

Evolution of noise pollution reports during COVID-19

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ABSTRACT

In response to the COVID-19 pandemic, the State Government of Victoria implemented measures, including several periods of 'lockdown' that involved strict constraints on travel, and required people to work from home where possible. For most Victorians, these restrictions led to reduced noise from road traffic and from aircraft, however they appear to have resulted in increased exposure to other sources of noise. The number of pollution reports received by the Environment Protection Authority (EPA) Victoria in relation to noise more than doubled in the period from January to July 2020 (which covered several episodes of lockdown), compared with the same period in the previous year (with no lockdowns). This paper investigates the evolution of noise reports during 2020 and 2021, giving regard to the alleged noise source categories used in their triage.

1 INTRODUCTION

In response to the COVID-19 pandemic, the State Government of Victoria declared a state of emergency on 16 March 2020. Several lockdowns took place in 2020 and 2021, with restrictions affecting mostly metropolitan Melbourne. There were six different lockdowns: 30 March to 12 May 2020; 8 July to 27 October 2020; 12 to 17 February 2021; 27 May to 10 June 2021; 15 July to 27 July 2021 and the sixth lockdown starting 5 August 2021 (Dunstan, 2021). Each of these lockdowns started and ended at 11:59 pm Details of the restrictions in place during these periods can be found at the media centre of the office of the Premier of Victoria (www.premier.vic. gov.au/media-centre). EPA observed significant decreases in air pollution (NO₂ and PM2.5) during the pandemic, correlating to a reduction in road traffic volumes (Choi *et al.*, 2021). However, there was an increased number of noise pollution reports.

2 NOISE POLLUTION REPORTS

Members of the public can report pollution via EPA's hotline (1300 372 842) or via its website (www.epa.vic. gov.au). Reports are categorised based on the type of pollution (including air, dust, groundwater, noise, odour, smoke, waste, water). Reports in the noise category are further triaged in the sub-categories shown in Table 1. The classification also includes a category 2 for motor vehicles, which includes litter, noise and smoke as subcategories. However, reports triaged in this category are for individual vehicles formally identified by their number plate. They will not be discussed further in this paper since they are generally reports made by EPA authorised officers or police officers. Table 1 also provides the number of reports received in July to June financial years 2019-20 and 2020-21, as well as the average values for the six financial years from 2013 to 2019.

Category 1	Category 2	Category 3	Category 4	Financial year(s)		
(report type)	(pollution type)	(source type)	(source)	2013-19 (average)	2019-20	2020-21
Pollution	Noise	Business	Entertainment venue	46	42	123
Report			Large	1125	1102	1626
			Small	121	166	390
			Not assigned	2	5	4
		Residential	Not assigned	421	825	2347
		Transport and	Aircraft	6	11	55
		Motor vehicles	Public transport	15	22	22
			General traffic	9	15	59
			Individual vehicles	28	47	213
			Not assigned	1	0	0
		Other	Not assigned	181	357	563
		Not assigned	Not assigned	4	1	2

Table 1: Noise pollution reports and their classification





3 REPORTS RECEIVED DURING THE COVID-19 PANDEMIC

Figure 1: Breakdown of pollution reports received between January 2020 and June 2021, compared with the monthly averages from 2013 to 2019 (left hand side)

Figure 1 provides the breakdown of noise pollution reports, per alleged source, for each month from January 2020 to June 2021. These values are compared to the average number of reports for each month, from 2013 to 2019, provided at the left-hand side of the diagram. The periods of lockdown are indicated at the top, for reference.

During COVID-19, a general increase in noise pollution reports is observed. This is consistent with observations made for New South Wales (Marsh, 2021). The increase is particularly significant for residential noise. Since the declaration of the state of emergency in March 2020, most people in Melbourne and in other affected areas have been working from home. There were more people affected by noise impacting their home, and there were more sources of residential noise. Also, with less traffic on roads (Choi *et al.*, 2021), background noise levels can be expected to have generally reduced, making other sources of noise more obvious, and potentially more intrusive. Reports about aircraft noise appear to also have increased and may relate to helicopters since international and interstate air travel was limited during lockdowns.

An increase in noise pollution reports regarding small and large businesses is generally observed from March 2020 onwards. It likely relates to measures adopted to facilitate the operation of essential businesses, which included noise exemptions (EPA, 2020). Similarly, an increase in reports for noise from entertainment venues is observed from November 2020. It could relate to 'outdoor activation' measures initiated after the end of the second lockdown (EPA, 2021). To enable the reopening of hospitality and entertainment venues while mitigating transmission of COVID-19 in indoor environments, bars and restaurants were allowed to establish or expand outdoor areas.

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