8.2.23 Transport air quality corridor overlay code

8.2.23.1 Application

1. This code applies to assessing development in the Transport air quality corridor overlay, if:
2. assessable development where this code is an applicable code identified in the assessment benchmarks column of a table of assessment for an overlay (section 5.10); or
3. impact assessable development.
4. Land in the Transport air quality corridor overlay is identified on the Transport air quality overlay map and is included in the following sub-categories:
5. Transport air quality corridor A sub-category;
6. Transport air quality corridor B sub-category;
7. Tunnel ventilation stack sub-category.
8. When using this code, reference should be made to section 1.5 and section 5.3.3.

Note—The following purpose, overall outcomes, performance outcomes and acceptable outcomes comprise the assessment benchmarks of this code.

Note—Where this code includes performance outcomes or acceptable outcomes that relate to:

* air quality assessment, guidance is provided in the Air quality planning scheme policy;
* designing for air quality, guidance is provided in the Transport air quality corridor planning scheme policy.

8.2.23.2 Purpose

1. The purpose of the Transport air quality corridor overlay code is to:
2. Implement the policy direction in the Strategic framework, in particular:
3. Theme 3: Brisbane’s clean and green leading environmental performance and Element 3.2 – Brisbane’s environmental quality and sustainable design;
4. Theme 5: Brisbane’s CityShape and Element 5.8 – Brisbane’s Growth Nodes on Selected Transport Corridors.
5. Provide for the assessment of the suitability of development in the Transport air quality corridor overlay.
6. The purpose of the code will be achieved through the following overall outcomes:
7. Development, in the context that air emissions are greater in transport corridors than in less busy areas, ensures that site layout and building design:
8. minimise the impacts of air pollution from vehicle traffic on the health and wellbeing of users of a childcare centre, multiple dwelling, residential care facility or retirement facility;
9. maximise wind movement around buildings and the dispersion of traffic air pollutants;
10. minimise the impacts of air pollution from a tunnel ventilation stack on the health and wellbeing of occupants of sensitive uses.

8.2.23.3 Performance outcomes and acceptable outcomes

Table 8.2.23.3.A—Performance outcomes and acceptable outcomes

|  |  |
| --- | --- |
| Performance outcomes | Acceptable outcomes |
| Section A—If in the Transport air quality corridor A sub-category | |
| PO1  Development for a multiple dwelling, residential care facility, rooming accommodation where accommodating 6 people or more, or retirement facility minimises the impact of road traffic air pollutants on the health and wellbeing of an occupier of the development through:   1. adequate separation from the road; or 2. provision of ducted mechanical ventilation with supply of clean outdoor air. | AO1  Development for a multiple dwelling, residential care facility, rooming accommodation where accommodating 6 people or more, or retirement facility:   1. is set back to the greater of the requirements of any use code or the minimum separation distance, measured in the horizontal and vertical planes (refer to Figure a), from the kerb as specified in Table 8.2.23.3.B; or 2. is installed with ducted mechanical ventilation for the supply of outdoor air in compliance with AS 1668.2-2002: The use of ventilation and air conditioning in buildings - Mechanical ventilation in buildings, and: 3. locates the mechanical ventilation outdoor air intakes at least the minimum distance, measured in the horizontal and vertical planes (refer to Figure b), from the kerb as specified in Table 8.2.23.3.B; or 4. includes filtration of outdoor air to a minimum performance standard of F6 or minimum efficiency reporting value (MERV) 9.   Editor's note—MERV rating system (in accordance with the American Society of Heating, Refrigeration and Air-Conditioning) and the F rating system (in accordance with AS 1324.1-2001 Air filters for use in general ventilation and airconditioning - Application, performance and construction) are measures used to describe the efficiency with which particulate filters remove particles of a specified size from an airstream. The higher the MERV designation, the better the removal efficiency, particularly for smaller particles. |
| PO2  Development for a multiple dwelling, residential care facility, rooming accommodation where accommodating 6 people or more, or retirement facility minimises the impact of road traffic air pollutants on the health and wellbeing of an occupier of the development by incorporating best-practice built form and landscape design elements that maximise wind movement around buildings and the dispersion of road traffic air pollutants, including:   1. maintaining gaps between buildings at the 3rd storey or higher; 2. variation in the building facade, in addition to balconies; 3. varying the building shape and form from that of neighbouring buildings; 4. significant vegetation between the road and the building.   Note—A transport air quality corridor report prepared in accordance with the Transport air quality corridor planning scheme policy can assist in demonstrating achievement of this performance outcome.  Editor's note—A useful guide to good development design near busy roads is the Council guideline 'Designing for good air quality in transport corridors guideline'. | AO2  Development at the 3rd storey or higher for a multiple dwelling, residential care facility, rooming accommodation where accommodating 6 people or more, or retirement facility is set back at least the minimum separation distance specified in Table 8.2.23.3.B. |
| Section B—If in the Transport air quality corridor B sub-category | |
| PO3  Development for a childcare centre meets the air quality (planning) criteria in Table 8.2.23.3.C, to ensure that users are not exposed to harmful air pollutant levels.  Note—An air quality impact report prepared in accordance with the Air quality planning scheme policy can assist in demonstrating achievement of this performance outcome. | AO3  Development for a childcare centre ensures that a habitable room and any covered or uncovered outdoor activity area is located at least the minimum distance (measured in the horizontal and vertical planes) specified in Table 8.2.23.3.B. |
| Section C—If within the Tunnel ventilation stack sub-category | |
| PO4  Development does not:   1. expose the occupants of a sensitive use to an air pollutant that exceeds the air quality planning criteria in Table 8.2.23.3.C, due to the operation of a tunnel ventilation outlet; 2. affect the dispersion of air pollutants to the extent that existing sensitive uses will be exposed to air pollutants that exceed the air quality (planning) criteria in Table 8.2.23.3.C.   Note—An air quality impact report prepared in accordance with the Air quality planning scheme policy can assist in demonstrating achievement of this performance outcome. | AO4.1  Development has a building height which is at least 10m lower than the height of the tunnel ventilation outlet. |
| AO4.2  The development does not include a childcare centre. |

Table 8.2.23.3.B—Air quality corridor minimum separation distances

|  |  |  |
| --- | --- | --- |
| Route type | Minimum separation distance measured from the kerb | |
| Transport air quality corridor A sub-category | Transport air quality corridor B sub-category |
| Motorway route | 30m | 80m |
| High-volume traffic route | 20m | 80m |
| Intermediate-volume traffic route | 10m | 40m |
| Moderate-volume traffic route | - | 40m |
| High-volume intersection | 30m | 60m |

Table 8.2.23.3.C—Air quality (planning) criteria

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Pollutant | Averaging time | Health outcome protected | Criteria including background (µg/m3) | Criteria including background (ppm) |
| Nitrogen dioxide | 1 hour | Health and wellbeing | 250 | 0.12 |
| Annual | Health and wellbeing | 62 | 0.03 |
| Sulfur dioxide | 1 hour | Health and wellbeing | 570 | 0.2 |
| 24 hours | Health and wellbeing | 230 | 0.08 |
| Annual | Health and wellbeing | 57 | 0.02 |
| Particulate matter (PM) as total suspended particulates (TSP) | Annual | Health and wellbeing | 90 | - |
| PM less than 10µm (PM10) | 24 hours | Health and wellbeing | 50 | - |
| PM less than 2.5µm (PM2.5) | 24 hours | Health and wellbeing | 25 | - |
| Annual | Health and wellbeing | 8 | - |
| Carbon monoxide | 8 hour | Health and wellbeing | 11,000 | 9 |
| Dust deposition as insoluble solids | Annual | Protecting aesthetic environment | 4g/m2/month | - |
| 1,3-butadiene | Annual | Health and wellbeing | 2.4 | 0.001 |
| Acetaldehyde | 1 hour | Odour | 42 | 0.023 |
| Acetone | 1 hour | Health and wellbeing | 22,000 | 9.2 |
| Benzene | Annual | Health and wellbeing | 10 | 0.003 |
| Benzo(a)pyrene (as marker for PAH) | Annual | Health and wellbeing | 0.3ng/m3 | - |
| Cadmium and compounds (as total metal content in PM10) | Annual | Health and wellbeing | 5ng/m3 | - |
| Chromium III compounds | 1 hour | Health and wellbeing | 9 | - |
| Chromium VI compounds | 1 hour | IARC Group 1 carcinogen (known human carcinogen) | 0.09 | - |
| Copper dusts and mists | 1 hour | Health and wellbeing | 18 | - |
| Copper fumes | 1 hour | Health and wellbeing | 3.7 | - |
| Cyclohexane | 1 hour | Health and wellbeing | 19,000 | 5 |
| Ethylbenzene | 1 hour | Health and wellbeing | 8,000 | 1.8 |
| Formaldehyde | 1 hour | Protecting aesthetic environment | 96 | 0.07 |
| 24 hours | Health and wellbeing | 54 | 0.04 |
| Lead and compounds (as total metal content in TSP) | Annual | Health and wellbeing | 0.5 | - |
| Manganese and compounds (as total metal content in PM10) | Annual | Health and wellbeing | 0.16 | - |
| n-Hexane | 1 hour | Health and wellbeing | 3,200 | 0.9 |
| Nickel and compounds (as total metal content in PM10) | Annual | Health and wellbeing | 0.02 | - |
| Styrene | 1 hour | Odour | 65 | 0.014 |
| 7 days | Health and wellbeing | 280 | 0.06 |
| Annual | Health and wellbeing | 270 | 0.036 |
| Toluene | 1 hour | Odour | 958 | 0.23 |
| 24 hours | Health and wellbeing | 4,100 | 1 |
| Annual | Health and wellbeing | 410 | 0.1 |
| Xylenes (as a total of ortho, meta and para isomers) | 24 hours | Health and wellbeing | 1,200 | 0.25 |
| Annual | Health and wellbeing | 950 | 0.2 |
| Zinc chloride fumes | 1 hour | Health and wellbeing | 18 | - |
| Zinc oxide fumes | 1 hour | Health and wellbeing | 90 | - |

Note—

* Criteria that are stated in µg/m³ are to be referenced to 0°C.
* Criteria that are stated in ppm are to be expressed as volume/volume.
* Averaging times of 1 hour or less are to be presented using the modelled 99.9th percentile concentration of the total site impact from dispersion modelling and background concentration for all pollutants in the above table, or the maximum concentration from dispersion modelling if no background concentration is available.
* Averaging times of greater than 1 hour are to be presented using the maximum concentration of the total site impact from dispersion modelling and background concentration.
* Dust deposition is the maximum allowable level from new and existing sources, calculated from annualised modelling data.
* Polycyclic aromatic compounds (PAH) are assessed as benzo(a)pyrene equivalent using potency equivalency factors as listed in the Air quality planning scheme policy.
* ng nanograms.



