatial framework



Stages of the engagement process

Transformation of knowledge into digital database

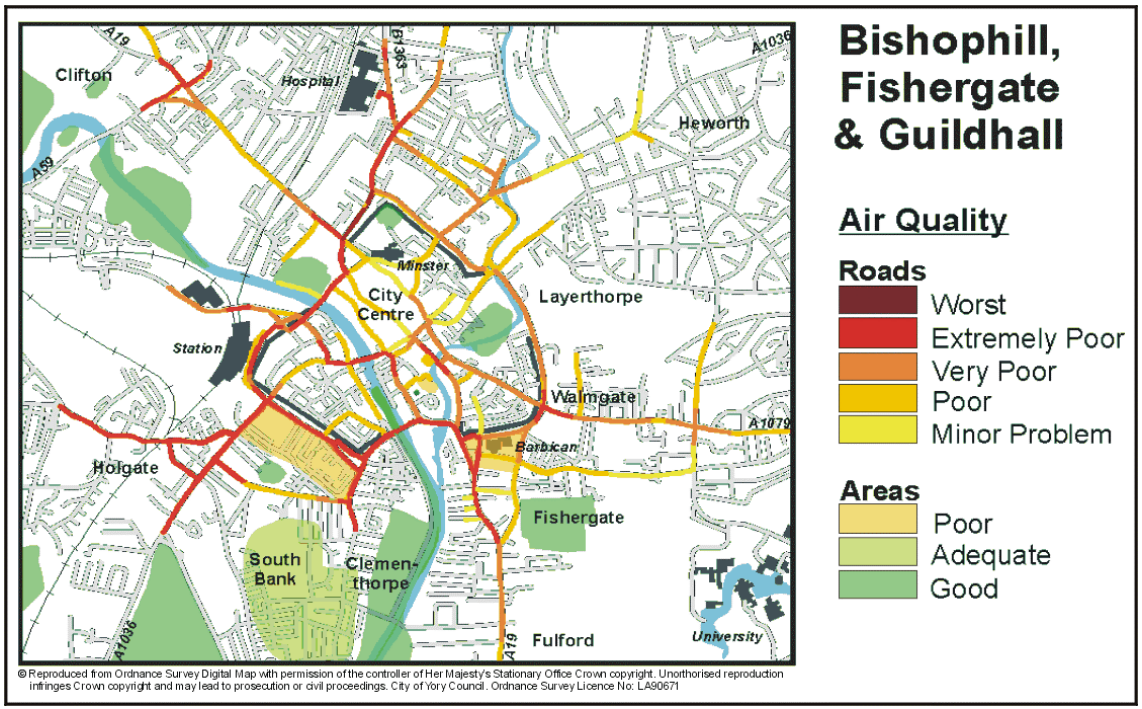


Stages of the engagement process

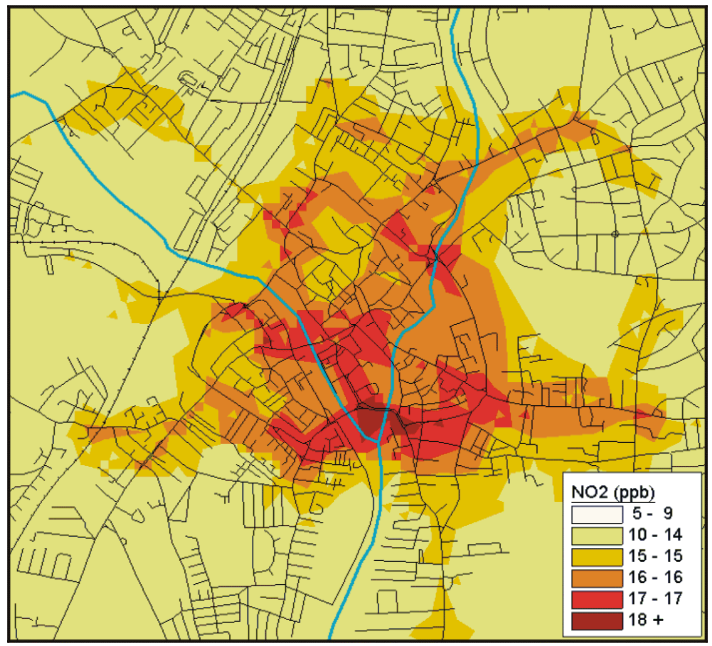
Validation of transformed digital data by local stakeholders.

Stakeholder perceptions vs. official computer modelling

Combined City-Centre Stakeholders Perceptions of Air Quality



Computer Model Prediction of 2005 Nitrogen Dioxide Concentrations



Chief results from mapping study

- The mapping exercises seemed to work well in that people responded readily to it and councils found it a good tool for consultation;
- The public's role in this case turned out to be less critical than in the less spatial, more propositional exercise.

LRTAP

Precisely to make it trans-national and to respect national sovereignty

- suffers are not originators
- pollutants are stealthy, invisible, and slow acting so people are not good detectors
- they are transboundary so local people are not knowledgeable about the original context.

It appears to be an expert's charter

Conclusions

Relation to “sustainability science” arguments:

- who determines when science is uncertain?
- is participation limited to cases of uncertainty?

Conclusions

In relation to climate change, Kasemir et al (2003) have claimed that there is a strong rationale for the involvement of public participation in environmental decision making. They assert that, if scientific understanding about environmental issues is uncertain, as it is with significant aspects of climate change, then policy decisions cannot simply be led by expert advice. Decisions will inevitably be matters of political judgement and in democratic societies such decisions should be democratic and transparent. Participatory techniques are one powerful means for democratizing the handling of such topics.

Conclusions

Relation to “sustainability science” arguments:

- who determines when science is uncertain?
- is participation limited to cases of uncertainty?