Progress on a Model
Community Noise Ordinance
Standard

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• Accredited Standards Committee S-12, Noise
  P. Schomer - Chair
  R. Hellweg - vice-Chair
• Working Group (WG) 41
• B. Brooks, L. Finegold – co-Chairs
• Given task to develop a model community noise ordinance
Model Community Noise Ordinance

Purpose:
Provide local authorities a basis for developing:
noise ordinance
zoning performance standard
Gives local communities a technical basis for being able to manage local sound environment
Model Community Noise Ordinance

• Should be suitable for all types of communities
  - Urban
  - Suburban
  - Rural

• Can be tailored for local circumstances
Local noise ordinances generally follow policy of:

**Source noise emission control**

Why?

- Common law system provides means to control individual or corporate behavior
- Individual property rights
Model Community Noise Ordinance

Four steps to developing an effective local noise ordinance
- Identify local official as focal point
- Determine local needs & issues (e.g., number & type of complaints – community input)
- Establish procedures for selecting noise control measures (i.e., a plan of action)
- Adopt, implement & enforce ordinance

Enforcement will be crucial to success
Model Community Noise Ordinance

• Should address
  - Acoustical metrics
  - Assessment criteria
  - Enforcement methodology
Model Community Noise Ordinance

Variety of available metrics:

Single value (ANSI S1.1 and S12.9, Parts 1-6)

\[ L_{AS} \]
\[ L_{Adn} \]
\[ L_{AE} \]
\[ L_{apk} \]
\[ L_{An} \ (n= 10, 50, 90) \]

frequency weighting, time weighting, averaging period
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Variety of available metrics:

Spectral properties
  Octave band levels
  1/3 Octave band levels
  Prominent tones
  SIL
Available *assessment criteria*:

1. Absolute level limits
2. Relative level limits

   Emitter level above background level

   (subject to definition)
Model Community Noise Ordinance

First draft model ordinance:

Property Line Noise Limits
Slow time weighting
Short time average (1 sec) $\text{Leq}$

Metrics:
1. A-weighted SPL
2. $\text{dB(A)}$ & C minus A levels
3. Octave Band (OB) levels
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Assessment Criteria:

Absolute limits:
Daytime level limits
Nighttime level limits
Impulse level limits
Limit adjustment for tones
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Assessment Criteria:

Relative limits
‘high background’ level limits
Assessment Criteria:

Limits at property line based on **Land Use** of receptor and emitter

1. Residential
2. Commercial
3. Industrial
**Model Community Noise Ordinance**

### Noise Limits: Residential receptor

**Industrial emitter**
- Daytime limit: 61 dBA
- Nighttime limit: 51 dBA

**Commercial emitter**
- Daytime limit: 55 dBA
- Nighttime limit: 45 dBA
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Octave Band Noise Level Limits

Industrial and Commercial Emitters to Residential Receiver

Octave Band SPL (re: 20 µPa)

Industrial Daytime OB Level Limits
- 61 dBA

Commercial Daytime OB Level Limits
- 55 dBA

Industrial Nighttime OB Level Limits
- 51 dBA

Commercial Nighttime OB Level Limits
- 45 dBA
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Limit on: C minus A levels

19 dB
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C-wt Limits: Residential receptor

**Industrial emitter**
- Daytime limit: 80 dBC
- Nighttime limit: 70 dBC

**Commercial emitter**
- Daytime limit: 74 dBC
- Nighttime limit: 64 dBC
Model Community Noise Ordinance

Issues yet to be addressed include:

- Will only emission limits adequately protect citizens? How can emission limits be integrated with immission limits?

- How can a local noise ordinance be integrated into a larger Community Based Environmental Protection (CBEP) Program?
Conclusions

Final version expected to be available by mid - 2002

Will provide a model that can be tailored - useful to all communities

Supplements local technical expertise

Can be linked to other local noise control programs (Community Based Environmental Protection)

Provides model ordinance which is objective and fair to all