

THE CITY OF MARIBYRNONG

AIR QUALITY IMPROVEMENT PLAN



Acknowledgement of First Nations People

“We acknowledge the Traditional Owners of the land, the Wurundjeri Woi Wurrung and Bunurong peoples of the Kulin Nation and pay our respect to their Elders, past, present and emerging.”

Thanks:

Maribyrnong City Council would like to thank the Maribyrnong Truck Action Group (MTAG) and the Save Willy Rd community group, for their outstanding work on air quality in the region, and their valued feedback to the Draft Plan. Council would also like to thank the Inner West Air Quality Community Reference Group (IWAQCRG) for their report: *AIR POLLUTION IN MELBOURNE'S INNER WEST: Taking Direct Action to Reduce Our Community's Exposure which has provided valuable information to inform the preparation of this plan.*

INTRODUCTION

AIR QUALITY AND WHY THIS PLAN IS NEEDED

The City of Maribyrnong is one of the smallest and most densely populated municipalities in Victoria and has a population forecast for 2051 of 164,637¹. 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. The decarbonisation of the nation's transport fleet will be very slow in the short term, further compounding the problem of poor air quality in the inner west, including the City of Maribyrnong.

A number of studies estimate that between 2,616 and 4,884 die prematurely every year in Australia from air pollution exposure². There is overwhelming historical medical evidence, documenting the serious adverse health effects of exposure to poor air quality caused by dust, coal, odour and emissions from transport³. This includes asthma attacks, various cancers, strokes, heart attacks, adverse birth outcomes, effects on the immune system, multiple respiratory effects and neurotoxicity.

Recent studies have found that air pollution may also have deleterious effects on the hearts of compromised people with hypertension and kidney disease. The researchers also found that in adults with chronic kidney disease, in addition to hypertension, exposure to air pollution was associated with rising levels of Galectin 3, a marker of scarring in the heart, and the development of myocardial fibrosis. The findings were presented online at the American Society of Nephrology (ASN) Kidney Week November 2021⁴.

World Health Organisation (WHO) Guidelines⁵ provide a clear indication of the damage to human health caused by air pollution. Health should be the major consideration in any discussion related to the expansion of transport infrastructure, particularly where there are evidence-based pollution problems that adversely affects the local population.

The Victorian State Government has a major role to play in improving the environment and quality of air in Victoria, which includes changes in how air quality is measured; the inclusion of UFPs in the standards; changes to planning regulations; no road tax for EVs; Clean Air Zones (CAZ) and Low Emission Zones (LEZ); freight on rail; incorporation of the IWAQCRG recommendations; and a Clean Ports program; are all critical changes and initiatives to ensure that the environment and the health of all Victorians is better protected.

Residents of the City of Maribyrnong are currently exposed to consistently poor air quality levels compared to other suburban areas of Melbourne. Additional measures are required to improve the

¹ Home | City of Maribyrnong | Population forecast (id.com.au)

² Hanigan, I.C.; Broome, R.A.; Chaston, T.B.; Cope, M.; Dennekamp, M.; Heyworth, J.S.; Heathcote, K.; Horsley, J.A.; Jalaludin, B.; Jegasothy, E.; et al. Avoidable Mortality Attributable to Anthropogenic Fine Particulate Matter (PM2.5) in Australia. *Int. J. Environ. Res. Public Health* 2021, 18, 254:

³ Nearly 50% of transport pollution deaths linked to diesel: study (phys.org)

⁴ American Society of Nephrology | Kidney Week - Home (asn-online.org)

⁵ 9789240034433-eng.pdf (who.int)

amenity of the city for residents including a review of current standards and objectives relating to air quality by Federal and State government.

The Air Quality Improvement Plan (AQIP) is being prepared to provide a comprehensive action plan to address the environmental concerns brought about by the poor air quality in the city and the impact on the health of the Maribyrnong community.

The AQIP provides a comprehensive action plan to address the environmental concerns related to poor air quality in the city and the impact on the health of the Maribyrnong community. The implementation of the AQIP and the IWAQCRG recommendations to the State Government, will contribute to improved outcomes for the Maribyrnong environment and the health of residents, both now and in the future.

PARTICULATE MATTER

Particulate matter (PM) is classified by the size of the particulates in micrograms per cubic metre ($\mu\text{g}/\text{m}^3$) - PM₁₀, PM_{2.5} and PM₁. This is what we breathe in when exposed to air pollutants and has been shown to have a greater impact on health than the gaseous components. PM is also an endocrine disrupter, contributing to the development of diseases such as obesity and diabetes mellitus⁶. Other studies have demonstrated that short-term exposure to PM₁₀ is associated with elevated systolic blood pressure in young adults. Long-term exposure to PM_{2.5}, PM₁₀ and nitrogen dioxide were also associated with elevated systolic levels as well as diastolic levels⁷.

PM penetrates the respiratory system via inhalation, causing respiratory and cardiovascular diseases, reproductive and central nervous system dysfunctions, and cancer. Nitrogen oxide, sulphur dioxide, Volatile Organic Compounds (VOCs), dioxins, and polycyclic aromatic hydrocarbons (PAHs) are all considered air pollutants that are harmful to humans. Ozone is also harmful when in high concentrations at ground level, affecting the respiratory and cardiovascular system. Carbon monoxide when breathed in at high levels provokes direct poisoning⁸.

Air pollution also compromises the ability of the immune system to fight off infection. Long-term exposure to persistently high PM_{2.5} levels weakens the ability of the lungs to clear infections.

A study published in 2017 by the European Respiratory Journal found that Australians in the 45-50 year old age group, who lived less than 200m from a main road, had a 50% higher risk of asthma and lowered lung function over a five-year period than those who lived a greater distance from the road⁹. A Californian children's health study found that children growing up within half a kilometre of a busy road suffer a significant loss in lung capacity¹⁰.

The *State of Global Air* report found that PM_{2.5} produced by vehicle emissions was responsible for an estimated 1,715 premature deaths in Australia in 2015. Vulnerable members of the community, including children, the elderly and sick, are disproportionately affected by vehicle emissions¹¹.

⁶ Particulate Matter Air Pollution: Effects on the Cardiovascular System (nih.gov)

⁷ Effects of Ambient Air Pollution on Blood Pressure Among Children and Adolescents: A Systematic Review and Meta-Analysis | Journal of the American Heart Association (ahajournals.org)

⁸ Environmental and Health Impacts of Air Pollution: A Review (nih.gov)

⁹ Traffic-related air pollution exposure over a 5-year period is associated with increased risk of asthma and poor lung function in middle age | European Respiratory Society (ersjournals.com)

¹⁰ <https://www.bbc.com/future/article/20191113-the-toxic-killers-in-our-air-too-small-to-see>

¹¹ Explore the Data | State of Global Air

Research indicates that short-term exposure to diesel exhaust emissions can generate acute irritation of the eyes, throat and bronchial tubes, neurophysiological symptoms such as light-headedness and nausea, and respiratory symptoms such as coughing and phlegm¹².

Another study by researchers from the Cincinnati Children's Hospital Medical Centre and the University of Cincinnati found that children exposed to high amounts of air pollution were more likely to end up in hospital emergency rooms for mental health problems, including anxiety, depression, bipolar disorder, suicidality, personality disorders and schizophrenia. It adds to growing evidence that dirty air is linked to worsening depression, anxiety and other mental health issues in children and teenagers¹³.

ULTRAFINE PARTICULATES (UFPs)

UFPs are so small they can bypass the lungs and enter the bloodstream. They are comprised of very small specks of sooty carbon from burnt fuel, coated with an assorted number of chemical cocktails, many of them carcinogenic. Their ability to get deep inside cells makes these particulates the most potent part of air pollution. They are up to fifty times more damaging than the larger particles and, as previously stated, they make up 80-95% of diesel soot pollution¹⁴.

Ultrafine particles are the main constituent of airborne particulate matter and due to their sheer numbers and ability to penetrate deep within the lungs and many other major organs, they are regarded as a prime 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 cardio-respiratory health, as well as adverse effects on 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 particulates¹⁵.

The WHO has also concluded that there is compelling evidence that exposure to ultrafine particulates poses a significant threat to human health¹⁶. However, it is currently not possible to precisely quantify the exposure levels that may result in specific health effects due to a lack of research data.

There is growing concern internationally about the health impacts of ultrafine particles. The 2011 NEPM Review¹⁷ noted that there was not enough data to make a standard for ultrafine particles. The AMA has advocated for a precautionary approach to ultrafine particles¹⁸.

Fifteen years ago a desktop literature review and analysis on the *Health Impacts of Ultrafine Particles*, funded by the Australian Government¹⁹, found that 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. One of the recommendations of the Review was that:

¹² Sydbom, A. et al. (2001) 'Health effects of diesel exhaust emissions' European Respiratory Journal 17:733-746

<<https://erj.ersjournals.com/content/17/4/733>>

¹³ <https://www.ncbi.nlm.nih.gov/pubmed/31553231>

¹⁴ Respiratory health effects of diesel particulate matter | Request PDF (researchgate.net)

¹⁵ (Microsoft Word - AMA submission Inquiry into health impacts of air quality \205)

¹⁶ Ambient (outdoor) air pollution (who.int)

¹⁷ National Environment Protection (Ambient Air Quality) Measure - DAWE

¹⁸ Chapter 3 – Parliament of Australia (aph.gov.au)

¹⁹ (PDF) Desktop literature review and analysis: health impacts of ultrafine particles (researchgate.net)

Health outcome studies would be conducted in selected places in Australia to quantify the relationship between exposure to ultrafine particles and health outcomes in an Australian setting. The outcomes of such studies would provide an adequate guidance to the decision makers on the most desirable steps in controlling exposure to ultrafine particles in Australia.

There is no evidence that the studies were ever conducted.

There is no mention of UFP pollution in the EPA Final Report for Future Air Quality in Victoria²⁰.

²⁰ 1535: Future air quality in Victoria – Final report | Environment Protection Authority Victoria (epa.vic.gov.au)

AIR POLLUTION – AUSTRALIAN CONTEXT?

According to the National Environment Protection Council Review in 2011²¹, exposures below the current air quality standards represent a statistically significant and measurable health risk to the Australian population and the findings indicated that the current standards are not meeting the requirement for the protection of human health. This is still relevant today, as the current science indicates that the risks and health effects from poor air quality are worse than previously understood²² and may be damaging every organ in the body²³. Short-term exposure to PM2.5, over a few hours, triggered heart failure, stroke, arrhythmias and sudden death. Chronic exposure to moderately raised levels increased the risk of developing a range of cardiovascular diseases²⁴.

In 2016, the National Environment Protection Council (NEPC) meeting, included an 'aim to move to the annual average and 24hr PM2.5 standards of 7 µg/m³ and 20 µg/m³ respectively by 2025.' At the NEPC meeting in April 2021²⁵ it was agreed that a further review of ozone (O₃), nitrogen dioxide (NO₂), sulphur dioxide (SO₂) PM2.5 and PM10 particle matter would be scheduled for 2025.

In March 2018 the Victorian Auditor General Office (VAGO) examined whether Victoria's air quality meets national standards for pollutant components such as ozone and particulate matter. VAGO noted that due to the EPA's limited air monitoring coverage, air quality data for most of the State, including many areas of metropolitan Melbourne was missing. There were also a number of inaccurate assessments against PM air quality standards. VAGO did note that EPA's regulation of air pollution sources has begun to improve.

In the *Clean Air for all Victorians* statement, the Andrews Labor Government stated that it would work with communities, industries, local government and air quality experts during 2018 and into 2019 to develop a Victorian Air Quality Strategy to improve air quality, that will 'benefit the health of all Victorians, particularly those most vulnerable to the effects of poor air quality'²⁶. The Strategy has still not been published.

In July 2018 the Victorian government formally announced the formation of the Inner West Air Quality Community Reference Group (IWAQCRG). Its key task was to investigate and provide advice to the government on actions to address air quality issues in the Inner West of Melbourne, which included Hobsons Bay, Maribyrnong and Brimbank.

Members of the IWAQCRG included volunteer community members and community groups and three local government representatives. Over a period of 18 months the group met 28 times to deliver on their Terms of Reference to:

- Investigate current air quality issues and concerns across the three municipalities, including current transport initiatives such as the West Gate Tunnel project;
- Provide advice and recommendations for government consideration, including feasibility and relative importance of any actions, to address air quality issues in the inner west, including in relation to tunnel filtration for the West Gate Tunnel project;

²¹ <http://www.nepc.gov.au/nepms/ambient-air-quality>

²² Short term exposure to fine particulate matter and hospital admission risks and costs in the Medicare population: time stratified, case crossover study | The BMJ

²³ Revealed: air pollution may be damaging 'every organ in the body' | Environment | The Guardian

²⁴ Is air pollution a cause of cardiovascular disease? Updated review and controversies, Reviews on Environmental Health | 10.1515/REVEH.2007.22.2.115 | DeepDyve

²⁵ key-changes-aaq-measure-agreed-ministers-april-2021.pdf (nepc.gov.au)

²⁶ Victorian Air Quality Statement | Engage Victoria

- Ensure their findings are communicated to communities of the inner west.

The Community Reference Group's public report *Air Pollution in Melbourne's Inner West: taking direct action to reduce our community's exposure*²⁷ was delivered to government Ministers on 28 August 2020. The Report details the health and amenity impacts of air pollution on Inner West communities, and contains 26 recommendations, with 65 supporting actions, about how the Victorian Government can tackle the impacts of localised air pollution. The government is yet to publicly respond to IWAQCRG.

The annual EPA air quality monitoring for PM2.5, carried out in Footscray in 2019, recorded an annual average of 6.67µg/m³, which is within the Australian requirements, but above the new WHO Guidelines of 5µg/m³. To afford greater protection for the community and our environment, the NEPC must amend the current air quality objectives to align with the WHO Guidelines.

The WHO has recently updated the air quality guidelines for six key air pollutants, including PM2.5, PM10, ozone, nitrogen dioxide, sulphur dioxide and carbon monoxide. The WHO Guideline for the PM2.5 annual average is now 5µg/m³ and the 24-hour average is 15µg/m³, which is a higher standard than the proposed 2025 NEPC concentration levels²⁸.

In February 2020 the Victorian Legislative Council Environment and Planning Committee agreed to a motion to inquire into, consider and report by October 2020, on actions to minimise the health impacts of air pollution – *Inquiry into Air Pollution in Victoria*²⁹. The reporting date was changed to 18th November 2021 and the report has now been published³⁰. It is worth noting that the Committee made specific recommendations for the Inner West of Melbourne with the intention to improving the monitoring and mitigation of the negative impacts of industrial activity. It also discussion the impact of vehicle emission and work needed to mitigate this impact which is a particular concern for the inner west.

Also in February 2020 Safe Work Australia called for public comment to evaluate the workplace exposure standards for airborne contaminants, including diesel emissions³¹. Indoor air monitoring for diesel emissions is currently non-existent and there is no workplace exposure standard.

²⁷ Inner West Air Quality Community Reference Group (environment.vic.gov.au)

²⁸ WHO Global Air Quality Guidelines

²⁹ Inquiries (parliament.vic.gov.au)

³⁰ Environment and Planning (parliament.vic.gov.au)

³¹ safeworkaustralia.cmail19.com/t/ViewEmail/j/6E7CF6961825375E2540EF23F30FEDED/E05CDC1512BD9958A29558A20177342

AIR POLLUTION – THE CITY OF MARIBYRNONG

HEALTH IMPACTS

According to the Social Health Atlas of Australia, published by Torrens University in 2019³², the City of Maribyrnong has some of Victoria's worst health statistics. The Atlas compares health indicators by municipality according to the average for Australia. For residents of Maribyrnong, the risk of ischemic heart disease is 40% higher than average; 26% above average risk of premature mortality by respiratory system disease; 41% above average risk for chronic obstructive pulmonary disease; 41% above average risk of hospital admission by asthma; and a 40% above average risk of stroke, which is the highest rate in Victoria.

Maribyrnong has the worst cardiorespiratory outcomes across all metrics, even though it has the youngest demographic and the lowest smoking and adult obesity rates in the Inner West. This suggests that air pollution could be an important contributory factor. Maribyrnong also has the highest hospital admissions for respiratory ailments in Victoria for young people aged 3 to 19. The rate is 70% above the Victorian average and up to 171% above the Australian average³³.

In 2009 Maribyrnong had the highest proportion of adolescents with asthma in Victoria, standing at 16.8%, compared to the State average of 11.6% and also the highest percentage of paediatric respiratory admissions (adolescent asthma) in Victoria³⁴. Diesel trucks and cars have significantly increased in numbers since these statistics were published.

The evidence is very clear and unequivocal, additional measures are required to improve the amenity of affected areas in Maribyrnong by implementing exposure reduction policies. This includes:

- Improved emission standards for trucks and cars
- Fast track the Port Rail Shuttle
- Banning non-local trucks from using residential streets, containing schools and childcare centres, to access the Port of Melbourne
- Enacting legislation to remove the older trucks from suburban streets
- Ensuring compliance with the updated WHO air quality guidelines
- Transitioning the public transport bus fleet to electric in a much shorter timeframe than currently proposed

Providing financial incentives to local government for implementing safe, active transport routes for children to travel to school.

INDUSTRY IMPACTS

The City of Maribyrnong is adjacent to the Port of Melbourne which already contributes to the poor air quality experienced by the community. 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 in 2009 show that trade volume was forecast to

³² Social Health Atlas of Australia: Victoria Local Government Areas (2016 ASGS), Published 2019, <http://phidu.torrens.edu.au/current/maps/sha-aust/lga-single-map/vic/atlas.html>

³³ The Age, Huge Variations in surgery and mental health treatment across Australia, 26th November 2015, <https://www.theage.com.au/national/victoria/huge-variations-in-surgery-and-mental-health-treatment-across-australia-20151126-gl8cbj.html>

³⁴ Maribyrnong.pdf (education.vic.gov.au)

double by 2025³⁵ and, by 2035 it will be handling almost four times as many containers as it does today³⁶. According to the Port of Melbourne 2050 Port Development Strategy³⁷:

Under the business-as-usual operations (BAU), the forecasts indicate that Port traffic could grow from 11,000 trucks per week day in 2016 to up to 34,000 in 2050 or an 3.4% annual growth rate. With an increase in the volumes of Port traffic on rail and improved truck productivity it is projected that by 2050 this growth could be reduced to a forecast 20,000 Port truck movements per week day, equating to a 1.8% annual growth rate.

In this context, it is reasonable to expect that the expansion of the Port of Melbourne will contribute to increased air pollution and noise; increased pressure for spending on transport infrastructure; and the provision for additional health services associated increase in health problems.

The design and construction of container depots which are a key element of the freight and logistics network result in trucks using local street in the City but they are also often unsealed and the movement on these sites can generate dust pollution often close to residential areas.

Yarraville is also home to an ExxonMobil fuel terminal in joint ownership with BP, handling close to 3 billion litres of refined fuel products each year, supplying Victoria, South Australia and Southern New South Wales. The site is registered as a Major Hazard Facility and operates 24 hours a day, 7 days per week. Eight trucks can be loaded with fuel simultaneously at the tank truck fill stand and then travel through residential areas of Yarraville to their destination³⁸.

In 2018–19 there were 22 days when dust levels in Brooklyn exceeded Victorian air quality objectives. In 2019, EPA and West Gate Tunnel project monitoring stations near Brooklyn, showed exceedances of PM10 objectives for between 26 and 41 days.

Air quality monitoring, carried out in Yarraville by the Queensland University of Technology International Laboratory for Air Quality and Health in 2020, revealed that air pollution levels were higher than at any other EPA monitoring station in Melbourne. The monitoring station on the corner of Francis Street and Williamstown Road., recorded levels of PM2.5 that were three times higher than the new annual WHO objective guidelines. The results from the monitoring station were analysed by the EPA and a report produced³⁹.

Dust and odour from industrial operations and landfill sites in the Inner West, also have significant impacts on the community's amenity and remains a concern. Residents living close these sites in Brooklyn, Yarraville and South Kingsville, are severely affected by noxious odours emanating from the Brooklyn Industrial Precinct. The odours have been found to be concentrated in a number of locations close to the industrial sites⁴⁰.

From 2016 to 2019 the EPA has reviewed pre-operation air pollution monitoring data from the West Gate Tunnel Project (WGTP) in the Inner West of Melbourne and specific EPA monitoring stations.

³⁵ Port of Melbourne Channel Deepening Project: Achievement of Objectives | Victorian Auditor-General's Office

³⁶ Number 7 (parliament.vic.gov.au)

³⁷ PoM-PDS-2020-Edition-For-Publication.pdf (portofmelbourne.com)

³⁸ Fuel terminals | ExxonMobil Australia

³⁹ Monitoring at a Busy Street Intersection, Yarraville, Melbourne - International Laboratory for Air Quality & Health (qut.edu.au)

⁴⁰ Submission: The impacts on health of air quality in Australia (brooklynip.com.au)

These WGTP stations are classified as roadside sites and typically represent the highest air pollution impacts from road emission sources⁴¹.

VEHICLE IMPACTS

An 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. It 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 death⁴².

It was estimated in 2015/2016 that approximately 34,000 trucks travelled through the City. The volume of the trucks, coupled with their age, significantly impacts air quality in the City of Maribyrnong.

The average age of the heavy rigid trucks in the Australian Truck Fleet in 2021 is 15.9 years and articulated trucks is 12.3 years, with both figures steadily rising. According to the ABS January 2017 Motor Vehicle Census, almost forty-two percent (41.7%) of the nation's truck fleet was manufactured before 2003 when little, or no exhaust emission regulation existed. This figure consists of 119,448 pre-1996 trucks (no emission standards) representing 25.8%, and 73,441 trucks, or 15.9%, being trucks manufactured between 1996 to pre-2003 with elementary emission control systems employed.

A truck designed to comply with Euro V emission standards is 95% cleaner than a pre-1996 truck⁴³, which means that pre-1996 trucks are polluting at rates 60 times that of trucks complying with the current Australian regulation (Euro V) and 120 times that of the current European, USA and Japanese regulations (Euro VI)⁴⁴.

Motor vehicle Census figures for 2021 showed that diesel vehicle registration increased to 26.4% of the national fleet, up from 20.9% in 2016⁴⁵ and up from 18.5% in 2014⁴⁶. The 'Dieselgate' scandal has compromised the integrity of the existing diesel car fleet with respect to emissions⁴⁷.

⁴¹ IWAQCRGReportFINAL.pdf (environment.vic.gov.au)

⁴² For Further Information: Dan Greenbaum (617) 488 2331 (healtheffects.org)

⁴³ 9309.0 - Motor Vehicle Census, Australia, 31 Jan 2017 (abs.gov.au)

⁴⁴ 115786_AUSTRALIAN_TRUCKING_ASSOCIATION_-_SUBMISSION_2.pdf (treasury.gov.au)

⁴⁵ Motor Vehicle Census, Australia, 31 Jan 2021 | Australian Bureau of Statistics (abs.gov.au)

⁴⁶ Motor Vehicle Census, Australia, 31 Jan 2020 | Australian Bureau of Statistics (abs.gov.au)

⁴⁷ Volkswagen reaches multi-million-dollar settlement in Australian 'dieselgate' scandal - ABC News

IMPROVING THE AIR QUALITY IN MARIBYRNONG

A number of Council policies and strategies, including the *Climate Emergency Action Plan (CEAP)* and the *Maribyrnong Integrated Transport Strategy (MITS)*, refer to the need to reduce vehicle and other emissions. The *Greening Footscray Strategy* encourages the planting of more trees to improve local air quality and the *Maribyrnong Street Tree Strategy* aims to establish 10,000 new street trees to 2023⁴⁸. All these initiative will contribute to improved air quality in the City.

In addition, Council is undertaking a number of smart city initiatives to support the creation and growth of a vibrant, diverse and progressive city striving for a sustainable future. Embracing new technology and collecting data to inform decision-making, will help us to improve the way we do things in the City of Maribyrnong. Footscray's Smart City Data Platform⁴⁹ collects and displays information from a variety of smart sensors located around Footscray which members of the community can access.

As part of the smart city initiative, six air quality sensors have already been installed at a number of locations in Maribyrnong with plans to install more at selected locations. Council is currently discussing data analysis with the EPA in order to identify 'hot spots' around the city and enable strategies to mitigate problem areas.

However, Council has only a limited capability and relies on both Federal and Victorian State government policy and initiatives to make significant changes that will lessen the impacts on health from the diminished air quality.

There are a range of initiatives or programs which could significantly improve the air quality Maribyrnong and the broader west many of which, need to be led by Federal and/or State government.

CLEAN TRUCK PROGRAM

The 2021 Austroads report, *Options for Managing the Impacts of Aged Heavy Vehicles*, canvassed a range of policy measures available to governments. The report noted that pre-1996 trucks cause around \$200 million in annual health costs in Australia, related to pollution. The cost of emissions from pre-1996 trucks, operating in urban areas is estimated to be 4.5 times higher than non-urban areas. Replacing these trucks could yield a net health benefit of \$744–\$1,441 million over seven years. The policy measures relevant to the State government, included grants or scrappage incentives to help owners buy new or replacement Euro V or Euro VI trucks (with incentives requiring proof that the old vehicles have been scrapped); progressively higher annual registration fees for aged vehicles; and that trucks must be of a certain emission standard or be under a certain age to be eligible for contracts or projects⁵⁰.

A Clean Truck program, coupled with the acceleration to transition to electric buses would have a meaningful contribution to the diesel pollution reduction program.

CLEAN PORTS PROGRAM

⁴⁸ [Home - Maribyrnong](#)

⁴⁹ Footscray Smart City Data Platform - Maribyrnong

⁵⁰ AP-R637-21 | Austroads

Clean Ports Programs initiated at the ports of Los Angeles, Long Beach and San Diego has resulted in a 90% reduction in toxic diesel particulate matter emissions from trucks in four years, and a 97% reduction over 10 years. Central to the scheme was a progressive ban on older heavy polluting diesel trucks and all trucks now entering the port terminals must comply with State laws and be on the Ports Truck registry. The Port of Los Angeles also contributed millions of dollars in incentives to help trucking companies' transition to clean trucks⁵¹.

Port of Melbourne management has previously stated that enforcement of such programs would require state legislation and support. In the Port of Melbourne *Sustainability Report*⁵² (2018) the Sustainable Development Goal 11.6 states that:

We form a part of four municipalities that provide valuable insight and advice to guide sensible planning and improvements to the liveability around the Port. Working with local government ensures that an integrated approach to planning is undertaken, which is integral to recognising the current and future requirements of the Port.

- *By 2030 the Port will reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management*
- *Continue to engage with Port tenants to reduce dust emissions.*

In order to improve the air quality and the liveability around the Port, a program must be introduced, in partnership with the State Government, to progressively block port access to the older trucks that fail to meet Euro V emission standard. The program could be allied with a scrappage incentive policy.

ACCESSING SHIPPING CONTAINER STORAGE DEPOTS

The Victorian State Government is currently investing in projects to take trucks off local roads by connecting major freight hubs by rail to the Port of Melbourne. One of the largest private container depots in Victoria, accommodating 7,500 containers, is situated in Tottenham and is approximately 7km from Webb Dock at the Port of Melbourne. These containers must be transported through residential streets in Maribyrnong, past schools and childcare centres. Further work on the location and multi-modal access of shipping container storage depots must be an integral part of the planning of the freight and logistics network to reduce the volume of trucks transporting containers through residential areas.

The proposed Victorian government Port Rail Shuttle and Mode Shift Incentive Scheme⁵³ are both committed to reducing the number of trucks on local streets.

LOW EMISSION ZONE (LEZ) AND ULTRA-LOW EMISSION ZONE (ULEZ)

In response to the Inner West Air Quality Control Reference Group's report, the Victorian State Government has proposed a Low Emissions Initiatives Priority Zone for the inner west suburbs, being the first of its kind in Australia. According to the government, the inner west suburbs and routes will be prioritised for the initial rollout with three suggested programs:

- Zero emission bus trial
- Green Wave technology
- Drive Easy program

⁵¹ Clean Truck Program | Air Quality | Port of Los Angeles

⁵² Sustainability-Report-webfile.pdf (portofmelbourne.com)

⁵³ Key freight projects | Department of Transport

The government has committed to a target for all Public Transport (PT) buses to be zero emissions from 2025⁵⁴. The Zero Emissions Bus Trial will run for 3 years, commencing in 2022, across a number of partners and sites in metro Melbourne and regional Victoria, covering local streets and longer term routes. \$20 million will be spent on the trial over the 3 years and it will form the basis of the start of Victoria's zero emission buses transition roadmap. More than half of the franchise fleet, 341 of the 537 buses, will be replaced with low or zero emission vehicles over the term of the franchise⁵⁵.

The London Ultra-Low Emission Zone targets the following class of vehicle and emission standard for each type of vehicle:

- Euro 3 for motorcycles, mopeds, motorised tricycles and quadricycles
- Euro 4 (NOx) for petrol cars, vans, minibuses and other specialist vehicles
- Euro 6 (NOx and PM) for diesel cars, vans and minibuses and other specialist vehicles

This includes cars, motorcycles, vans and specialist vehicles (up to and including 3.5 tonnes) and minibuses (up to and including 5 tonnes).

The London-based Low Emission Zone targets the following class of vehicle:

- Lorries, vans or specialist heavy vehicles (over 3.5 tonnes) and buses, minibuses and coaches (over 5 tonnes).

These vehicles will need to pay the LEZ charge if they do not meet the specified LEZ standards⁵⁶.

There was over a 30% reduction in the number of older, more polluting, non-compliant vehicles detected in the zone⁵⁷ and a 20 per cent reduction in emissions. Figures recently released show that improvements in air quality within the central ULEZ have been large and rapid in the 4 years since the zone was established:

- There are 44,100 fewer polluting cars driving in the zone every day, and toxic NO₂ concentrations have been reduced by 44 per cent
- The number of state primary and secondary schools in areas exceeding legal limits for NO₂ fell from 455 in 2016 to 14 in 2019, a reduction of 97 per cent.
- ULEZ has saved around 12,300 tonnes of CO₂ emissions⁵⁸.

These figures are a clear indication that this form of low emission zone is a practical solution to the very high vehicle pollution experienced in Maribyrnong.

The Victorian State Government is currently working on an app to introduce Green Wave technology could have the opposite outcome on pollution levels, by attracting more trucks on to those designated streets if the drivers think they are getting to their destination quicker. Green Wave technology assists by sending a signal to a visual display to drivers in their vehicle informing them when the next set of traffic lights will be turning red, prompting them to modify their speed so they can pass through the series of traffic lights ahead without having to stop. According to the literature

⁵⁴ Zero-Emission-Vehicle-ZEV-Roadmap-FINAL.pdf (energy.vic.gov.au)

⁵⁵ New Bus Franchise To Jump Start Zero Emissions Pledge | Premier of Victoria

⁵⁶ Your vehicle and LEZ - Transport for London (tfl.gov.uk)

⁵⁷ Date (london.gov.uk)

⁵⁸ The Mayor's Ultra Low Emission Zone for London | London City Hall

on Green Wave technology, the purpose of the patented technology is to assist with safety, reduce carbon footprint and fuel consumption, and to improve traffic flow⁵⁹. This technology has been implemented in Europe to assist with safer and more efficient travel for cyclists on busy travel routes⁶⁰.

There is no reference in the literature about this technology assisting trucks to travel more efficiently in suburban residential streets, particularly the semi-trailers and B-doubles. Due to the very slow take-off at traffic lights, heavy loads and heavy truck traffic, the trucks would possibly have a very negative impact on normal traffic flow, challenging the very purpose of the technology. The technology was introduced in Victoria in 2016 and VicRoads have implemented it on Canning Street for cyclists⁶¹.

The Drive Easy and Green Wave proposal do not address the fundamental problem with trucks in Maribyrnong, which is very old trucks with little or no emission controls. Diesel particulate matter will still be emitted from the trucks into the streets, schools, childcare centres and homes.

PLANNING FRAMEWORK

In Victoria, the connection between planning and air pollution in both the legislative and public domain is rarely recognized, acknowledged or acted on.

Changes to the state planning framework, and any associated regulations/guidelines are required to address the health inequities around residential and commercial development on major transport corridors in Maribyrnong. This should include policies and guidelines that give clear indications for the location of all future sensitive-use facilities.

In addition, Council can investigate local policies and/or guidelines to provide guidance on the requirements for developments in the municipality, which includes those most vulnerable to poor air quality, such as hospital patients, childcare services, schools and aged care facilities.

The location of future container yards requires additional planning controls to prevent container trucks from travelling on residential streets. Closer access to freeways and the Port of Melbourne should be a major planning consideration.

WOOD HEATERS

Wood heater smoke can cause a public health nuisance to adjacent neighbours if the heaters are not operated or maintained correctly. It is important that all wood heaters are installed correctly by a licensed plumber and meets the required Australian Standards. Wherever possible, Council recommends replacing the wood heaters with other forms of heating that reduces the impact on the local air quality and the health of residents in the area. The combination of wood smoke and vehicle pollution can be very harmful to the health of nearby residents. The Victorian State Government has a current program to support the change from wood heaters to energy efficient electric options⁶².

Council's *General Purpose Local Law 2015 Part 18* explains the requirements for lighting fires in backyards, including banning the incineration of hazardous materials. Chimney smoke is also banned if it is deemed to be offensive to other persons or dangerous to properties⁶³.

⁵⁹ Connected Signals gets US Patent for 'green wave' technology | Traffic Technology Today

⁶⁰ How 'green waves' can make city riding better - CyclingTips

⁶¹ Canning Street Green Wave for Bike Riders : VicRoads

⁶² Heating and cooling (victorianenergysaver.vic.gov.au)

⁶³ Local Laws - Maribyrnong

There is a need for state and local government to work in partnership to address the impacts of wood heaters.

WEST GATE TUNNEL PROJECT (WGTP) – TRUCK BANS

When the West Gate Tunnel Project (WGTP) is completed, legislated truck bans are planned for the City of Maribyrnong streets - with the exception of Williamstown Road in Seddon, Kingsville and Yarraville:

- Francis Street – between Roberts Street and Hyde Street.
- Somerville Road – between Geelong Road and Whitehall Street.
- Buckley Street – The full length of Buckley Street and part of Napier Street, from Geelong Road to Whitehall Street.
- Moore Street – The full length of Moore Street from Ballarat Road to Hopkins Street.
- Blackshaws Road – The full length of Blackshaws Road from Melbourne Road to Grieve Parade.
- Hudsons Road – between Melbourne Road and Booker Street.

This will ensure that trucks use the freeway and not local streets. Exemptions will however apply to trucks with local origins and destinations, to ensure that local businesses can continue to operate normally. However, there are currently delays in the project that will extend resident's exposure to high levels of vehicle pollution.

Williamstown Road is mostly a single lane residential street lined with heritage homes and an increasing number of unit developments. The Environment Effects Study (EES), compiled by GHD for the WGTP, projected a doubling of truck numbers on Williamstown Road., to 5,000 trucks per day. VicRoads also proposed to establish clearways outside homes to give trucks an improved run to the Port of Melbourne⁶⁴.

Council passed a resolution on 31 July 2019 to advocate for the introduction of curfews and a truck ban on Williamstown Road⁶⁵ and, in spite of government promises, Williamstown Road was excluded from the Smart Freight Initiative – Inner West, which has now given the higher-polluting, ageing trucks 24hr unrestricted access to Williamstown Road⁶⁶. The Victorian Government abandoned the Smart Freight Initiative in December 2019⁶⁷.

It is vitally important for the health of the residents, both current and future, that Williamstown Road is included in the 24hr ban when the WGTP is completed.

WGTP – FILTRATION

A decision was made by the Victorian Government that ventilation stack filtration will not be fitted to the Westgate road tunnel, unless monitoring after opening shows that air pollutants have reached an 'undefined' trigger level. Studies carried out before and after the opening of a road traffic tunnel in Sydney showed that residents living close to the tunnel stacks experienced unexplained adverse health effects⁶⁸. It was suggested that this could possibly be due to unmeasured pollutants such as PM1 or PM0.1 (UFPs), which are found in elevated numbers inside tunnels and pose a greater risk to health than PM2.5 or PM10.

⁶⁴ West Gate Tunnel Project - Victoria's Big Build

⁶⁵ 20190731-OCM-Minutes (1).pdf

⁶⁶ Truck traffic to double on Williamstown Road / News / News / Railpage

⁶⁷ Government shelves rules for stricter curfew on polluting trucks (theage.com.au)

⁶⁸ Respiratory Health before and after the Opening of a Road Traffic Tunnel: A Planned Evaluation (nih.gov)

Ultrafine particulates (UFPs) are currently not monitored by the EPA and consequently there is no way of predicting the levels coming from the tunnel stack, or the health effects on the Maribyrnong community. This is a major flaw in the ventilation stack filtration modelling carried out for the WGTP.

Modal Shift

According to recent research from Oxford University, switching from cars to bikes can reduce commuting emissions by 67%⁶⁹. A person who shifted commute travel from car to bike decreased their life-cycle CO₂ emissions by just over 3kgs/day. In order to do this however, greater safety for the commute must first be created. This includes the implementation of initiatives such as separated cycle lanes, removing trucks from local streets, State and Federal Government incentives for low emission vehicles to reduce local traffic pollution and green corridors to protect cyclists and pedestrians from traffic pollution⁷⁰.

A recent paper, *Right Tree, Right place, Right Time*, from Sustainable Cities and Society, an international journal focussing on research aimed at promoting sustainable and socially resilient cities, highlighted the benefits of providing tree cover for active walking routes to schools that were located in Maribyrnong⁷¹. Council worked with the study's authors over a 3yr period. The study offers local government several ways to improve and enhance the health of children and residents, by strategic planting of trees and creating safe, active walking paths to schools.

Council has recently teamed up with researchers from Melbourne and Swinburne University, Dept. of Transport, Glen Eira Council and the Transport Accident Commission to participate in a research project - *Walk-quality: A multi-criteria design platform to facilitate active travel*. This will encourage active transport options for children, providing a safe and pollution-free walking path to schools.

⁶⁹ The climate change mitigation effects of daily active travel in cities - ScienceDirect

⁷⁰ The influence of roadside vegetation barriers on airborne nanoparticles and pedestrians exposure under varying wind conditions - ScienceDirect

⁷¹ Right tree, right place, right time: A visual-functional design approach to select and place trees for optimal shade benefit to commuting pedestrians - ScienceDirect

The Action Plan

The evidence is clear regarding the human health toll from air pollution in Maribyrnong at levels below the current State and Federal objectives and standards. Residents of the City of Maribyrnong are currently exposed to consistently poor air quality levels compared to other suburban areas of Melbourne.

Caring for our environment and our community in Maribyrnong, and elsewhere impacted by poor air quality, is important for maintaining a city with a healthy, safe and liveable environment. All people, animals, waterways, and the land we live on, have the right to clean air. To be able to walk or cycle in public spaces, without fear of their health and wellbeing impacted by dust and odour from industrial and landfill sites, and old, polluting diesel trucks, is a basic human right and an environmental concern.

The overall goal of the AQIP is to improve air quality in the City of Maribyrnong to achieve improved health and environmental outcomes for the community. Council will seek to deliver on this goal through the implementation of actions outlined below.

The AQIP and supporting action plan demonstrates how Maribyrnong City Council will work to improve air quality in the municipality over the next 5 years.

Council also supports the IWAQCRG report and recommendations to State Government (refer annexure 1), as they will contribute to the improvement in the air quality in Maribyrnong and reduce the community's exposure to unhealthy levels of air pollution.

Legend:

(S) Short Term: Year 1 (22/23 FY)

(M) Medium Term: Year 2-3 (23/24 & 24/25 FY)

(L) Long Term: Year 4-5 (25/26 & 26/27 FY)

	ACTION	TIME
1	Advocate to the Victorian State Government for a truck ban on Williamstown Road	S
2	Work with others from the Inner West Community Reference Group to advocate to the Victorian State Government to ensure all recommendations from the Inner West Air Quality Community Reference Group are fully implemented.	S
3	Advocate to the State Government to release the Victorian Air Quality Strategy – scheduled for release in 2019 - in response to the <i>Clean Air for All Victorians</i> community consultation.	S
4	Advocate to the State Government to ensure the Auditor General's recommendations in the 2018 <i>Improving Victoria's Air Quality</i> report are fully implemented.	S

5	Advocate to the State Government to support regular air quality monitoring in specific locations in Maribyrnong in order to identify the 'hot-spots'.	S
6	Advocate for State planning legislation to be changed as soon as possible to require 'sensitive use' facilities, including childcare and aged care, to be located well away from high truck and traffic volume transport corridors, industrial pollution and known areas of dust pollution.	M
7	Advocate to the State Government (VicRoads) to ban all diesel trucks (except delivery trucks) from residential streets	S
8	Advocate to the State Government introduce incentives for electric vehicles including the removal of the electric vehicle road user tax.	S
9	Advocate to the Federal and State Government for a more rapid move from diesel and petrol vehicles by promoting, funding/incentivising the electrification of the light vehicle fleet.	S
10	Advocate to the State Government to fund a Clean Truck Program and a Clean Ports Program for the Port of Melbourne.	S
11	Advocate to, and seek to work with, the Port of Melbourne to reduce the negative impacts of Port operations on the air quality in Maribyrnong.	S
12	Advocate for the State Government to commence PM1 monitoring and introduce an 8hr standard for particulate matter (PM10 and PM2.5).	S
13	Advocate for the Federal and Victorian State Governments to continue to initiate policies that reduce carbon emissions and diesel particulates to address climate change.	S
14	Advocate to Federal and State Government for a transition from diesel trains to electro-diesel trains.	S
15	Advocate for Port Rail Shuttle from the Port of Melbourne to be fast tracked to remove the ageing diesel fleet from suburban roads to reduce truck pollution.	S
16	Advocate to the State Government to accelerate the timeframe for the introduction of the EV bus fleet.	S
17	Advocate to the Victorian EPA to re-instate the smoky vehicles reporting mechanism for the 10-second rule for heavy vehicles.	S
18	Advocate to the Victorian State Government to Introduce an Ultra-Low Emission Zone (ULEZ) and a Low Emission Zone (LEZ) in designated areas of the city, supported by Automatic Number Plate	S

	Recognition (ANPR) technology, where air quality is known to be consistently poor.	
19	Advocate to the Victorian State Government to adopt the new WHO air quality standards.	S
20	Advocate to the Federal Government to ban all diesel and petrol vehicle sales by 2030.	S
21	Advocate for the installation a vehicle emissions filtration system in the Westgate Tunnel ventilation stack, prior to the opening of the Westgate Tunnel project, to protect the surrounding Maribyrnong population from excessive and potentially dangerous PM1, PM2.5 and PM10 emissions.	S
22	Investigate and develop a program to extend the existing air pollution network, including sensitive site, in Maribyrnong to identify areas of high pollution	M
23	Implement the Maribyrnong Integrated Transport Strategy vehicle anti-idling program to discourage vehicle idling outside schools, railway stations, railway crossings, shopping centres and hospitals.	M
24	Develop an air quality map of the city to identify pollution hotspots and implement strategies to reduce exposure. This map would be regularly updated.	M
25	Implement targeted tree planting to create 'active' walking paths to schools.	M
26	Analyse the potential options for changes to the Local Planning Policy Framework (LPPF) to ensure 'sensitive use' facilities, including childcare and aged care, are located well away from truck corridors, high traffic volume transport corridors, industrial pollution and known areas of dust pollution.	M

27	Analyse the potential options for changes to the Local Planning Policy Framework (LPPF) to address the location, use and operation of container yards in the City of Maribyrnong.	S
28	Liaise with the EPA to get regular updates on compliance with their air pollution management obligations at industrial sites in Maribyrnong	S
29	Investigate the transition of Council's vehicle fleet, contracted waste collection services and other fleet to electric vehicles (where practicable).	L
30	Investigate the transition all Council's maintenance tools to electric, including mowers, blowers, brush cutters and other petrol or diesel operated machinery (where practicable).	L
31	Undertake an assessment to determine what, if any, local policy Council can introduce to ban wood-fire heating in new residential developments.	S
32	Advocate to State government to implement initiatives to support people transition to energy efficient heating	M
33	Promote cycling and walking by providing a safer connected network of cycling and walking paths.	S

34	Investigate the feasibility and benefit of limiting through traffic in local areas this should consider elements such as narrowing streets and installing street furniture and vegetation to improve the street amenity.	M
35	Continue to advocate to state government to respond to and implement the recommendation of the IWAQCR (refer annexure 1).	S
36	Advocate to Federal and State government to work in partnership with Local government and other relevant agencies to undertake regular research into air quality to inform required legislative and regulatory changes and identified initiatives to improve air quality.	S
37	Develop a community education program which helps the community understand the impacts of poor air quality, including impacts on children.	S

Annexure 1: Recommendations from the Inner West Air Quality Control Reference Group Report

Recommendations

This is a list of all our recommendations to reduce air pollution and improve the health and amenity of the Inner West. In line with our Terms of Reference, we have considered the relative importance of these recommendations. Although we strongly recommend that the Victorian Government act on each one, there are several which are particular priorities, addressing key air pollution problems. **All priority recommendations are shown in bold text below.**

Recommendations have also been classified as:

Short-term - Likely to be able to be implemented in the next one to two years at limited or no additional cost to government.

Medium-term - Likely to be able to be implemented in three to eight years and will require additional government investment.

Long-term - Likely to require eight or more years and significant government investment before recommendation can be actioned.

Monitoring, Analysis and Reporting - That the Victorian Government:

Medium-term

3.1 Increases the level of, and access to, Inner West air quality monitoring and information.

[Priority]

Through actions such as:

- permanently transferring WGTP monitoring stations to the EPA
- utilising air quality modelling and forecasting processes to complement the monitoring network
- publicly and promptly reporting actions taken in response to significant instances of air pollution, such as industrial fires
- implementing a representative monitoring network, including for key pollution locations such as major roads, the West Gate Tunnel and industrial sites
- publishing all information in as close to real time as possible and maintaining historical data, on a single website
- utilising lower cost monitoring sensors to complement permanent
- monitoring stations where appropriate to achieve more representative monitoring coverage of the Inner West
- reporting all data in 8-minute, 1 hour, 24-hour and annual average increments

3.2 Implements an air pollution education campaign to improve Inner West communities and visitors' knowledge of the health risks from local air pollution and what can be done to address and avoid these. [Priority]

Actions to achieve this could include:

- creating a phone app (like an upgraded version of AirWatch) to alert local populations of levels of air pollution and specific actions that can be taken, depending on severity
- using multiple communication tools to target the diverse communities of the Inner West
- using innovative tools such as environmental health tracking, a community impacts scorecard and/or an Inner West air quality map, to provide information on local pollution levels and their health impacts

- for the top ten of these pollutants (based on community health risk) demonstrating how premises emitting them will be made to be compliant with their environment protection statutory obligations
- publishing a comprehensive and transparent list of all major organic compounds emitted as air pollutants by Inner West industrial premises (on the AirWatch website)

3.3 Identifies pollutants of emerging scientific concern to the Inner West, including PM1 and ultrafine particles, to inform policies, legislation and programs to manage them.

Through actions such as:

- funding epidemiological studies to better understand likely community exposure and health risks
- identifying ways to effectively monitor and report these pollutants
- setting reporting standards for these pollutants

Short Term

3.4 Considers the cumulative impact of historic Inner West community exposure to air pollution when making decisions regarding planning applications, developments and other initiatives, and applies more stringent actions in this area to drive down air pollution.

The Regulatory and Policy Environment - That the Victorian Government:

Medium-term

4.1 Builds on the reforms to the environment protection framework, ensuring its policy, strategy and statutory framework development, and decision making, prioritise addressing the health impacts of Inner West air pollution.

[Priority]

Through actions such as:

- committing to ongoing funding and expansion on the number of OPLE roles or similar in the Inner West, enabling them to respond to air pollution complaints in a timely manner and reduce air pollution risks through prevention and community and industry education
- reviewing other statutory frameworks impacting on air quality management, to assess opportunities for complementary strengthening, including addressing inconsistencies, gaps and loopholes
- including air quality as a priority in the next Public Health and Wellbeing Plan (Vic) and requiring consistent and complimentary Inner West municipal health plans
- improving cooperation between agencies with air quality management, including reporting, responsibilities
- ensuring Inner West air quality solutions are a key focus in the Victorian Air Quality Strategy
- engaging effectively, proactively and transparently with the community wherever appropriate

4.2 Commits to ongoing funding of local medical resources specialising in addressing health risks from air pollution, commensurate with the enhanced risks to Inner West communities.

4.3 Undertakes a health risk assessment of the public health impacts caused by air pollution in hot spot areas in the Inner West, including the Brooklyn residential precinct.

Short-term

4.4 Ensures the environmental and social requirements of the *Transport Integration Act 2010* are upheld such that transport and land use authorities work together to achieve an integrated and sustainable transport system in the Inner West.

Transport - That the Victorian Government:

Medium-term

5.1 Develops a comprehensive policy to drive uptake of low and no emission vehicles, and reduce transport emissions, with a focus on the Inner West.

[Priority]

This could accommodate the following actions:

- introducing a low emission zone bounded by Grieve Parade, Geelong Road, Kororoit Creek Road and Whitehall Street. Initially, more polluting vehicles should be banned from entering the zone for three hours per day, and immediately before and after core child care, kindergarten and school hours. Over time the ban should be increased to 24-hours. Introduction of the zone should be complemented by measures to support vehicle owners to upgrade to less polluting vehicles
- incentivising businesses - particularly freight operators - to upgrade fleets to incorporate vehicles that are, at a minimum, Euro 5 / V equivalent or use alternate fuels
- only entering public transport contracts with bus operators that stipulate the use of low and no emission vehicles, for example electric buses
- facilitating the movement of freight from road to rail, including fast tracking the Port Rail Shuttle project and identifying if this can be expanded, and working with the Port of Melbourne to enable rail to Webb Dock
- changing its procurement requirements to ensure all other vehicles used for Victorian Government services and projects are, at a minimum, Euro 5 / V or equivalent compliant or utilise alternative fuels
- investigating other ways to drive greater uptake of alternative fuels

Medium-term

5.2 Develops a comprehensive, evidence-based policy to minimise air pollution associated with the WGTP both during construction and once the tunnel opens. [Priority]

Actions should include:

- installation of green walls - using technology such as the Junglefy Breathing Wall modules - along the West Gate Freeway between Millers and Melbourne Roads and along the section of Millers Road north of the Freeway
- measures to ensure the operation of the tunnel project does not encourage increased truck traffic on feeder roads through residential communities – particularly along Millers and Williamstown Roads. This could be done, for example, by ensuring trucks are redirected through industrial areas and providing alternate heavy vehicle routes (e.g. through the upgrade of Grieve Parade through to Market Road and upgrade of Paramount Road route) and enforcing bans or restrictions
- anti-idling requirements for vehicles involved in WGTP construction
- action on the IAC's recommendation to install filtration on the tunnel ventilation stacks. Filtration should be installed prior to the tunnel opening
- a requirement that the WGTP plants replacement trees as near to their original location as possible. (e.g. near Primula Avenue, Millers Road and Grieve Parade, and along the West Gate Freeway corridor
- installation of fixed barriers to shield sensitive uses from traffic pollution, particularly on the Hyde Street on-ramp in Spotswood, adjacent to the Emma McLean Kindergarten

- explore opportunities to better protect existing sensitive uses exposed to significant air pollution sources (e.g. new highways or major roads), such as through installation of on-site monitoring, installation of on-site filtration systems, and/or protection and regeneration of trees and wildlife, funded, for instance, through increasing road tolling charges.

Long-term

5.3 Prioritises improvements to public transport in the Inner West (including better integration between modes). [Priority]

Actions could include:

- reopening the Paisley and Galvin train stations
- fast-tracking the MM2 project
- increasing frequency and coverage of bus routes in the Inner West and regularly reviewing to ensure access is maximised
- improving passenger facilities (e.g. bike parking) at train stations in the Inner West
- expanding the MM2 project to include:
 1. the upgrade of the existing freight line between Newport and Sunshine to accommodate passenger services (e.g. electrification and widening of the rail-line)
 2. the opening of new stations at locations such Altona North/South Kingsville and Brooklyn
 3. developing and implementing access plans for all Inner West train stations to further encourage patronage.

Medium-term

5.4 Advocates to the Commonwealth to implement measures that will improve air quality in the Inner West.

Through actions such as:

- promoting and enabling greater use of alternative fuels and low and no emission vehicles to replace use of diesel and petrol-powered vehicles through e.g. a national plan, incentives and/or disincentives for manufacturers and end-users
- strengthening the eligibility criteria for the Federal Diesel Fuel Tax Credit Scheme to ensure the rebate is only provided for newer, less polluting
- heavy vehicles
- strengthening fuel quality standards to bring them in line with Australia's trading partners, reducing sulphur content in vehicle fuels to 10ppm or lower
- strengthening vehicle emission standards for heavy vehicles by:
 1. requiring that all new heavy vehicles meet, at a minimum, Euro VI equivalent standard.
 2. monitoring in-service heavy vehicles in the Inner West to make sure they continue to meet air emission standards

Reducing train emissions by:

1. implementing diesel locomotive standards by requiring that all freight locomotives meet the equivalent of the US Tier 4 standard
2. identifying opportunities to promote the adoption of electric trains

Medium-term

5.5 Works with the Port of Melbourne to develop a Clean Port Program. [Priority]

Actions which could incorporate:

- an environmental charge, bans or restricted access to the port for older more polluting vehicles
- financial incentives e.g. discounted berthing fees for 'cleaner' ships with newest engines or equivalent NOx reducing technology

- on-shore electrical power so ships do not need to use diesel generated power while berthed
- electrifying or utilising hybrid fuel systems for port operations such as ship to shore cranes and gantry cranes
- establishing air quality improvement targets, and regular monitoring and reporting of air pollutant levels, from the Port of Melbourne
- working with the Australian Government to enable EPA to have jurisdiction over the development and implementation of Port of Melbourne environment protection controls

Medium-term

5.6 Facilitates all levels of Government to develop targeted ‘polluter pays’ incentives to fast track air quality improvements and produce resources required to implement this report's recommendations and meet clean energy targets.

Actions could include:

- a new tax or levy for diesel and other polluting fuels, including those used to transport shipping containers, power cruise ships, and manufacture
- plastics

Industrial emissions - That the Victorian Government:

Medium-term 6.1 Fast tracks implementation of the Brooklyn Evolution Strategy 2016 long term framework plan, providing the necessary support for local government, community and industry to achieve the Strategy's aims. [Priority]

Medium-term 6.2 Provides appropriate resourcing to the EPA to enable it to use its strengthened tools and powers. [Priority]

Short-term 6.3 Identifies and eliminates sources of dust emissions. [Priority]

Actions could include:

- ensuring any industrial and commercial sites with significant vehicular traffic, such as container parks, be sealed
- identifying and sealing roads and verges
- the use of wheel wash facilities for heavy vehicles
- require that all crushing operations be enclosed to contain all dust

Short-term 6.4 Requires that the EPA prioritise its strengthened statutory tools and powers to ensure Inner West industrial premises comply with their air pollution management obligations.

Actions could include:

- implementing a risk-based approach, focusing on premises creating greater air pollution, dust and/or odour risks to human and environmental health and amenity
- commencing with such premises in the Brooklyn Industrial Estate and other major Inner West air pollution emitters, ensuring:
 1. full compliance with all works approval, licence and other permit conditions, general duty obligations and compliance notice obligations, including for major organic compounds being emitted
 2. instances of non-compliance are addressed within three months of their identification
 3. appropriate industry guidance documentation and other information / advice provided
 4. air pollution monitoring and reporting requirements are introduced to enable EPA to assess levels of emissions and compliance with any licence limits

5. appropriate and regular inspection and/or independent auditing of compliance is undertaken
6. communities and local governments are supported to effectively comment on draft new or amended works approvals, licences or other permissions, including through provision of adequate technical expertise and increasing formal referrals to local governments
7. dust and odour emissions are treated at source and contained within site boundaries
8. undeveloped and/or unoccupied industrial sites are appropriately secured and maintained to prevent emissions
9. identifying where it is appropriate to use other new statutory powers (e.g. requiring development of Better Environment Plans) to eliminate emissions of air pollution, and implementing actions to ensure their effective use

Long-term

6.5 Moves existing industrial premises that create substantial air pollution, including dust and/or odour, out of the Inner West to areas where their emissions will have minimal or no impact on local communities. Crushing plants, demolition and materials handling facilities, and materials stockpiles should be prioritised.

6.6 Reduces the major risks landfills pose to local air quality.

Actions should include:

- not allowing landfills to rise above natural surrounding ground levels and being filled beyond permitted capacity
- identifying appropriate means to rapidly fill Altona North landfill with clean fill
- monitoring and enforcing landfill environmental management requirements

Short-term

6.7 Assesses the feasibility of transforming the former wholesale fruit and vegetable market on Footscray Road into a container park, to reduce the proliferation of such parks in the Inner West and associated haulage of containers to and from them.

Planning - That the Victorian Government:

Medium-term

7.1 Amends the Planning Policy Framework to support development of consistent and appropriate local planning policies to improve environmental and amenity outcomes to better protect the community from transport, commercial and industrial induced air pollution.

Actions could include:

- ensuring that sensitive-use facilities, such as childcare centres, schools, aged care facilities and hospitals, are located at specified distances from existing air polluting industries and major transport corridors, including air, road and rail. The specified distance from transport corridors will be determined by scientific evidence related to vehicle numbers, pollution levels, type of vehicle (truck/car/diesel train), with the specified distance incorporated into the local planning policies of Councils in the Inner West
- supporting Planning Schemes in the Inner West requiring planning permits for the establishment of all shipping container storage and handling sites, and review and strengthen the decision guidelines (VPP 53.07-1) to reduce on and off-site emissions and reduce the proximity to sensitive use facilities including residential zones

- supporting development of consistent and appropriate local planning policies in the Inner West to improve environmental and amenity outcomes that include Best Practice Industrial/Commercial Land Use Guidelines and landscaping requirements for industrial and commercial sites.

Medium-term

7.2 Reviews and amends the planning framework, including the *Planning and Environment Act*, to strengthen enforcement powers and penalties for breaches of Planning Permit conditions relating to offsite emissions, including air pollution and that any fines and penalties arising from breaches of the Act be directed to local environmental improvements.

7.3 Reviews and amends ‘as of right’ provisions to stop existing land uses creating excessive air pollution, with a particular focus on premises that do not meet current setback/buffer/siting planning requirements.

This could be done by:

- providing subsidies or incentives to operators/land owners to support change of use or updating existing facilities or practices to bring them up to current planning system requirements, or negotiating early departure from the sites

7.4 Requires industries that emit a high level of air pollutants to establish ongoing air quality monitoring and reporting as mandatory planning approval requirements.

Long-term

7.5 Prioritises actions in *Plan Melbourne 2017-2050* that will assist to enhance air quality outcomes, particularly:

- Direction 6.6 - Improve air quality and reduce impact of excessive noise
- Direction 3.4 - Improve freight efficiency and increase capacity of gateways while protecting urban amenity
- Direction 5.1 - Create a city of 20-minute neighbourhoods
- Direction 1.1 - Create a city structure that strengthens Melbourne’s competitiveness for jobs and investments including:
Policy 1.1.3 - Facilitate the development of national employment and innovation clusters