Maribyrnong City Council
Street Address:
Cnr Napier and Hyde Streets
Footscray
Postal Address:
PO Box 58, Footscray, Vic 3011

P: (03) 9688 0200
F: (03) 9687 7793
email@maribyrnong.vic.gov.au
www.maribyrnong.vic.gov.au

Maribyrnong
CITY COUNCIL

Submission:

Clean Air for All Victorians: Victoria's Air Quality Statement.

Prepared by:

Maribyrnong City Council
29[6] June 2018

Air Quality Coordinator
Department of Environment, Land, Water and Planning
PO Box 500
Melbourne VIC 8002

6th July 2018

Clean Air for All Victorians: Victoria's Air Quality Statement

Maribyrnong City Council welcomes the opportunity to provide a submission to the *Clean Air for All Victorians: Victoria's Air Quality Statement.*

The City of Maribyrnong is one of the smallest and most densely populated municipalities in Victoria and has a forecast population for 2018 of 91,204 and is anticipated to increase to approximately 157,000 by 2041. Because of the proximity to the Port of Melbourne, the City is at the epicentre of the expanding growth in international trade coming into and going out of Australia. This expansion is fuelled mainly by diesel for the ships, trains and trucks that transport goods around the country. Maribyrnong's residents are disproportionately affected by poor air quality, when compared to other major metropolitan areas, and are continuing to subsidise the movement of goods around the country with their health. There are over 20,000 truck movements per day throughout the Municipality

There is overwhelming medical evidence documenting the serious adverse health effects of exposure to poor air quality, including asthma attacks, strokes, heart attacks, adverse birth outcomes, effects on the immune system, multiple respiratory effects, and neurotoxicity.

Diesel emissions are a major contributor to reduced air quality in urban airsheds. In 2012 the World Health Organisation recently upgraded the cancer risk from diesel exhaust from 'probably carcinogenic to humans' to 'carcinogenic to humans'. This presented a major shift for government regulatory authorities to review current standards and recognize the need for adjustment to those standards to reflect this change, particularly in the area of exposure to PM2.5 and Ultrafine Particles (UFPs). So far this has not occurred.

The Victorian EPA has a unique opportunity to demonstrate strong leadership and reduce the individual, social and health impacts of air pollution on all Victorians. Maribyrnong City Council also strongly supports and encourages the continued efforts of the State government to reduce the health impacts of poor air quality throughout Victoria.

Maribyrnong City Council's submission to the Victorian Air Quality Statement will focus mainly on transport diesel emissions, including road, rail and shipping, and the associated economic, environmental and health problems that accompany those emissions.

Yours sincerely

Keith Loveridge
Maribyrnong City Council
Senior Sustainability Officer
Postal Address: P.O. Box 58 Footscray, Victoria, 3011

Recommendations:

1. **Climate change - continue to initiate policies that reduce carbon emissions and diesel particulates.**
2. **Remove diesel trucks from residential streets and change State planning legislation to protect 'sensitive use' facilities from high traffic volume transport corridors.**
3. **Cleanest air possible - stop using the National Environment Protection Measures objectives and advisory reporting standards as levels that provide protection for human health and wellbeing.**
4. **Provide funding for reducing diesel emissions through an alternative fuels program, such as hydrogen, diesel/electric hybrid vehicles and electric vehicles, and introduce legislation for reducing emissions from diesel trains.**
5. **Fund a Clean Ports Program for the Port of Melbourne.**
6. **Fund a Clean Truck Program for vehicles using the Port of Melbourne terminals and residential streets.**
7. **Freight on Rail initiatives.**
8. **Provide adequate protection of human health in smaller communities and known air pollution hotspots.**
9. **Further research and future policy development on air quality is urgently required.**
10. **Introduce an 8 hr. standard for particulate matter, including PM1.**
11. **Ensure compliance with emission standards for cars and heavy vehicles.**
12. **Change government fleet purchasing policies and tender specifications to reduce the diesel vehicle fleet.**
13. **Re-instate the smoky vehicles reporting mechanism for the 10-second rule for heavy vehicles.**

Introduction

Air pollution contributes to the premature death of thousands of Australians each year[1]. There is overwhelming medical evidence documenting the serious adverse health effects of exposure to air pollutants, particularly diesel exhaust. The World Health Organisation (WHO)[2] recently upgraded the cancer risk from diesel exhaust from 'probably carcinogenic to humans' to 'carcinogenic to humans'.

The Clean Air Task Force report (2005) *Diesel and Health in America: The Lingering Threat,* estimates that 21,000 people die prematurely each year in the U.S.A as a result of exposure to fine particle pollution from diesel exhaust.

The evidence is very clear and unequivocal regarding the human health toll from air pollution at levels below the current State and Federal objectives and standards. Additional measures are urgently required to improve the amenity of affected municipalities, such as Maribyrnong, by implementing exposure reduction policies that will lower exposure levels for all affected Australians.

The National Environmental Protection Council (NEPC), *Ambient Air Quality NEPM Review in 2011,* had a number of recommendations relating to the serious health effects posed by air pollution.

---

[1] Begg, Vos, Barker, Stevenson, Stanley & Lopez, 2007*, The burden of disease and injury in Australia, Australian Institute of Health and Welfare* 2003, p234, http://www.aihw.gov.au/publication-detail/?id=6442467990

[2] World Health Organisation, 2012, Press Release No. 213 12 June, *IARC: Diesel Engine Exhaust Carcinogenic,* http://press.iarc.fr/pr213_E.pdf

'The NEPC review concluded that there were significant health effects at current levels of air pollution in Australian cities and the findings indicated that the current standards are not meeting the requirement for the protection of human health. It also concluded, through evidence based research, that there was no safe level of exposure.

For particulates and nitrogen dioxide (mainly from diesel emissions), there is a linear dose response relationship over a large range of exposure levels. This means that, even at levels below the current targets, further health gains can be achieved by further reduction in pollutant levels. There is evidence that these standards should be revised to minimise the impact of air pollution on the Australian population.'

Breathable air for the community must not be relegated to an 'economic privilege'. It must be a basic human right and Victoria's Air Quality Statement can assist in addressing this clear inconsistency in air quality standards and their stated purpose of protecting the health of all Victorians.

Discussion

It is universally recognized that cities around the world have air pollution problems. Some cities are worse than others and certain locations in those cities bear an unfair burden for our consumptive excesses, due to the absence of emissions compliance, lack of understanding of the consequences of poor air and inadequate exposure standards. Particulate matter, ozone, carbon dioxide, nitrogen dioxide, sulphur dioxide, carbon monoxide, VOCs and other toxins from motor vehicle exhaust, smoke haze from bushfires, logging coupe burns and controlled hazard reduction fires, all contribute to air pollution in our cities.

Ozone, as the main component of photochemical smog, is a secondary pollutant formed when emissions of volatile organic compounds and oxides of nitrogen react in the presence of sunlight. It is a highly irritating substance that has effects on various parts of the respiratory tract.

Epidemiological studies show an association between ozone levels and increased hospital admissions for respiratory disease and cardiac conditions[3]. Studies have also shown an association between ozone and mortality especially from respiratory and cardiovascular causes. Ozone levels are highest in summer when the air temperature is at its peak. Higher temperatures, associated with climate change, will only serve to exacerbate the ozone problem.

Diesel engines contribute a disproportionate amount of fine particles into the atmosphere, with up to 100 times the emissions from a petrol vehicle[4]. The particulate emissions from 20,000 trucks travelling through the City of Maribyrnong every day is equivalent to the particulate emissions of 2,000,000 cars making the same journey.

In 2017, 377,423 diesel-powered SUVs, LCVs and passenger vehicles were sold in Australia. Sales of diesel vehicles in these three classes accounted for nearly 32 per cent of all new vehicle sales, and

---

[3] Victorian EPA, 2001, *Ambient Air Pollution and Daily Hospital admissions in Melbourne, 1994-1997*, http://www.epa.vic.gov.au/~/media/Publications/789.pdf

[4] Vic Health, 1999, *The Relationship Between Transport and Health,* https://www.google.com/search?q=https%3A%2F%2Fwww.vichealth.vic.gov.au%2F%7E%2Fmedia%2FProgramsandProjects%2F...%2Fvhtransch2.ashx&ie=utf-8&oe=utf-8&client=firefox-b

this doesn't include the sale of 37,000 heavy commercial vehicles[5]. Diesel-powered cars represented 22.2 per cent of the national fleet in 2017[6] and continues to climb. This figure is up from 15.9 per cent in 2012 and 10% in 2000.

As stated in the Diesel NEPM[7]:

'Diesel vehicles make a disproportionately high contribution to NO_x and particle air pollution from the transport sector. The diesel vehicle proportion of the transport fleet is increasing and this trend is expected to continue. Emissions from diesel vehicles have the potential to cause adverse health effects and detract from urban amenity.

Vehicle operators, both owners and drivers, have responsibilities that come with approval to use the road network. They must ensure that their vehicles continue to meet all applicable standards.

Governments, as regulators of on-road vehicles, need to have compliance programs in place that can ensure that operators are meeting these responsibilities. To ensure equivalent protection for the community, compliance systems should implement and achieve nationally consistent standards.'

Diesel vehicle manufacturers have been using emission cheating devices in their new cars, because they want to remain competitive with their petrol counterparts[8]. A report published in September 2016 found that every diesel brand in Europe had emissions above Euro 6 standards. They also revealed that approximately 30 million cars on European roads emit at least three times the legal levels of nitrogen dioxide under the Euro 5 standards[9]. There are no figures available to measure the extent of the problem in Victoria.

Diesel cars now make up 22% of the vehicle fleet in Australia, up from 3% in 1995. Coupled with the emissions cheating that has occurred, this presents a serious air quality issue in our cities that is not being recognized or addressed.

We have more freeways traversing our cities, bringing with it more cars and trucks on our roads, which has a tendency to wipe out any air quality improvements brought about by any improved emission standards. The EPA acknowledge this in their *Future Air Quality in Victoria* report, stating

---

[5] Motoring, 2018, FAQ: Is diesel about to be banned? https://www.motoring.com.au/faqs-is-diesel-about-to-be-banned-111241/

[6] Australian Bureau of Statistics, 2017, *Motor Vehicle Census, Australia, 31 Jan 2017,* http://www.abs.gov.au/ausstats/abs@.nsf/mf/9309.0

[7] National Environment Protection Council, 2001, *National Environment Protection (Diesel Vehicle Emissions) Measure* http://www.nepc.gov.au/nepms/diesel-vehicle-emissions

[8] BBC News, 2015, *Volkswagen – The Scandal Explained*, http://www.bbc.com/news/business-34324772

[9] The Guardian, 2016, *Many car brands emit more pollution than Volkswagen, report finds*, https://www.theguardian.com/technology/2016/sep/19/many-car-brands-emit-more-pollution-than-volkswagen-report-finds

that ozone and particulate matter will worsen in the future[10]. The EPA must not rely on car manufacturers to reduce vehicle emissions in order to improve air quality[11].

Particulate Matter (PM1)

A number of scientists participating in a forum about air quality, on the ABC program Catalyst, discussed the problems associated with particulate matter:

'Tiny specks of sooty carbon coated with the chemical cocktails from burnt fuel, toxins like chromium, peroxides, and cancer-causing hydrocarbons. The ultrafine particles are so incredibly small they slip right through the lungs and hitch a ride with blood cells. And because they get right inside cells and disable them, they are the most potent part of air pollution, up to 50 times more damaging than bigger particles[12].'

The health effects of ultrafine particulates (PM1) have also been subject to growing attention by researchers, and there is suggestive evidence that these particulates pose significant risks to human health[13].

Australia's National Environment Protection Measures for ambient air quality do not currently include standards or monitoring guidelines for ultrafine particles. This is despite the fact that ultrafine particles are the main constituent of airborne particulate matter and, due to their numerous quantity and ability to penetrate deep within the lungs, are regarded as a major concern for respiratory exposure and health.

The most recent review by the WHO stated that there is a small but increasing body of epidemiological research showing an association between short-term exposures to ultrafine particles and cardiorespiratory health, as well as adverse effects to the central nervous system. The review indicates that the toxicity of these particulates is well known, and clinical and toxicological studies have shown that they can act aggressively through physiological mechanisms not shared with larger particulates.

Even the briefest increase in airborne fine particulate matter is associated with the development of acute lower respiratory infection (ALRI) in young children, according to newly published research[14].

A report commissioned for the Australian government[15] in 2004 stated that:

---

[10] Victorian EPA, *Future Air Quality in Victoria*, 2013, http://www.epa.vic.gov.au/our-work/publications/publication/2013/july/1535

[11] Victorian EPA, 2002, *Diesel exhaust, Air Quality and Health, Publication 849, 2002*, https://www.epa.vic.gov.au/~/media/Publications/849%20%20IB.pdf

[12] ABC, 2006, *Catalyst: Dirty Little Secrets,* http://www.abc.net.au/catalyst/stories/s1630007.htm

[13] AMA, 2013, *Submission to the Senate Standing Committee on Community Affairs - Inquiry into the impacts on health of air quality in Australia* https://ama.com.au/system/tdf/documents/Microsoft%20Word%20-%20AMA%20submission_Inquiry%20into%20health%20impacts%20of%20air%20quality_%E2%80%A6.pdf?file=1&type=node&id=35579

[14] Science Daily, 2018, *Brief exposure to tiny air pollution particles triggers childhood lung infections* https://www.sciencedaily.com/releases/2018/04/180413093529.htm

[15] Associate Professor Lidia Morawska, Professor Michael R Moore,and Dr Zoran D Ristovski, 2004, *Health Impacts of Ultrafine Particles – Desktop Literature Review and Analysis* Health Impacts of Ultrafine Particles - Desktop Literature Review and Analysis

'*People living and working in close proximity to an urban arterial road are likely to be exposed to levels of ultrafine particles well above 'normal' ambient levels and only to somewhat elevated PM10 and PM2.5 levels.'*

The WHO concluded that there is compelling evidence that exposure to ultrafine particulates poses a significant threat to human health[16], however it is currently not possible to precisely quantify the exposure levels that may result in specific health effects.
There is no mention of UFP pollution in the EPA Final Report for Future Air Quality in Victoria 2013.
There is also no mention of diesel being reclassified as a human carcinogen in 2012.

City of Maribyrnong
Geographically, the City of Maribyrnong is at the epicentre of the expanding growth in international trade coming into and going out of Australia. This expansion is fuelled mainly by diesel for the ships, trains and trucks that transport goods around the country. This growth brings with it a plethora of problems in the form of increased air pollution and noise; significant contribution to climate change; increased pressure for spending on transport infrastructure; provision for additional health services to cope with the associated increase in health problems and a myriad of related social problems.

There is a growing body of evidence that low-income, minority communities are disproportionately impacted by air pollution, particularly in the form of transport emissions (EPA)[17] The Federal Government's Ambient Air Quality Measure Review also expressed a similar effect for sensitive subgroups, such as the elderly, children and those with pre-existing respiratory and cardiovascular disease[18].

According to a report in The Age newspaper, young people In Maribyrnong are being hospitalised with respiratory problems at a greater rate than anywhere else in Victoria and 70 per cent higher than the State average. A survey conducted at Yarraville's Wembley Primary School found about 20 per cent of the children have asthma, which is double the national average[19].

---

https://www.environment.gov.au/system/files/resources/00dbec61-f911-494b-bbc1-adc1038aa8c5/files/content-chapters1-4.pdf

[16] WHO, 2013, Health Effects of Particulate Matter - Policy implications for countries in eastern Europe, Caucasus and central Asia http://www.euro.who.int/__data/assets/pdf_file/0006/189051/Health-effects-of-particulate-matter-final-Eng.pdf

[17] U.S. EPA, undated, *Factors for identifying and assessing disproportionate environmental health impacts,* http://www.epa.gov/ncer/events/calendar/2010/mar17/whitepaper.pdf

[18] National Environment Protection Council, 2011, *National Environment Protection ((Ambient Air Quality) Measure Review, Review Report*, http://www.nepc.gov.au/resource/national-environment-protection-ambient-air-quality-measure-review-review-report

[19] The Age, 2015, *Yarraville trucks linked to high asthma rates*, https://www.theage.com.au/national/victoria/yarraville-trucks-linked-to-high-asthma-rate-20151219-glrp19.html

A WHO report[20] published in January for the European Union as part of an *Air Policy Review*, found that the long-term exposure to fine particles (PM2.5) can trigger atherosclerosis, adverse birth outcomes and childhood respiratory diseases. The report also suggests a possible link with neurodevelopment, cognitive function and diabetes, and strengthens the causal link between PM2.5 and cardiovascular and respiratory deaths.

Exposure to poor air quality is highest near ports, rail yards, and along high volume truck and rail traffic zones. Populated areas that are close to high volume transport corridors adjacent to port facilities, which includes both rail and road, are 'subsidising the goods movement sector with their health'[21].

With the advent of the channel deepening project and the proposed expansion of the Port of Melbourne, a significant increase in freight traffic has been predicted. Forward projections from the Port of Melbourne show that container trade will treble in the next 20 years and international container trade will increase from 1.4 million to 7 million containers per annum by 2035[22]

Air quality monitoring conducted by the EPA in Francis St Yarraville in 2013, revealed air pollution levels that were already higher than at any other monitoring station in metropolitan Melbourne. Even though the goals for both PM_{10} annual air quality objective and $PM_{2.5}$ annual advisory standards were not met, the EPA made no recommendations for lowering the pollution levels[23]. With the removal of Advisory Standards for PM2.5 and a proposed lower exceedance level by 2025, the EPA will need to introduce strategies to address the current pollution levels that will in the long-term provide better protection for residents and not rely on improved vehicle emission standards.

Given the proposed expansion policy for the Port of Melbourne and the impact on this region, the Maribyrnong community is at risk now, and in the future, if current standards are not significantly improved. In order to protect communities, such as the residents of the City of Maribyrnong, more stringent standards and improved monitoring protocols are urgently required.

Recommendations:
Climate change
The Lancet *Countdown's 2017* report contained three key conclusions in relation to climate change :

- *The human symptoms of climate change are unequivocal and potentially irreversible`*

---

[20] World Health Organisation (WHO), 2013, *"Review of evidence on health aspects of air pollution",* Review of the European Union's Air Policy. http://www.euro.who.int/en/what-we-do/health-topics/environment-and-health/airquality/

[21] Hricko, A., 2006, *Guest Editorial: Ships, Trucks, and Trains: Effects of Goods Movement on Environmental Health,* U.S. National Library of Medicine, Environmental Health Perspectives, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1440794/

[22] Western Transport Alliance, 2008, *Transport Infrastructure for the Western Metropolitan Region of Melbourne,* Submission to Infrastructure Australia, http://www.infrastructureaustralia.gov.au/public_submissions/published/files/370_westerntransportalliance_SUB.pdf

[23] Victorian EPA , 2013, *Francis Street monitoring program – Final report***,** Publication 1546.1 http://www.epa.vic.gov.au/~/media/Publications/1546%201.pdf

- *The delayed response to climate change over the past 25 years has jeopardised human life and livelihoods.*

- *The past 5 years have seen an accelerated response, and in 2017 momentum is building across a number of sectors; the direction of travel is set, with clear and unprecedented opportunities for public health.* [24]

The Victorian EPA has recognised the role of climate change in exacerbating poor air quality, particularly in cities[25]. A recent report found that diesel cars do not produce lower carbon emissions than petrol cars, if emissions are considered across the full lifecycle of the vehicle[26].

Diesel transport is also one of the world's major sources of black carbon and plays a significant part in climate change. It is the 2nd highest contributor to global warming, has a warming effect many times greater than CO_2, persisting in the atmosphere for only a few weeks. Promoting the reduction of the use of diesel fuel will have an immediate effect on slowing the pace of climate change, as well as the associated reduction in particulate matter, leading to significant improvements to air quality[27].

Remove diesel trucks from residential streets and review State planning legislation
The largest international study on vehicle air pollution and health research, carried out by the US-based Health Effects Institute, looked at 700 worldwide health-pollution studies and found that while there were some gaps in research of traffic-related pollution, there was a clear health risk for those living near arterial roads or highways, and found that traffic pollution within a 500-metre radius of a major thoroughfare was likely to exacerbate asthma in children, trigger new asthma cases across all ages, impair lung function in adults, and could cause cardiovascular illness and death[28].

According to Michael Brauer (2010)[29] of the University of British Columbia in Vancouver, Canada, who assessed the links between traffic pollution and people's health, living next to a busy road could take years off your life expectancy. His research shows that intelligent urban planning can help to alleviate exposure to traffic pollution by locating 'sensitive-use' facilities such as hospitals, aged care, schools and childcare centres well away from busy roads and freeways.

He also noted that pregnant women who lived within 50m of a major road were 26% more likely to have a low-birth-weight baby and had a greater chance of a premature birth, compared with women

---

[24] The Lancet, 2017, *The 2017 Report of the Lancet Countdown,* http://www.lancetcountdown.org/the-report/

[25] Victorian EPA, 2013, *Future Air Quality in Victoria – Final Report,* https://www.epa.vic.gov.au/our-work/publications/publication/2013/july/1535

[26] Transport and Environment, 2017, *Diesel: the true (dirty) story,* https://www.transportenvironment.org/publications/diesel-true-dirty-story

[27] World Health Organisation, undated, *Climate Impacts,* http://www.who.int/sustainable-development/transport/health-risks/climate-impacts/en/

[28] Health Effects Institute, 2010, *Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects,* https://www.healtheffects.org/publication/traffic-related-air-pollution-critical-review-literature-emissions-exposure-and-health

[29] Brauer, M., 2010, *Urban planning could cut air pollution woes,* http://environmentalresearchweb.org/cws/article/news/43274

living more than 50m from a major road. Children living in close proximity to main roads were more likely to develop asthma, bronchiolitis and middle ear infections. Hundreds of thousands of Victorians live within 500 metres of major roads. (Age 2010)[30].

There are no relevant standards in Australia for separation levels between roads and sensitive use facilities. Some jurisdictions have identified the issues and enacted amendments to their planning schemes to restrict the impact. Most have not, and some actually encourage facilities, such as childcare centres, to be located adjacent to main roads and at intersections. This leads to a very diverse interpretation of what constitutes a 'safe' distance. Research has demonstrated that air pollution at intersections is twenty nine times greater than in free flowing traffic[31].

Most of the studies relating to what is considered as safe were carried out before the proliferation of diesel cars on our roads. This is what the EPA state on their website in relation to traffic pollution:

'There is a peak of pollution around each major road. A hundred metres away, the effect is gone and there is just the background or 'ambient' level of pollution. This local peak will be significant at times of high traffic (morning and evening peak hours)'. [32]

Overseas research puts this distance at 300-500m. Clearly the EPA is at odds with other research and need to either justify or change this reporting anomaly.

Land use and development policy can address air quality outcomes by:

- Reducing motor vehicle traffic (and therefore emissions) by reducing car use and car dependency by integrating land use and transport – facilitating jobs, education and daily services within genuinely convenient and attractive pedestrian, cycling and public transport network.

The existing State Planning and Policy Framework at Clause 13.04-2 sets clear objectives about the need to separate sensitive uses and sites to manage environmental risk, as well as objectives to integrate land use and transport and facilitate walkable neighbourhoods. However, there is scope to improve these objectives, for example:

- Apply Environmental Significance Overlays (ESO) or similar instrument to better implement separation distances as recommended by the Major Hazard Facility Advisory Committee and the EPA review. This would assist in sending clear signals and policy directions regarding the risks of locating and developing within separation distances, as well as protecting the viability of industry which in turns supports employment opportunities in accessible locations.
- Investigate review of car parking provisions in the Victorian Planning Provisions and consider whether they assist reducing car dependency

---

[30] The Age, 2010, *Health risks for all those living within 500m of main roads* https://www.theage.com.au/national/victoria/health-risks-for-those-living-within-500m-of-main-roads-20100619-yo2h.html

[31] University of Utah, 2015, *Red lights are air pollution hotspots,* https://healthcare.utah.edu/healthfeed/postings/2015/02/022415_cvarticle-pollution-red-lights.php

[32] Victorian EPA, 2014, *Air quality in the home*, https://www.epa.vic.gov.au/your-environment/air/air-quality-in-the-home

- Commit to the delivery and funding of public transport upgrades- make it a viable choice for people to forego car ownership
- Potential for screening along major transport routes, both rail and road, to avoid transmission of diesel particulates.

It is clear that air pollution is still not afforded the status required to ensure that the health of Victorians, particularly children, is not sacrificed for economic gain. State Environment and Planning Ministers should encourage and support changes to State planning legislation that require 'sensitive use' facilities to be located well away from high traffic volume transport corridors.

Cleanest air possible
The science is well-established that exposure to current levels of air pollution is causing health problems and there is no threshold below which particle pollution has no adverse impact. An exposure reduction framework should be adopted, with long-term targets to progressively decrease exposure. This means that the National Environment Protection Measures (NEPM) objectives and advisory reporting standards must not be used to determine levels that provide protection for human health and wellbeing. The objective, therefore, should clearly be to minimise the risk from adverse health impacts from exposure to air pollution.

Alternate Fuels Program
Provide State and Federal funding for reducing rail and vehicle emissions through legislated emission standards for diesel-powered rail trains and the creation of an alternative fuels program, such as diesel/electric hybrid vehicles, electric vehicles and hydrogen powered vehicles.

Clean Ports Program
The U.S. EPA instigated a Clean Ports Initiative to introduce 'new emissions standards for locomotive and marine diesel engines that will slash emissions and help people to breathe cleaner air near ports and elsewhere'[33]. There are many other overseas examples of this occurring with much improved localised air quality as a result[34].

Preventing shipping from idling at ports using their diesel-operated ship's engines and substituting with electric shore-to-ship power supplies, will significantly reduce pollution around port areas. Introducing a truck idling program will also assist in improving the air quality around ports and reduce the exposure of truck drivers to diesel emissions.

State Ministers can instigate partnership agreements with port operators to assist with funding for the above initiatives.

Clean Truck Program
The Victorian State government, in conjunction with the EPA, should develop, fund, implement and monitor effective emission controls on trucks to respond to the projected growth in port and industry movements of freight over the next 20 years. The average age of the nation's truck fleet is

[33] Port Technology, undated, *U.S. EPA Clean Ports Initiative,* http://www.porttechnology.org/technical_papers/u.s._epa_clean_ports_initiatives

[34] Princess Cruises, 2018, *Princess Ships Clear the Air with Shore Power Connections,* http://www.princess.com/news/backgrounders_and_fact_sheets/factsheet/Princess-Ships-Clear-the-Air-with-Shore-Power-Connections.html

14 years[35]. Emission controls for trucks of this vintage were minimal compared to today's standards. Maribyrnong Council recommends the implementation of a Victorian Clean Truck program that focuses on older trucks in the nation's fleet. This has been implemented successfully in a number of U.S. jurisdictions and has achieved up to an 80% improvement in air quality around port areas.

As an example, the Port of Los Angeles[36] developed, part-funded and implemented a progressive Clean Truck Program that saw an 80% reduction in emissions in the space of 4 years:

- *'October 1, 2008: All pre-1989 trucks were banned from entering the Port*
- *January 1, 2010: 1989-1993 trucks were banned, in addition to 1994-2003 trucks that had not been retrofitted*
- *January 1, 2012: All trucks that did not meet the 2007 Federal Clean Truck Emissions Standards were banned from the Port*
- *In its first year, the program reduced the rate of port truck emissions by an estimated 70 percent. When the program was fully implemented* in 2012, port truck emissions were *reduced by more than 80 percent.'*

Freight on rail

According to the Rail Futures Institute, Victoria's rail freight services transport 13 million tonnes of freight per year, which reduces the number of truck trips by 1,500 per day. One freight train can replace 150 trucks and rail freight is over three times more fuel efficient than road freight[37]. There are over two million truck trips per year from the Port of Melbourne, which is expected to double in the next thirty years. The proposed Port Rail Shuttle initiative will help alleviate future increases in freight movements and reduce the impact on local streets and residents[38]. A research report by The Bureau of Industry, Transport and Regional Economics[39] stated that:

'Using rail to transport containers between the hinterland and ports can reduce road congestion, noise and air pollution.'

The Rail Futures Institute listed a number of other significant benefits of using rail freight instead of trucks, including:

- *'fewer road deaths and injuries from crashes involving trucks*
- *reduced road damage and road maintenance costs - these are already a significant cost burden for local councils*
- *improved amenity and health issues through reduced congestion, noise, dust etc. from trucks*
- *less road congestion in and around ports and on inner suburban roads.'*

Protection of human health in smaller communities and known air pollution hotspots

---

[35] Truck Industry Council, 2017, *MODERNISING THE AUSTRALIAN TRUCK FLEET BUDGET SUBMISSION 2017/18,* https://static.treasury.gov.au/uploads/sites/1/2017/06/C2016-052_Truck-Industry-Council.docx

[36] Port of Los Angeles, 2018, *About the Port of Los Angeles Clean Truck Program* http://www.portoflosangeles.org/CTP/idx_ctp.asp

[37] Rail Futures Institute, 2016, *Getting Freight Back On Track In Victoria,* http://www.railfutures.org.au/wp-content/uploads/2016/08/160609-Rail-Futures-Freight-Paper-FINAL.pdf

[38] Transport For Victoria, 2018, *Port Rail Shuttle,* https://transport.vic.gov.au/our-projects/port-rail-shuttle/

[39] Bureau of Industry, Transport and Regional Economics, Research Report 139, 2016, *Why short-haul intermodal rail services succeed.*

The NEPM currently exempts smaller population centres from monitoring and reporting obligations - levels only need to be monitored for population centres over 25,000 people. Monitoring by population size alone is not adequate protection. This is particularly important for people whose health is compromised by new and existing roads or freeways carrying high volumes of traffic that are established close to existing residential areas of smaller populations.

There must be stronger requirements for monitoring in small towns or suburbs where there is reason to believe that standards are being exceeded, such as in the suburb of Yarraville in Melbourne.

In 2013 the EPA installed an air monitoring station in Francis St Yarraville for a period of 12 months. The State Environment Protection Policy (SEPP) objectives for PM10, and the Annual Advisory Standard for PM2.5, were both exceeded in this period. At the end of the monitoring period the EPA did not take any further action to reduce the pollution levels being experienced by residents.

The Victorian government should pursue a policy, in collaboration with the Federal government that requires the NEPM to monitor and report for both PM2.5 and PM10 in population centres of 5,000 or more, particularly for communities that are known, or expected to experience, high pollution levels. There must also be a follow-up policy to reduce exposure levels, whether objectives are exceeded or not.

Further research and future policy development on air quality is urgently required.
As previously discussed, there is growing concern internationally about the health impacts of ultrafine particles. The 2011 NEPM Review[40] noted that there was not enough data to make a standard for ultrafine particles. The AMA has advocated for a precautionary approach to ultrafine particles stating that:

'There is compelling evidence that exposure to ultrafine particulates poses a significant threat to human health, however it is currently not possible to precisely quantify the exposure levels that may result in specific health effects[41].'

According to a Desktop Literature Review and Analysis on the Health Impacts of Ultrafine Particles[42], funded by the Australian Government, people living and working in close proximity to urban arterial roads are likely to be exposed to levels of ultrafine particles well above 'normal' ambient levels and only to somewhat elevated PM10 and PM2.5 levels.

---

[40] NEPM, 2011, *National Environment Protection, Ambient Air Quality, Measure Review Review Report, Prepared for the* National Environment Protection Council, May 2011, http://www.ephc.gov.au/sites/default/files/AAQ%20NEPM%20review%20report_0.pdf.

[41] AMA, 2013, *Submission to the Senate Standing Committee on Community Affairs - Inquiry into the impacts on health of air quality in Australia* https://ama.com.au/system/tdf/documents/Microsoft%20Word%20-%20AMA%20submission_Inquiry%20into%20health%20impacts%20of%20air%20quality_%E2%80%A6.pdf?file=1&type=node&id=35579

[42] Associate Professor Lidia Morawska, Professor Michael R Moore,and Dr Zoran D Ristovski, 2004, *Health Impacts of Ultrafine Particles – Desktop Literature Review and Analysis* https://www.environment.gov.au/system/files/resources/00dbec61-f911-494b-bbc1-adc1038aa8c5/files/health-impacts.pdf

The 2013 Senate Inquiry *Impacts on health of air pollution in Australia*[43], should be included as a point of reference in this statement. There were a number of significant and relevant recommendations, which should receive consideration in any policy change proposals. The 2011 NEPM Review also contained a number of recommendations, which should also be integrated in future policy proposals.

Recommendation 2 of the *Senate Committee on the impacts on health of air quality in Australia (2013)* stated that the Australian Government advocate, through the appropriate Council of Australian Governments process, the inclusion of mechanisms to collect additional data on ultrafine particles (UFPs).

The EPA must fund research and contribute to the national effort on UFP pollution.

8 hour Standard for particulates
An 8-hour standard for all particulates should be considered as a new policy measure to better capture the significant short-term impacts that can occur.

Many schools are located on busy arterial routes and children are often exposed to elevated levels of air pollution for 8hrs a day, which is not reflected in standard 24hr monitoring. Compliance with a particular standard over a long period of time can demonstrate that levels fall within a standard but disguise the real impact of higher exposure to populations in the medium to short term. This can create a false impression that nothing needs to be done as 'objectives' are being met.

The National Health and Medical Research Council-funded Centre for Air Quality and Health Research and Evaluation (CAR) [44] has reported that people exposed to the short-term bursts or long-term higher levels of particulate pollution suffer a range of adverse effects, including:

- *Increased risk of deaths, particularly due to heart and lung diseases;*
- *Increased risk of hospitalisation for heart and lung diseases; and*
- *Increased risk of asthma attacks.*

It was also reported that PM2.5 is believed to be the most health-hazardous air pollutant, responsible for 10 to 20 times as many premature deaths as the next worst pollutant, ozone.

Ensure compliance with emission standards for cars and heavy vehicles.
Studies have shown that improved air quality reduces hospital admissions[45], with low income residents appearing to benefit the most from air quality improvements, as they are often the most impacted group in our society.

The health costs associated with some of the individual pollutants has also been calculated. For example in the capital cities, each tonne of PM10 pollution that is prevented saves about $235,000

---

[43] Parliament of Australia, 2013, *Impacts on health of air quality in Australia*, https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Community_Affairs/Completed_inquiries/2010-13/airquality/report/index

[44] Ruckerl R, Schneider A, Breitner S, Cyrys J, Peters A., 2011, *Health effects of particulate air pollution: A review of epidemiological evidence. Inhal Toxicology; 23(10):555-92*

[45] Kelly, F., Fussell, J., 2015, Environmental Geochemistry and Health, *Air pollution and public health: emerging hazards and improved understanding of risk* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4516868/

in health care costs, and/or nitrogen dioxide the saving is about $1000 a tonne[46]. It has been estimated that for every dollar spent on reducing air pollution, $25-$30 is saved in health care costs[47,48].

There are no regulations which specifically apply to emissions from non-road diesels in Australia. A study to gather information and scope possible actions for non-road diesels in Australia found that significant health benefits ranging from $2.5 to $4.7 billion by 2030 could potentially be achieved by reducing PM10 and NOX emissions[49].

Government fleet purchasing and tender specifications

The State government must lead by example to replace older trucks in their heavy vehicle fleet. This will ensure that the latest emission standards will be met. All government contracts and tenders must include a clause that requires all vehicles used for contracted work must comply with the latest emission standards and must be Euro 6 compliant. This applies to both on-road and off-road vehicles.

Government car fleets must no longer support the purchase of diesel-powered vehicles. The U.K. government's Environmental Audit Committee has recently recommended a 'scrappage' scheme for diesel cars and stated that 'diesel was now seen as the most significant driver of air pollution in our cities.' An extra tax on diesel vehicles will also be introduced in 2020[50].

Due to the deleterious effect diesel emissions are having on air quality and the health of their citizens, a number of other European governments have also proposed schemes to phase out the use of diesel fuel for private passenger transport and the banning of diesel cars in city centres[51].

---

[46] Environmental Justice Australia, 2014, *Clearing the air - Why Australia urgently needs effective national air pollution laws,* https://envirojustice.org.au/sites/default/files/files/Submissions%20and%20reports/Envirojustice_air_pollution_report_final.pdf

[47] U.S. EPA, undated, *Benefits and costs of the Clean Air Act Amendments of 1990* https://www.epa.gov/sites/production/files/2015-07/documents/factsheet.pdf

[48] Union of Concerned Scientists, 2004, *Sick of Soot - Reducing the health impacts of diesel pollution in California,* https://www.ucsusa.org/sites/default/files/legacy/assets/documents/clean_vehicles/sick_of_soot_full_report.pdf

[49] National Environment Protection Council, 2010, *Cleaner Non-road Diesel Engine Project - Identification and Recommendation of Measures to Support the Uptake in Australia* http://www.nepc.gov.au/resource/ephc-archive-air

[50] The Guardian, 2015, *MPs call for diesel scrappage scheme to tackle air pollution*, https://www.theguardian.com/environment/2015/nov/20/mps-call-for-diesel-cars-scrappage-scheme-to-tackle-air-pollution

[51] The Guardian, 2017, *The Death of Diesel: Has the one-time wonder fuel become the new asbestos?* https://www.theguardian.com/cities/2017/apr/13/death-of-diesel-wonder-fuel-new-asbestos

Re-instate the smoky vehicles reporting mechanism 10-second rule for heavy vehicles.
According to the Victorian EPA website[52] the reporting of smoky vehicles over 4.5 tonnes can no longer be accepted:

'Heavy vehicles (large trucks and buses over 4.5 tonnes) are no longer regulated by EPA since the implementation of the Environment Protection (Vehicle Emission) Regulations 2013. They are now managed under the Heavy Vehicle National Law by the National Heavy Vehicle Regulator.'

However, the National Heavy Vehicle Regulator website[53], also does not accept the reporting of smoky vehicles over 4.5 tonnes. All other States have reporting protocols listed except Victoria:

'The table below provides examples of other matters for which the HVCRL shouldn't be used. Where possible, contact details of the appropriate agency for these reports have been supplied.'

Issue	**Responsible agency**
Engine emissions or smoky vehicles	ACT – 13 22 81 (Access Canberra)
	NSW – 131 555 (Environmental Protection Authority)
	NT - 1300 654 628 (Department of Infrastructure, Planning and Logistics)
	QLD – 13 20 19 (Department of Transport and Main Roads)
	SA – 131 444 (SAPOL Traffic watch)
	TAS – Department of State Growth (complete a *Defective Vehicle Notification form*)
	WA – Department of Water and Environmental Regulation www.der.wa.gov.au/our-work/programs/172-smoky-vehicle-reporting-program

This makes Victoria the only State where smoky heavy vehicles cannot be reported.

Summary
Federal, State and local government each have a major role to play in improving the quality of air in Victoria. Changes in how air quality is measured, along with the inclusion of UFPs in the standards, is critical in ensuring that the health of all Victorians are better protected. Maribyrnong City Council strongly supports this initiative by the EPA and the Victorian government, and are confident that the recommendations made in this submission will assist greatly in securing a clean air future for the State of Victoria.

[52] Victorian EPA, *Report Smoky Vehicle*, undated, https://www.epa.vic.gov.au/get-involved/report-smoky-vehicles

[53] National Heavy Vehicle Regulator, undated, *Heavy Vehicle Confidential Reporting Line (HVCRL),* https://www.nhvr.gov.au/safety-accreditation-compliance/heavy-vehicle-confidential-reporting-line