

Childcare Centre Safety: Ventilation.

Childcare Centres need to have Covid-19 safe facilities for the safety and welfare of their cohort of 0 to 5 years of age, unvaccinated children.

Proper ventilation is paramount to maintaining safe air in a facility.

Recirculation of internal air is unacceptable with Covid-19 mitigation measures, making split systems which do not introduce fresh air, inappropriate. Where cross ventilation via open windows is not possible, mechanical ventilation of premises, including air filtration, is required to provide the requisite number of air changes per hour. Carbon dioxide monitoring of activity spaces is used to assess the effectiveness of the ventilation.

With childcare centres located on major roads, the presence of road noise, and possibly fine particulates and fumes, means that windows and doors need to remain closed at all times, and natural ventilation is not possible. The advice of a qualified Mechanical HVAC engineer is recommended to advise on and design a fit for purpose ventilation system. High Efficiency Particulate Air (HEPA) grade air purifiers may be used in rooms with inadequate ventilation.

Along with mask wearing for all children aged 2 plus years, the above measures reflect a successful model used with school reopening in San Francisco. A group of Australian medical and scientific experts, known as OzSAGE, recommends following such procedures. Refer "Protecting children from Covid-19 and making schools and childcare safer- 1 October 2021." and "Safe Indoor Air (Ventilation)- Recommendations-6 September 2021."

Premier McGowan and the Health Minister have advised that it is inevitable that Covid-19 will spread to the WA community. This means that we must implement action, such as advised by OzSAGE, to protect our most valued asset, our children. Development Applications for childcare centres need to reflect the incorporation of safe and appropriate ventilation measures to protect children.

Max FitzGibbon

9 October, 2021

DAP-2021-9 Child Care Premises at 488 Canning Highway, Attadale.

“Good quality childcare infrastructure provides a key role in the mental and physical development of young children,” advises City of Melville DRP.

This deputation, in the pursuit a Safe and Healthy environment for vulnerable children aged 0 to 5 years, in childcare, seeks to demonstrate several shortcomings of the DA which make the DRP goal unachievable at 488 Canning Highway.

1. POOR AIR QUALITY:

The site is located on the eastbound lanes of 60km/h Canning Highway, on the corner of Redcourt Road, on a reasonably steep descent from Preston Point Road to Hislop Road, Attadale. Due to the descent, vehicles travelling at 60km/h need to use their brakes to hold that speed. This braking in turn generates fine metal particulates, in addition to other usual road dust and volatile organic compounds, which, if ingested, are extremely detrimental to the health of developing children aged 0 to 5 years. There can be no doubt that Canning Highway traffic, down the hill and passing the centre, generates an air quality in excess of the ambient for the Attadale area. The close proximity of the centre to Canning Highway, about 5 metres to the building and the external play areas, makes the centre a “hot spot.”

The westbound lanes of Canning Highway climb fairly steeply and are about 4 to 5 metres above the eastbound lanes in front of the centre. They contribute to the poor air quality, perhaps with a lesser amount of the particulates generated by braking, but more VOC's. Prevailing south-westerly breezes blow this contamination toward the centre and the external play areas. Such air quality and noise in the external play areas should not be inflicted upon young children. They are our future. With Covid 19 inevitably coming to Perth, as advised publicly by the Premier and the Health Minister, it would be useful if the children could spend a good portion of their day outside in fresh air. Unfortunately, both the poor air quality and the excessive traffic noise prevents this, and they will have to remain behind closed windows and doors.

It is important to note clause 7, “Observations and Interpretation,” on page 10 of the Air Quality Assessment. It states “The site measured data collected, and the data acquired from DWER data on the 3rd and the 6th of September are well within the general population guidelines used to assess the potential exposure of children in the proposed childcare facility to pollutants. It is commonly accepted that additional protection is required for young children and factors of 5 – 10 lower have been proposed, and applied, for example in Queensland.”

It is understandable that LPP 1.12 Childcare Policy, has been revised to regard sites such as 488 Canning Highway an undesirable location for a childcare centre, due to excessive air quality and noise.

Section 8 of the Air Quality Assessment noted “that the move to electric vehicles should mitigate the level of pollutants generated by internal combustion vehicles over time.”

True for exhaust emissions, but EV take up in Australia is very slow, with the future rate of take-up difficult to forecast.

A press release by Emission Analytics, Oxford, UK, 6 March 2020, advised that “tight regulation of exhaust emissions by the EU has meant that new cars emit very little particle pollution, but tyre wear pollution can be 1,000 times worse. However, non-exhaust emissions (NEE) are particles released into the air from brake wear, tyre wear, road surface wear and re-suspension of road dust during on road vehicle usage. NEE’s are currently believed to constitute the majority of primary particulate matter from road transport. 60% of PM2.5 and 73% of PM10. In a 2019 report by the UK Governments Air Quality Expert Group (AQEG), it recommended that NEE are immediately recognised as a source of ambient concentrations of airborne particulate matter, even for EV’s.” This is a concerning issue for the childcare centre which is to see a 78% increase in vehicles per day, to 60,000 vpd by 2041.(MRWA)

In the May 31, 2020, edition of Chemical and Engineering News, Canadian science writer Janet Pelley described the research by neurotoxicologist Deborah Cory-Slechta, in an article titled “How Air Pollution messes with our minds. It inflames the brain, sparking reactions that lead to diseases such as dementia and autism.”

The “Perth Corridor Study, 2007-2008, references an analysis by the Bureau of Transport and Regional Economics, Canberra, advising the public health implications and costs of road traffic air pollution to the Australian community was \$3.3 billion in 2000. (BTRE, 2005)”

On 22 September, 2021, in response to my enquiry regarding traffic-related air pollution and the establishment of childcare centres on main roads, directed to the Premier, the Office of Hon Amber-Jade Sanderson, MLA, Minister for Environment; Climate Action; Commerce, responded as follows: “World-wide scientific literature over the past 15 years shows that reducing exposure to traffic-related air pollution will provide public health benefits.

The Perth Air Quality Management Plan, currently under review, aims to ensure clean air is achieved and maintained throughout Perth. This includes consideration of air quality issues in land use and transport planning decisions. The departments of Health; Planning, Lands and Heritage; and Transport have representatives on the Air Quality Coordinating Committee that oversees the Perth Air Quality Management Plan.”

2. EXCESSIVE TRAFFIC NOISE:

SPP-5.4 advises a maximum noise level of 55 dB in outdoor childcare play areas.

Outdoor play is an essential element of a child’s development, both physically and mentally. The Acoustic Noise Assessment for the site has indicated a noise level of 75 dB at the Canning Highway centre frontage, and excessive levels of 56 dB in the external baby’s area on the ground floor, and 55 dB in the external play areas upstairs. The acoustic report states “Out-door play areas: Sufficient outdoor recreational space is provided on the north side of the centre away from the road corridor.” Such statement

recognises that the proposed centre does not adequately provide safe external play spaces for the children, with respect to excessive noise levels. With the elevated westbound lanes 4 to 5 metres above the eastbound lanes, and the descent of eastbound traffic down the hill toward the centre, line of sight noise entry makes it practically impossible to prevent excessive noise levels externally on the premises. MRWA forecasts a 78 percent increase in traffic volume by 2041, from 34,291 vehicles per year now, to 60,000 vehicles per year, past the centre.

3. PUBLIC SAFETY:

MRWA has conditioned its approval on 7 matters. Of particular concern is condition 4. "Prior to occupation of the building, a safety barrier must be installed at the applicants cost, to protect the external play area adjacent to Canning Highway." Justification for the condition by MRWA is "Public safety and protection from errant vehicles will need to be undertaken (sic) by the developer within the property boundary." No easy task. The portholes and glass panels in the Canning Highway wall detract from the strength of the wall. Additionally, at the south west corner of the block, the wall on Canning Highway, and the west wall sharing the boundary with 486 Canning Highway, both require 1.5 metre truncation work to provide safe sightlines to the footpath, for vehicles exiting 486 Canning Highway, as required by City of Melville LPP3.1 Residential Development. The stone wall in front of the external stairs in the NE corner obstructs the sightlines of vehicles exiting the car park, to pedestrians using the path immediately in front of the stone wall.

4. VENTILATION:

Ventilation, with Covid 19, is critical to the health and safety of the "unvaccinated" children, and the staff. Recirculation of air via simple split systems, mentioned in the Acoustic assessment, is unacceptable, as advised by OzSAGE experts. It is also highly likely that the operable skylight to the Toddler room roof, recommended by the Design Review Panel, would not meet building acoustic attenuation requirements. Noise issues dictate that all windows and doors of the centre would need to remain CLOSED during operating hours, and CO2 levels would need to be monitored. Natural cross ventilation by opening windows, as suggested, is not possible. The State of Victoria has procured 50,000 HEPA air purifiers for schools and childcare centres. See Ventilation of Childcare summary attached as a Word document.

Max FitzGibbon
25 October 2021