CITY OF TSHWANE
NOISE MANAGEMENT POLICY

APPENDIX F

CITY OF TSHWANE NOISE CHARACTERISTICS
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The data provided in this Appendix form the initial base for the “Noise Attribute Map” which is prepared as a general indication of the noise sensitive areas and noise generators in the City of Tshwane.

F1. General Noise Problem Causal Factors in the City of Tshwane

In general, the following factors can be identified as the basis of the growing noise problem in the City of Tshwane:

i) An historical development of incompatible land-uses adjacent or near to each other. Specifically, the following relationships have resulted in or potentially may result in some degree of noise impact:

(a) Residential areas related to major transportation facilities. World-wide surveys have shown that transportation/traffic sources have major noise impact and particularly road traffic noise is experienced as the worst source of disturbance.

(b) Residential areas adjacent to retail complexes where there is electro-mechanical equipment such as refrigeration compressors, air conditioning units, etc.

(c) Residential areas related to noisy recreational and sporting facilities.

(d) Residential areas related to industry and mining operations.

(e) Residential areas related to schools/crèches.

(f) Schools/education facilities related to any major noise generating land-use/facility/operation.

(g) Retirement homes related to any major noise generating facility/operation.

(h) Hospitals/rehabilitation centres/hospices related to any major noise generating facility/operation.

Note that for certain land uses such as residential there may only be a night-time and weekend noise problem while for others such as retirement homes, hospitals, etc. there is often a 24 hour problem.

ii) The rapid growth of road traffic on all roads in the City of Tshwane and vehicles travelling at high speeds.

iii) New developments have been allowed to take place without adequate investigation of potential noise impact being undertaken and controls being placed on the development.

iv) Rezonings and special consent uses have been allowed to take place without adequate investigation of potential noise impact being undertaken and controls being placed on the development.
v) Many of the major noise sources are not controllable by Council, as they lie within the jurisdiction of other authorities/agencies. These are:

(a) Construction of, maintenance works on, and traffic operations on national and provincial authority roads.

(b) Railway noise.

(c) Military airbase noise.

(d) Civil airport noise.

(e) Noise from helipads at hospitals and other emergency service centres.

A number of these agencies have been exempted from applying the Noise Control Regulations (refer to Section 3.7.3.2).

vi) Construction sites in general have a disturbance/nuisance factor.

vii) Many vehicles exceed specified noise emission measurement standards.

viii) Within the Council there are several departments which are responsible for planning and/or work which have potential noise impact implications. There is not guiding policy for or comprehensive co-ordination between those Departments. Only two departments, namely Environmental Health and the Metropolitan Police Department, are presently specifically tasked with aspects of noise control. Application of effective noise management and control has also been limited by the lack of a comprehensive legal base and enabling procedures.

F2. Main Noise Sources in the City of Tshwane

The main sources of environmental noise and thereby potential sources of noise disturbance and/or noise nuisance are as follows:

i) Road traffic:

(a) Traffic on the freeways passing through the City of Tshwane’s area of jurisdiction:

- National Route N1 from the Samrand interchange in the south to the Hammanskraal interchange in the north.
- National Route N4.
- National Route N14/Route R28 from the Laezonia interchange (Route R511) in the west to Brakfontein interchange (National Route N1/Route R28), and thence northwards from the Brakfontein interchange to the interchange with Jan Smuts Drive (Route R101) in the southern sector of the Pretoria CBD.
Traffic on the main arterial routes, primarily Class 2 and Class 3 routes:

- provincial routes;
- municipal routes.

Traffic on lower order roads where posted speeds are exceeded and/or vehicles exceed the maximum noise emission standards.

The areas where traffic calming measures are applied there is a potential for an increase in noise levels.

ii) Passenger trains and freight trains on railway lines passing through or immediately adjacent to the boundaries of the City of Tshwane.

iii) Major public transport stops and termini:

   (a) Railway stations.
   (b) Bus stops.
   (c) Taxi stops/ranks.

iv) Airfields:

   (a) Waterkloof Military Airbase.
   (b) Zwartkops Military Airbase.
   (c) Wonderboom Airport.

v) Helipads:

vi) Mining and quarrying operations:

vii) Industrial areas.

viii) Sporting venues.

ix) Office blocks, shopping centres, etc. where electro-mechanical equipment such as air-conditioning units, refrigeration compressors, etc. is mounted externally to buildings.

x) Venues where musical entertainment is allowed, such as restaurants, taverns, discotheques, halls, stadiums, etc.
F3. Potential Major Sources of Noise

i) Council has identified the following planned major infrastructure elements related to the future development of the City of Tshwane, namely:

(a) There are several freeways and major arterial routes planned by Gautrans which will have a severe impact on existing noise sensitive land-uses, as well as any such land uses which are allowed to develop adjacent to the reserves of these roads.

(b) The Gautrain High Speed Rail Link.

F4. Noise Sensitive Areas/Activities

i) In general, the main noise sensitive land-uses/activities in Centurion are as follows:

(a) Residential areas;

(b) Schools/educational facilities.

(c) Hospitals, hospices and rehabilitation centres.

(d) Senior citizens’ retirement homes.

(e) Passive recreation areas:
   - river valley areas
   - potential and existing parkland;
   - parks; and
   - national monument areas.

ii) The following areas, and specifically the residential or other noise sensitive area, are potential Noise Control Areas as presently defined in the Gauteng Noise Control Regulations. Note that in this Policy these areas are termed supplementary controlled areas:

(a) In Gauteng, areas alongside freeways and major arterial roads where the measured existing 24-hour equivalent sound pressure (noise) level ($L_{eq}$) or the noise level calculation for the 15-year traffic projection exceeds 60dB(A). Refer to the note in Table 3.8.3, Section 3.8.3.

(b) In the North West province, areas alongside freeways and major arterial roads where the measured existing 18-hour (06h00 to 24h00) equivalent sound pressure (noise) level ($L_{eq}$) or the noise level calculation for the 15-year traffic projection exceeds 65dB(A).

(c) Areas affected by air traffic noise, where the calculated noisiness index (NI) contour around an airport/airfield, projected for a period of 15 years, exceeds
65dB(A). The situation that military airbases and civil airports are presently excluded from any form of control by the Noise Control Regulations is a major concern.

(d) Areas adjacent to industrial areas (including quarries and open-cast mines) where the 24-hour L_{eq} exceeds 60 dB(A).

(e) Areas adjacent to any other type of noise source where the L_{eq} over the period that the noise source was active exceeds 65 dB(A). (The South African National Standard SANS 10103:2003 applies with regard to the measurement period).

(f) Areas adjacent to railway lines where the daytime (06h00 to 22h00) equivalent continuous noise level is equal or greater than 60dBA and/or the night-time (22h00 to 06h00) equivalent continuous noise level is equal or greater than 50dBA. Refer to Appendix G.

A Noise control area needs to be proclaimed by the local authority and within such an area there are certain requirements and restrictions.

iii) The following uses/activities, which, although having a high noise disturbance value, are excluded from the requirements of the Noise Control Regulations at present:

(a) Military airbases.

(b) Civil airports.

(c) Railway operations (refer to Section F4.2 ii f).

These need to be included as facilities which require a related noise control area definition. Council considers that it is specifically relevant to establish the extent of the area adjacent to such facilities which is adversely affected by the noise generated by their activities.