Good practice guidance on the assessment and management of air pollution from road transport

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Background
Journey to date: TSIG committee:

- Identified a potential need for a Good practice guidance on the
- Updated Australian State and New Zealand Road Agencies Environment Managers – Open to a written request for support
Values and expectations of CASANZ

The project would be set up and run to deliver the following strategic objectives:

- Provide a robust, relevant and useful guidance document.
- Ensure that a highly qualified and experienced team is engaged to undertake the project.
- Engage with stakeholders and leverage off their experience and expertise throughout the process.
- Provide value to all funding partners and stakeholders.
Performance objectives: Transparency and Efficiency.

Proposed:


- A Project Steering Group: Focus on technical issues and making sure the guideline is robust, relevant and useful.

- It is proposed that CASANZ salaried staff would provide the administrative support to the project.
Milestone Targets for 2017

- Incorporate CASANZ TSIG workshop feedback into the draft proposal
- Meet with and update Australian State and New Zealand Road Agencies Environment Managers on progress
- Seek AUSTROADS support for project
- Engage with New Zealand Stakeholders (today)
Proposed content
Overview

- Structure reflects discussions within T-SIG, and communications with the CASANZ Executive and other stakeholders
- Not prescriptive
- Not comprehensive
- Work broken down into Workpackages:
  - WP1 = governance
  - WPs 2-10 covered here
Workpackage 2: Guidance framework

Legislative/ regulatory/ policy frameworks.
Overview of new guidance and the assessment processes.

- Background and context
  - Why new guidance? (e.g. gaps, consistency, updating)
  - Sources, processes, pollutants, etc.
  - Legislation, standards and criteria
  - Requirements: policies, types of project, outputs needed for HRA, etc.

- Review of existing Aus/NZ and international guidance

- Overview of new guidance and assessment process
  - Assessment methods (policy, project appraisal, project assessment)
  - Stages of assessment (screening, simple, detailed)
  - Consultation with stakeholders
  - Links between assessment and design
Workpackage 3: Guidance methods

Steps in each method at a general level. Subsequent WPs provide the specific details, data and tools.

- Policy assessment method
- Project appraisal method (e.g. high-level feasibility of new road projects)
- Project assessment method (e.g. EIA)
  - Description of project
  - Study area and existing environment (topography, land use, met, receptors...)
  - Air quality monitoring and background concentrations
  - Assessment of construction impacts
  - Assessment of operational air quality impacts (local, regional)
  - Model evaluation
  - Interpretation, and significance of results
  - Prevention and management (construction and operation)
Workpackage 4: Background air quality

Review of existing methods for dealing with background.
New standard approach for use in conjunction with the guidance.

- Requirements
  - Understanding air quality and source contributions
  - Characterising spatial and temporal variation in pollutant concentrations
  - Background concentrations, air quality standards, and the limitations of assessment

- Review of existing methods
  - Pros and cons

- Consolidation & analysis of air quality data from Australia/NZ

- Guidance - ‘standard’ approach and supporting data
Workpackage 5: Emission modelling

Summary of different types of emission model. Applicability, inputs and outputs, and the pros and cons of each.

- Model review
  - Model types and applicability (e.g. aggregated, avg-speed, traffic situation, instantaneous)
  - Specific models, pros and cons

- Traffic data sources
  - Direct observation (e.g. manual/auto counts, classified counts, video, instrumented vehicles)
  - Crowd-sourced GPS data
  - Traffic models (assignment, meso-scale, micro-simulation, etc.)

- **Guidance - recommendation for modelling framework**
Workpackage 6: Met/dispersion modelling

Summary of different types of met and dispersion model. Applicability, inputs and outputs, and the pros and cons of each.

- Model review
  - Model types and applicability (Guassian, puff, Lagrangian...)
  - Specific models, pros and cons

- Post-processing, e.g.
  - Cumulative assessment (inclusion of background/non-modelled sources)
  - NO₂ calculation (empirical vs reaction schemes)

- Guidance – recommendation for modelling framework
Workpackage 7: Construction assessment

Summary of construction issues.
Standard method for construction assessment.

- Review of methods
  - Issues arising during construction (dust, odour....)
  - Challenges
  - Quantitative and qualitative methods

- Guidance – recommended approach
Workpackage 8: Air monitoring

Role of monitoring in air quality assessments. Review of available techniques and guidance for road projects.

- Role of monitoring
  - Model testing and validation
  - Pre and post-development air quality monitoring (performance)
  - Addressing community concerns

- Review of techniques
  - Lab-grade automatic, continuous analysers
  - Medium-cost instruments
  - Low-cost sensors and passive samplers
  - Pros and cons

- Guidance – recommendations for monitoring
Workpackage 9: Mitigation


- **Principles**
  - Construction and operation.

- **Review of measures**
  - Review of available mitigation/management measures, and approaches in AQ assessments.
  - Like effects of different measures.

- **Guidance – definition of approach**
Workpackage 10: Reporting

Guidance on the approach to reporting, and useful resources.

- Guidance on context for reports
- Guidance on content of reports
- Application of guidance
  - Worked examples to illustrate the application of the guidance for each use.
- Post-project evaluation
  - Review of methods and development of a method to determine whether the predicted impacts of a project were realised.
- Resources
  - Lists relevant resources, including legislation, guidance, sources of data, models, methodologies, etc.
Next steps
### Next steps

#### Proposed road map

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Indicative dates</th>
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<tbody>
<tr>
<td>1</td>
<td>Produce broad rationale and scoping document with indicative table of contents.</td>
<td>Feb 2017</td>
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<td>2</td>
<td>Brief CASANZ, and discuss process for development of guidance.</td>
<td>Feb 2017</td>
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<td>3</td>
<td>Gauge stakeholder interest in the project (Aus/NZ Road Environmental Managers Group, Austroads, and New Zealand's Transport Emissions Knowledge Hub).</td>
<td>Mar-Sep 2017</td>
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<td>4</td>
<td>TSIG workshop at CASANZ conference in Brisbane to present proposed contents and roadmap.</td>
<td>Oct 2017</td>
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<td>5</td>
<td>Further refine scope, incorporating feedback from workshop and report back to State Road Agencies Environment Managers meeting – Week starting 23 October.</td>
<td>Oct 2017</td>
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<td>6</td>
<td>Seek and confirm funding and in-kind support for the project.</td>
<td>Nov 2017</td>
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<td>7</td>
<td>Confirm funding viability of the project.</td>
<td>Dec 2017</td>
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<td>8</td>
<td>Project Phase 1 – Selection of Service Provider.</td>
<td>Jan and Feb 2018</td>
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<td>9</td>
<td>Project Phase 2 – Guidance Development.</td>
<td>Mar 2018 to Nov 2018</td>
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<td>10</td>
<td>Guidance promotion and dissemination.</td>
<td>&gt; Dec 2018</td>
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Early Milestone Targets for 2018

- Seek funding and in-kind support for the project.
- Confirm financial viability of the project.
- Go/No-go decision

Targets for 2018:

- Establish and leverage off links with AustRoads (Australasian road transport and traffic agencies) and PIARC (World Road Association)
- Phase 1 and Phase 2 of the project
Mid- Milestone Targets for 2018

PM Phase 1 – Selection of Service Provider (Jan-Feb 2018)

- Establish Proposal Evaluation Panel (funding partners, key stakeholders, CASANZ rep).
- Issue an expression of interest to the environmental service provider community.
- Shortlist three potential service providers + issue a request for proposal.
- Proposals evaluation and selection of preferred service provider.
- Contract negotiated with preferred service provider.
Final goals – late 2018

PM Phase 2 – Guidance Development and Delivery (Mar-Nov 2018)

- Establish **Project Steering Group** (funding partners, key stakeholders, CASANZ rep).
- Kick off meeting PSG + service provider.
- Milestone progress updates.
- Workshop draft guidance with Project Steering Group.
- Independent peer review of draft guidance.
- Stakeholder consultation.
- Finalisation of guidance.
- Guidance promotion and dissemination.