Government of **Western Australia**
Department of **Water and Environmental Regulation**

Smoky Vehicle Reporting Program

2024-25 Annual report

CleanRun
Let's drive down emissions

December 2025

Department of Water and Environmental Regulation
Prime House, 8 Davidson Terrace
Joondalup Western Australia 6027
Locked Bag 10 Joondalup DC WA 6919

Phone: 08 6364 7000
Fax: 08 6364 7001
National Relay Service 13 36 77

wa.gov.au/dwer

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1 Smoky Vehicle Reporting Program

This report summarises the data and observations collected by the Smoky Vehicle Reporting Program between 1 July 2024 and 30 June 2025.

It is published to promote transparency in the program and provide feedback to people who submitted a smoky vehicle report during the year.

1.1 Program overview

The program is a joint initiative of the Department of Water and Environmental Regulation (DWER) and Department of Transport (DoT). It aims to:

- identify vehicles that are at risk of breaching vehicle emission legislation
- engage with vehicle owners to undertake any necessary vehicle maintenance.

The program is a key initiative of the National Environment Protection (Diesel Vehicle Emissions) Measure 2001 and the Perth Air Quality Management Plan.

When identifying whether a vehicle can be classified as 'smoky', the program follows guidance from regulation 354 of the Road Traffic (Vehicles) Regulations 2014, which relates to the visible emissions of certain motor vehicles:

> (1) This regulation applies to a motor vehicle that is propelled by an internal combustion engine and was built after 1930.
>
> (2) A motor vehicle mentioned in sub regulation (1) must not emit visible emissions for a continuous period of at least 10 seconds.
>
> (3) This regulation does not apply to emissions that are visible only because of heat or the condensation of water vapour.

In line with this, a smoky vehicle is one which emits visible emissions for at least 10 continuous seconds.

The program is a community engagement initiative to address public concerns about vehicle emissions and to encourage vehicle owners to take vehicle maintenance actions. It complements the regulatory effort of WA Police and authorised officers to identify excessively polluting vehicles and issue compliance notices.

1.2 How the program works

Members of the public who identify vehicles which smoke continuously for 10 seconds or more can submit reports to DWER. DoT and DWER then verify reported details and notify the vehicle owner, who is invited to respond. Those responses are collected and statistical data on reported vehicles is compiled for analysis.

Privacy

DWER does not have access to vehicle owner information and DoT does not have access to reporter information. This separation of data is designed to protect the privacy of reporters and vehicle owners.

Making a report

DWER maintains an online reporting portal through which anyone can report a smoky vehicle's details. The data reported, which allows vehicle owners to be identified, includes:

- the vehicle body type, licence number, make, model and colour
- the location, date and time of sighting
- the reporter's name and contact details.

Photographic evidence can also be provided but is not essential. Reporters are sent a notification email to confirm their submission. If a report is incomplete or unclear, they may be contacted for further information.

Report verification

To mitigate against erroneous, malicious and vexatious reporting, all reports are verified.

- Reports are checked for basic errors, such as mistyping of the vehicle licence number. Obvious mistakes are either queried or rejected.
- If the notification email sent to the reporter is rejected, a bounce-back email will be received and the report discarded.
- Report details are assessed against statistically established identifiers of vexatious or false reporting and flagged for further review or removal. To prevent gaming of the reporting system, these identifiers are not communicated.
- After the information identifying reporters is removed, batches of reports are sent to DoT every two months. DoT extracts vehicle make, model and colour data from its database and sends the details to DWER for cross-checking. Reports with obvious mismatches are rejected.

Vehicle owner notification

After verification, reports are sent to a third-party mailer, which prints notification letters on behalf of DWER and DoT using the vehicle details from the reports. The letters are sent to vehicle owners, along with a reply-paid card to allow them to respond to the report.

Vehicle owners complete the reply-paid card with their licence number and fuel type, and provide a response to the report, which can include:

- vehicle repaired or scheduled for service
- vehicle does not smoke for 10 continuous seconds
- cannot afford to repair vehicle
- vehicle has been sold or disposed
- vehicle details incorrect
- other – please give details.

These responses are recorded against each report. Response data is analysed annually for observations and trends.

Vehicle owners can contact DWER to discuss the letter and reporting program.

1.3 Program updates

Vehicle owner response portal

After the 2023-2024 annual report identified the need to improve the vehicle owner response rate to letters, DWER implemented an online portal accessible via QR code in the letters to supplement the physical reply-paid cards. This portal came online in August 2025 and will be assessed in the 2025-2026 annual report to determine if it has influenced response rates.

1.4 Acknowledgements

This program exists and continues to operate thanks to the efforts of members of the public who care about the air they and others breathe.

Our message to people who have submitted a smoky vehicle report is: You are making a difference. We hope you continue to make reports and encourage your acquaintances to report smoky vehicles they see. Having a range of people reporting to the program improves coverage and helps build a bigger picture of where vehicle emission issues are occurring.

If you have received a smoky vehicle letter and have acted to repair, service or retire your vehicle, we hope you enjoy the reduced operating costs and the knowledge that you've reduced the impact of your vehicle on local air quality. Vehicle emissions are a significant source of air pollution in urban environments – any reduction makes a real difference to your community.

2 Program performance

2.1 Reporting data

Figure 1 shows the program's recent reporting history. In 2024–25, the program:

- received 1,521 reports
- verified 608 reports as valid and sent letters to identified vehicle owners
- received 248 responses from letters sent.

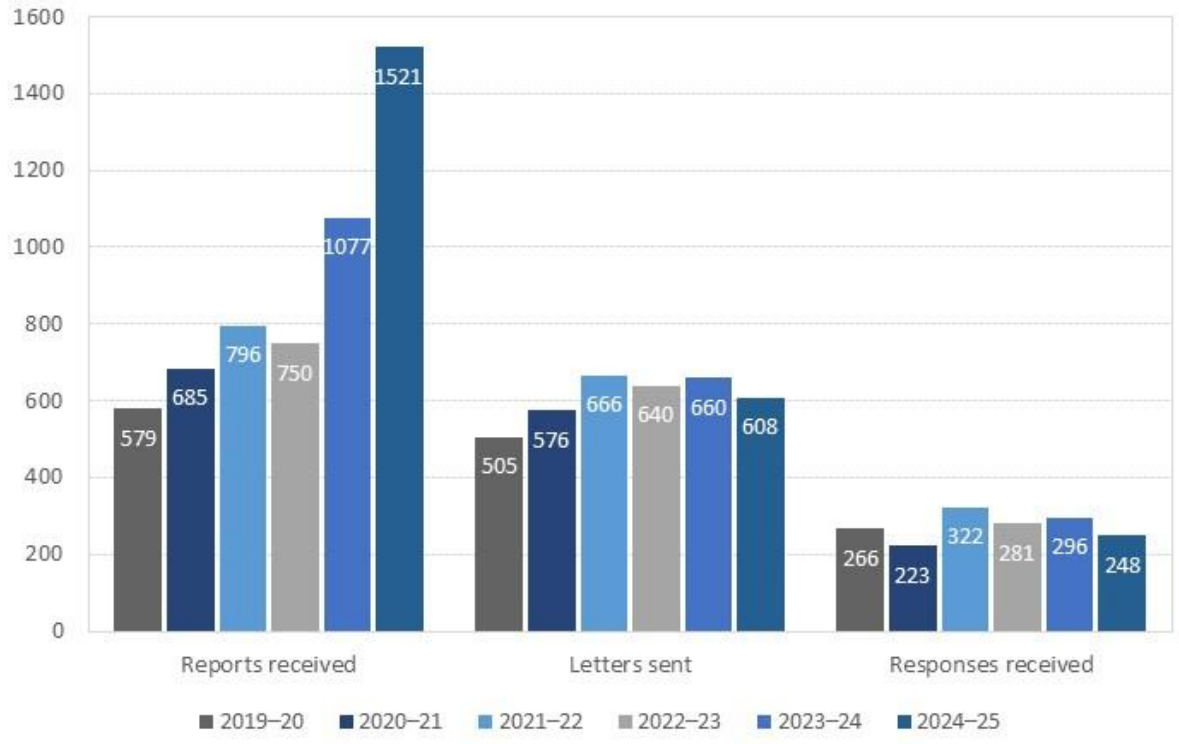

Figure 1 Annual reporting and response data

The number of reports received in 2024–25 represents a sizable increase compared with the previous year. An expanded set of questions on the reporting form about observed vehicle pollution was introduced January 2024, leading to the increase during the 2023–24 period. The increased number for 2024-25 reflects the expanded reporting form being available all year instead of half the year.

A notable feature of this and last year's data is the disparity between the reports received and letters sent. Previously, the ratio between these values was mostly consistent. It is believed that the introduction of additional observation questions in the online reporting form has encouraged reports that would have not been submitted in the previous version of the online reporting form. While many of the reports would not be usable by the program, they still provide useful contextual information and insight into public concerns around vehicle pollution for future policy development.

The number of responses received for letters sent to vehicle owners during this period remains broadly consistent with recent years with respect to letters sent.

2.2 Reporting frequency

The monthly reporting rate for the recent years is presented in Figure 2.

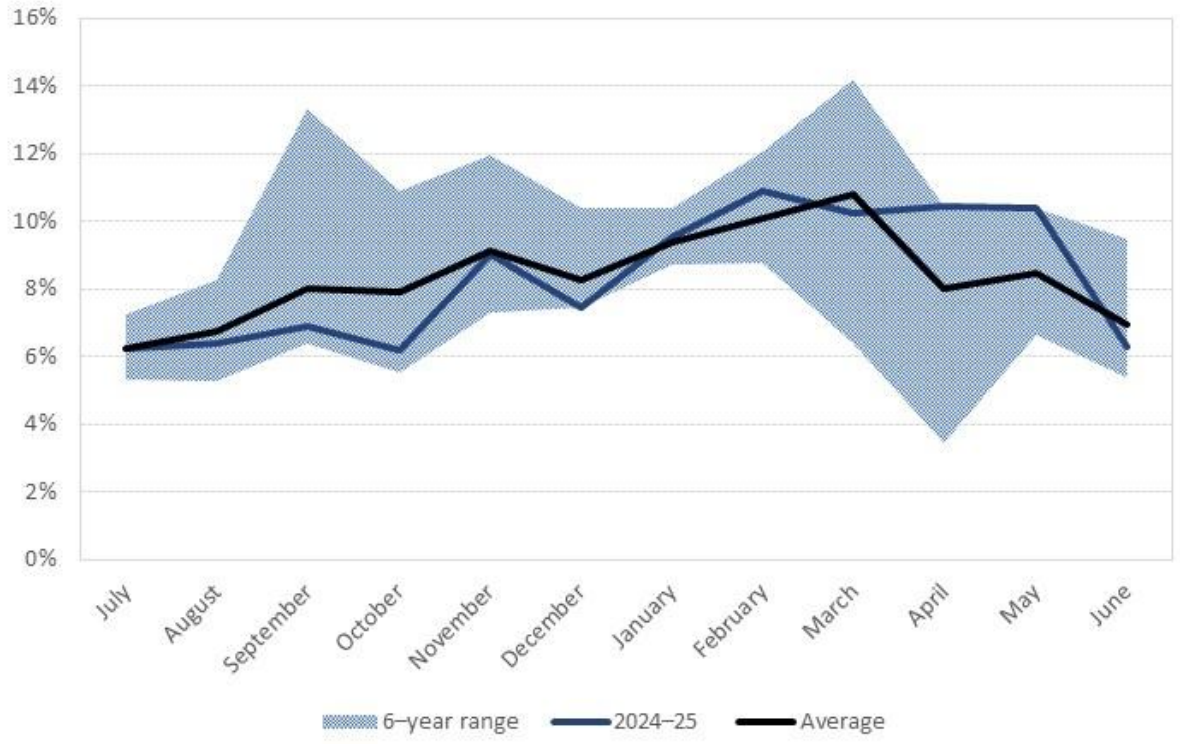

Figure 2 Reports received per month

The 2024–25 period had a reporting frequency profile similar to the average of the last six years. There were fewer reports received than would be expected over September and October but many more received in April and May than expected.

Historic data shows spike and dips occurring at various times of the year. It is unknown what, if any, specific factors influence the variation in reporting frequency over the year. Considerations include:

- weather influencing visibility of exhaust fumes
- seasonal variance in driver activity or behaviours, such as air-conditioner use or scheduled servicing
- seasonal fuel quality variation, such as a change in Reid Vapour Pressure.

A notable drop in reports received occurs routinely in April, which could be attributed to deferred expenditure on vehicle servicing across the summer period (including Christmas and new year holiday periods).

2.3 Repeat vehicle reports

In 2024–25, a total of 72 vehicles were reported more than once within a 12-month period. There were nine vehicles reported three or more times. Of the vehicles reported more than once, seven vehicle owners responded to the advisory letters sent. Five of these responses advised they had undertaken repairs/servicing while two advised their vehicle did not produce continuous visible smoke.

2.4 Vehicle pollution reported

Reports submitted indicated a range of concerns about vehicle pollution. Reported vehicle pollution is summarised below.

Options to report	Vehicle produced significant visible smoke when accelerating from stop/traffic lights	Vehicle was producing a continuous stream of visible smoke under constant speed for more than 10 seconds or about 300 metres	Vehicle produced intermittent non-continuous bursts of visible smoke under constant speed for more than 10 seconds or about 300 metres	Vehicle exhaust had a notable odour (e.g. strong petrol smell, strong burning smell)	Vehicle exhaust sounded significantly more audible (noisy) than other similar vehicles nearby
Number of reports with observed vehicle pollution	1155 (76%)	919 (60%)	273 (18%)	607 (40%)	242 (16%)

Because reports can include multiple observations on vehicle pollution, it is also useful to assess the most common combination of responses. Of the 31 possible combinations, approximately 60 per cent of reports received fell into one of four groups:

- 22 per cent of reports advised both burst of smoke on acceleration and continuous smoke under constant speed
- 15 per cent only reported the burst of smoke on acceleration
- 13 per cent reported burst of smoke on acceleration, continuous smoke under constant speed and notable odour
- 10 per cent only reported continuous smoke under constant speed.

This is the first complete year of detailed vehicle pollution observations collected. Over time it should be possible to assess multiple years of observation to identify trends.

2.5 Reporter diversity

It is important to consider the diversity of the reporter base when assessing the significance of the dataset. A high percentage of unique reporters dilutes the impact of observational bias in the dataset.

An additional benefit of a wide reporter base is the likelihood of improved spatial coverage, though this is no guarantee and there is insufficient data collected for any meaningful spatial analysis of reports received. A wide reporter base can also be used

as a proxy to measure community awareness of the program, though it is noted that several factors can influence reporter participation levels.

Reporter diversity, depicted in Figure 3, shows the number of unique reporters was mostly stable between 2019–20 and 2022–23 even as the number of reports received was trending upwards. The large increase in reports in 2023–24 maintained a similar amount of reporter diversity as the previous year (1.8 reports per person) but 2024–25 has had a relative decrease in reporter diversity of 2.3 reports per person.

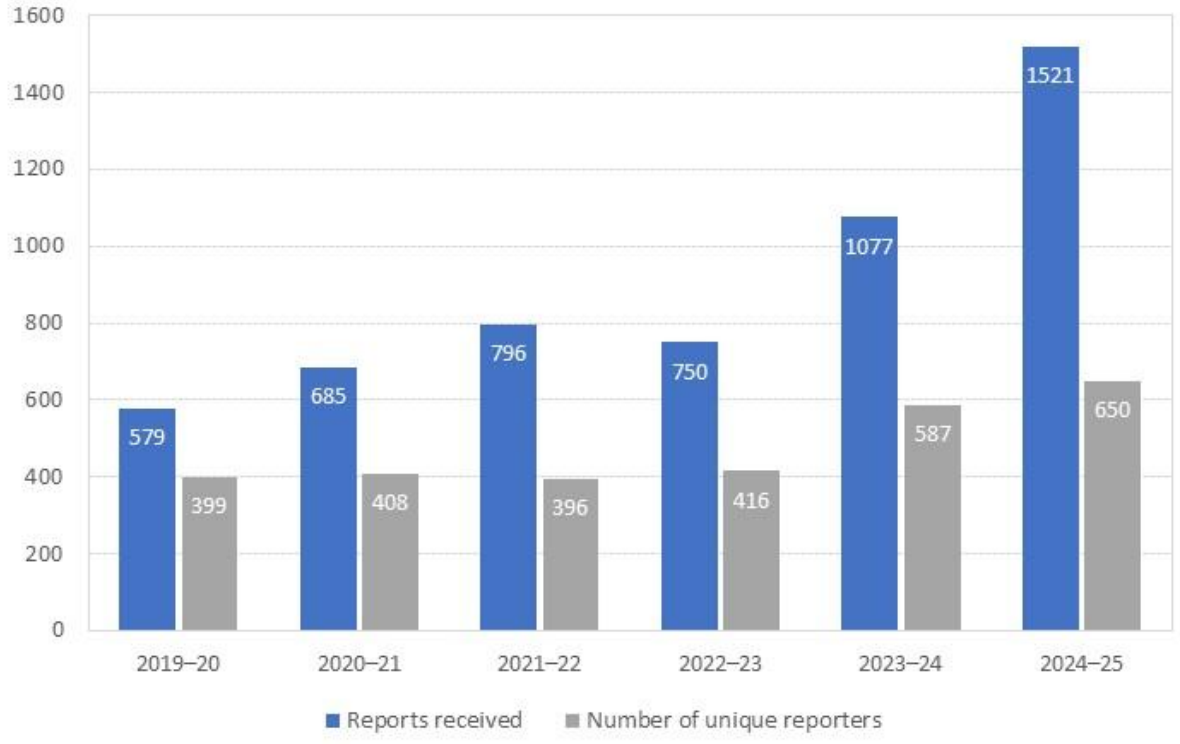

Figure 3 Number of unique reporters annually

A consistent feature of the reporter base is the dominance of a small number of ‘super reporters’ submitting 10 or more reports in a year. Analysis of the responses received from vehicles identified by super reporters historically has found the ‘vehicle does not smoke’ response can be up to 20 per cent higher than the average from the entire reporter base. For 2024–25:

- 15 super reporters submitted 10 or more reports and were responsible for 651 (43%) of reports received.
- 35 per cent of reports received from super-reporters were assessed as valid, while the rest of the reporter base had a 44 per cent valid report rate.
- For letters sent, the super reporters had a 33 per cent ‘vehicle does not smoke’ rate of response, while the rest of the reporter base only had a 24 per cent rate of letter responses advising ‘vehicle does not smoke’.

The gaps in reporting outcomes between super reporters and regular reporters reinforces the importance of encouraging a diverse reporter base to offset the potential impact of high-frequency reporters on program data quality.

2.6 Response data

Responses received in recent years are summarised in Figure 4.

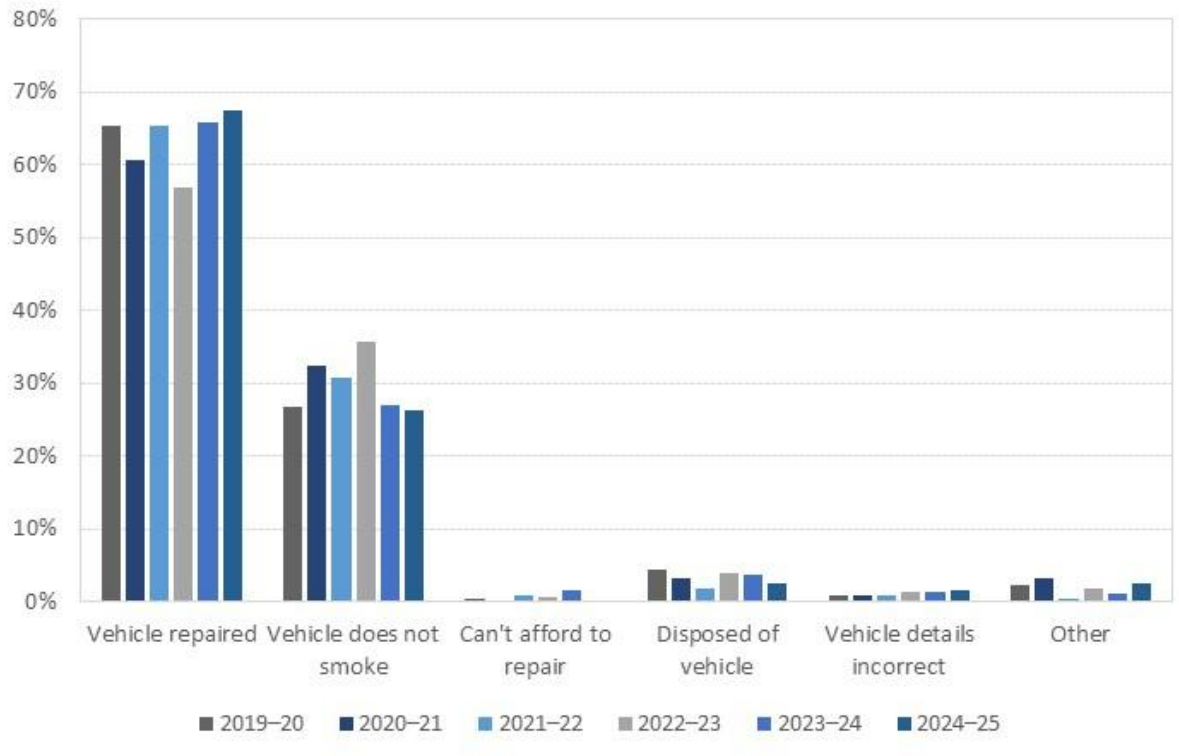

Figure 4 Distribution of responses received

Two thirds of responses received in 2024–25 indicated the vehicle owner had repaired their vehicle or scheduled it for servicing after being notified. This is consistent with responses from recent years. The ‘vehicle does not smoke’ response was received in 26 per cent of cases, which was also comparable to recent years.

Responses falling into other categories remain low with only 16 (7%) of responses received in 2024–25 falling outside the two main categories.

2.7 Observations

Collection of detailed vehicle data started in November 2017 as part of improved report verification processes.

The only metric of note for 2024–25 was the fuel type of reported vehicles, which is discussed further below. No noteworthy observations or trends were found for odometer data, vehicle weight or vehicle body type.

Fuel type

Among the vehicles reported, 88 percent were diesel powered. Roadside measurements taken in recent years by DWER have established that diesel vehicles produce higher emissions of particulates compared with other fuels like petrol. Particle emissions contribute to visible exhaust smoke.

Diesel engines can produce a short puff of smoke when accelerating until air intake is sufficient to combust more completely the volume of diesel being injected into the cylinders. This can be more noticeable when the vehicle is under heavy load. Given that the program uses the 10-second rule as defined by the Road Traffic (Vehicles) Regulations 2014, the smoke puffs do not necessarily make the vehicle ‘smoky’.

Driver behaviour can also strongly influence smoke emissions. Vehicles that are accelerated heavily or towing overweight trailers are more likely to smoke. When driven smoothly with gentle acceleration, steady speed and the correct gear choice, emissions are significantly reduced and vehicles are less likely to smoke.

Only two LPG vehicles were reported to the program in 2024–25. This is more reflective of the low popularity of the fuel in the Western Australian fleet than the emissions performance of engines operating on LPG.

2.8 Further information

For further information about the program and the data collected, contact the Department of Water and Environmental Regulation via email at smokyvehicles@dwer.wa.gov.au.

Department of Water and Environmental Regulation
Prime House
8 Davidson Terrace
JOONDALUP WA 6027

Telephone +61 8 6364 7000
Facsimile +61 8 6364 7001
wa.gov.au/dwer

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