

Extract from: Waitakere City District Plan
<http://www.waitakere.govt.nz/AbtCn/pp/districtplan/pdf/policy/objectivespolicies.pdf>

5.4 ISSUE - EFFECTS ON AIR QUALITY/ATMOSPHERIC QUALITY

Waitakere City experiences and contributes to the Auckland Region's air quality problems. The adverse effects on air of some industrial emissions, agrichemical spray drift, and motor vehicle emissions are partly determined by land use decisions.

In Waitakere City, sensitive land uses such as residential, life-style and organic farming have experienced adverse effects from agrichemical spray drift. Adverse effects on air quality also occur in the vicinity of some industrial processes. These adverse effects are influenced by location and buffering considerations, and by the conditions that new activities, particularly incompatible land users, are required to meet.

The dispersal of retailing away from major areas of population and business activity and particularly away from town centres could undermine the strategic direction and transportation objectives of the Auckland Regional Policy Statement, such as those provisions which relate to population intensification around major nodes, reduction in private motor vehicle use and emissions and encouragement of greater use of public transport.

The adverse effects of motor vehicle emissions on air quality are particularly marked. For example, on the average summer week day in Auckland in 1993 motor vehicles accounted for approximately 94% of all carbon monoxide emissions (756 tonnes/ day), 81% of all emissions of oxides of nitrogen (82 tonnes/day), and 46% of all carbon dioxide emissions (6,560 tonnes/day). Motor vehicles and industry also emit sulphur dioxide and particulates. Of these pollutants, particulates currently affect amenity, and carbon monoxide and particulate concentrations have the potential to affect human health.

Concerns regarding emissions of carbon dioxide (CO₂) do not relate to ambient air quality, but rather stem from the fact that CO₂ is a greenhouse gas. Increases in the atmospheric concentrations of greenhouse gases (a group which also includes methane and nitrous oxide) have

been implicated in global climate change. Although there is no international scientific consensus, the body of opinion within the International Panel on Climate Change is that "the balance of evidence suggests a discernible human influence in global climate". Climate change is a cumulative global effect, to which Waitakere City makes a contribution. Local contributions arising from land use activities may be addressed at a local level, so long as the means do not conflict with measures taken at the regional and national level. Regional objectives and policies are set out in the Proposed Regional Policy Statement.

Motor vehicle emission levels, and the viability of alternative modes of transport, are largely a function of urban form. In this context, land use decisions which influence population density and the location of trip destination points relative to each other, are particularly important. Thus land use planning is a means of addressing all vehicle emissions at source.

After emission, carbon dioxide is removed from the atmosphere through dissolution in the ocean and photosynthesis. Photosynthesis, particularly by forests and phytoplankton, converts carbon dioxide into plant material, and releases oxygen back into the atmosphere. Consequently, protection and enhancement of vegetation assists in mitigating the effects of increases in atmospheric concentrations of carbon dioxide.

From the above discussion, the following significant resource management issues have been identified as arising from land use activities:

General:

- reduced ambient air quality in metropolitan parts of the City;
- localised reductions in air quality in the vicinity of some land uses;
- the City's contribution to global changes in climate.

Specific:

- reduced ambient air quality due mainly to motor vehicle emissions;
- localised effects of industrial emissions in working environments;
- localised effects of spray drift in and adjacent to areas where agrichemical sprays are used;

- contribution to global climate change from vehicle CO₂ emissions.

Objective 4

To manage the effects of land use on the environment and, in particular, to maintain air quality, including contributing to the maintenance of the atmosphere at a local, national and global level.

Policy 4.1

Retail activities should be located in a way that minimises the adverse impacts of motor vehicles on air quality. Retail activities should be encouraged to locate in locations which will minimise vehicle trip length and numbers, promote passenger transport, support major town centres as key transport destination points, and reinforce those areas identified for population intensification. Any location of retail activity outside of town centres should not compromise the achievement of these aims.

Explanation

This policy emphasises the consolidation of *retail activities* in order to reduce the need for and length of vehicle trips. The policy has been adopted in part because of significant impacts on air quality that arise from vehicle emissions. *Retail activities* have been identified as having a major influence on the number and pattern of vehicle trips with the City. The wide dispersal of *retail activities* increases vehicle trips across the City, with consequent impacts on air quality from fossil fuel combustion products. The consolidation of *retail activities* will contribute to the reduction of trips by (amongst other things) encouraging people to carry out multiple shopping task sometimes in conjunction with other activities, or to utilise public or mass passenger transport systems. These aims would be best met by generally consolidating *retail activity* in *major town centres* which are, or will be, close to the highest population concentrations. Any new *retail activity* outside *town centres* will need to satisfy the matters outlined in Policy 11.17.

Methods

District Plan Rules:

- Retailing Rules

- Non-Residential Activities Rules
- Scheduled Sites Rules
- Working and Community Environment Rules

Other Methods:

- provision of design guidelines for medium density housing and advice to interested groups and individuals;
- promotion of medium density housing at Harbour View and other areas of the City;
- continued implementation of town centre revitalisation programmes.

Policy 4.2

Medium Density Housing should be encouraged in areas where it will help to reduce emissions from motor vehicles by reducing vehicle trip length and numbers and support public transport, in particular around main town centres, train stations and major roads.

Explanation

Research carried out in Australia and New Zealand has revealed strong links between low density urban settlement and high levels of private vehicle use. The studies show that higher densities correlate with higher passenger transport use, and that if these higher densities are located around main transport routes and junctions, this would contribute to more viable passenger transport systems (be it bus or train transport). Current densities, even with increased infill housing, are considered to be insufficient to enhance a viable passenger transport system.

This policy encourages the concentration of medium density housing around and within Community Environments and along key transport routes, as a way of contributing to the viability of transport systems. It is also intended to contribute to the vitality and liveliness of these central areas, as a way of maintaining and enhancing community focus on them, and countering pressures for an outward spread of the urban area. The concentration of medium density housing in these areas, and the limited construction in the Living Environment, ensure that there is less immediate pressure on surrounding residential areas.

Method

District Plan Rules:

- Provision for Medium Density Housing
- Medium Density housing Assessment Criteria

Other Methods:

- provision of design guidelines and advice to interested groups and organisations;
- promotion of medium density housing on council-owned land at Harbour View;
- adoption of a strong advocacy position by Waitakere City Council with interested groups.
- Council shall make available to developers and landowners the “Passenger Transport Supportive Land Use Guidelines” prepared by the Auckland Regional Council.

Policy 4.3

Pedestrian and cycle access should be designed and constructed in a way that facilitates the use of cycling and walking as transport methods, as means of avoiding the effects of motor vehicle emissions on air. This includes constructing them so that they are safe and easy to use, and choosing a route that maximises links with local neighbourhoods, shops, schools, community facilities, local recreation areas and town centres, and access routes to and through, where appropriate, the Green Network.

Explanation

The key to encouraging a shift from motorised vehicle use to other forms of transport is the provision of a safe, pleasant and integrated pedestrian and cycling system, that is linked with all parts of the City, and provides ease of movement around the local area.

Such a comprehensive system does not exist in Waitakere City. The policy does not necessarily mean that a separate pedestrian and cycle system has to be provided. Indeed it has been shown that the safety of pedestrians and cyclists is increased if the footpaths and cycle access are integrated with the road system. Clearly however, greater attention has to be paid to the design of this part of the access system.

Methods

District Plan Rules:

- Subdivision Rules

Other Methods:

- ensuring that cyclists’ needs are met through Waitakere City’s actions and through its Integrated Transport Strategy.

Policy 4.4

Roads should be designed and constructed in a way which minimises the adverse effects of motor vehicle emissions on air. This means reducing motor vehicle trip lengths and numbers, and alleviating congestion:

- through appropriate traffic control; and,
- by creating a roading pattern which maximises connections within and between local neighbourhoods, shops, schools, community facilities, recreation areas and town centres, taking into account natural topographic features; and,
- by designing and constructing roads in a way which facilitates the use of alternative modes of transport that are less polluting than the private motor vehicle, such as passenger transport, cycling and walking.

Explanation

The roading network has developed to service the public’s needs to access home, work and amenities. To date, land use provisions have generally led to these being too separated to enable walking or cycling between them. The resulting population density has been too low to allow development of an effective passenger transport system. In the absence of any viable alternative, the public has come to rely on cars for passenger transport, and the roading network has been designed to facilitate that choice. Little provision has been made to facilitate the use of alternative modes of transport which have less adverse effect on air quality, such as passenger transport, bicycles and walking.

Taken together, the policies in the Plan encourage, and are expected to result in, a higher density, mixed use city form. This will allow many more people’s transport needs to be met by means that are less polluting than the private motor vehicle. It is not possible to avoid the cumulative effects of motor vehicle emissions on the air, nor to remedy or mitigate the effects of emission after the event. Consequently this policy calls for the effects to be minimised, and indicates what is meant by this term in the context of roading design.

Methods

District Plan Rules:

- Subdivision Rules

Other Methods:

- provision of road design guidelines in Council's Code of Practice that indicate how integration and good design can be achieved.
- Council shall make available to developers and landowners the "Passenger Transport Supportive Land Use Guidelines" prepared by the Auckland Regional Council.
- advocating provision of bus priority lanes, bus links, and park and ride facilities within the transport network, as an important means of providing for the efficient flow of traffic.

Policy 4.5

Where possible, the use of fossil fuels should be minimised and eliminated as a source of energy and heating and replaced with renewable sources, the latter to be in a form that has the least adverse effect on the environment. Sustainable sources of energy should be used. In particular, the following sources should be promoted:

- **solar (space-heating and solar power);**
- **biogas (eg methane from landfills);**
- **wind;**
- **wood fuel (only when burned in appliances designed to minimise effects on air quality);**
- **waterways (undammed).**

Explanation

Policies 4.1 to 4.4 are concerned with influencing urban form to reduce vehicle trips, thus reducing emission of pollutants from use of fossil fuels in cars.

This policy is concerned with minimising the use of fossil fuels as a source of energy and heating. This long term policy is essential to eventually eliminating the problem of fossil fuel use as a key pressure on the environment.

Methods

Council recognises that it has an important advocacy role in this area and, in particular, in advocating to other government bodies the need to seek alternatives.

Policy 4.6

Activities involving the production and use of nuclear energy and storage of radioactive nuclear waste should not be located in Waitakere City, provided that the use of radioactive materials for health services may occur.

Explanation

This policy conveys the clear rejection of the production and use of nuclear energy, and storage of radioactive nuclear waste within the City. The potential for adverse effects on natural and physical resources, on the environment generally and on human health is that such activities involving use of radio active materials will not be allowed to locate within the City. An exception is made for the medical use of radioactive materials.

Methods

District Plan Rules:

- Prohibited Activities Rules

Policy 4.7

That a wide range of opportunities for Non-Residential Activities be provided within the urban area to help reduce the need for travel, and as a consequence reduce the discharge of contaminants from motor vehicles into the air.

Explanation

This policy signals that the Plan must provide for sufficient opportunities within the City to meet a greater proportion of the employment needs of the community. Currently (1996 census) up to 60% of the City's labour force commutes out of the city each day. The vehicle trips created by this commuting are a major source of air pollution. The Plan promotes a wide range of opportunities for employment activities to stem this outward commuting. The Working and Community Environments have been specifically set up to cater for employment activities. Non-Residential Activities are possible in the other residential and rural human environments, provided that their effects are compatible with the quality of the environment in these areas.

Methods

District Plan Rules:

Non-Residential Activities are possible in all Environments. The most liberal provisions for

employment activities are in the Working and Community Environments, where many Non-Residential Activities are a Permitted Activity. In the other Human Environments, Non-Residential Activities larger than a home occupation, generally require a resource consent.

ANTICIPATED ENVIRONMENTAL RESULTS

The preceding objective and policies relating to the protection of air quality are expected to achieve the following:

- a long term reduction in the concentration of motor vehicle contaminants, in the air;
- a long term reduction in motor vehicle emissions of greenhouse gases, particularly carbon dioxide, into the air;

MONITORING INDICATORS

In order to assess the suitability and effectiveness of the objectives, policies and methods in achieving the anticipated environmental results relating to air quality, the Council will develop and maintain a monitoring programme which may include the following monitoring indicators:

- monitoring changes in vehicle ownership and use in the City as a key source of greenhouse gases;
- monitoring the effectiveness of urban consolidation policies as they affect air quality, by measuring changes in journey to work patterns, passenger and private transportation usage, and the location and type of businesses around town centres;
- obtaining ambient air quality data for Waitakere City against which the effects of policies influencing motor vehicle emissions can be measured. If the Auckland Regional Council is unable to provide this data, then Council may undertake its own monitoring in the City, in a manner that complements the Auckland Regional Council's regional monitoring programme;
- monitoring resource consents for activities relating to air discharges, including the number of applications granted consent, compliance with consent conditions and the effectiveness of those conditions.
- monitoring the effect of urban consolidation on the ability of people and communities to meet their social and economic needs, including housing affordability.