

Te Aroturukitanga o te Mahere ā-Wae
ki Tāmaki Makaurau

Auckland Unitary Plan Section 35 Monitoring

B7.5 Air

Summary Report
July 2025



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Overview

Auckland, with a 2023 population of just under 1.7 million is centred on a narrow isthmus between the Manukau and Waitemata Harbours. As a region it comprises New Zealand’s most intensively developed urban and industrial centres as well as extensive rural and coastal environments, harbours and islands.

As in many cities, Auckland’s physical, social and economic geography, historic development patterns and infrastructure choices have created a need to manage air pollution and its impacts on human health.

Giving effect to a national policy statement and a national environmental standard for air quality, the Auckland Unitary Plan (AUP) seeks to maintain and enhance air quality by managing air discharges, enabling activities that can impact local air quality in particular locations, and managing the adverse effects of discharges to air on human and environmental health. The scope of the AUP is somewhat limited, as motor vehicle emissions, the dominant source of air pollution in Auckland,

are regulated by central government rather than councils.

Supported by objectives, policies and methods for Commercial and Industrial Growth (B2.5), the Rural Environment (B9) and Infrastructure (B3.2), the AUP regulates the location of activities—both those that generate emissions and those sensitive to air quality changes—and requires resource consent for specific air discharges.

The council’s role under the Resource Management Act 1991 (RMA) in managing greenhouse gas emissions has changed since the AUP was conceived, when it was expressly excluded from the scope of council considerations. Since then, councils have been given a role in managing emissions from process heat, and are required to have regard to the national adaptation plan and the emissions reduction plan when developing or changing plans under the RMA. This broadened role will require close consideration in future AUP reviews.

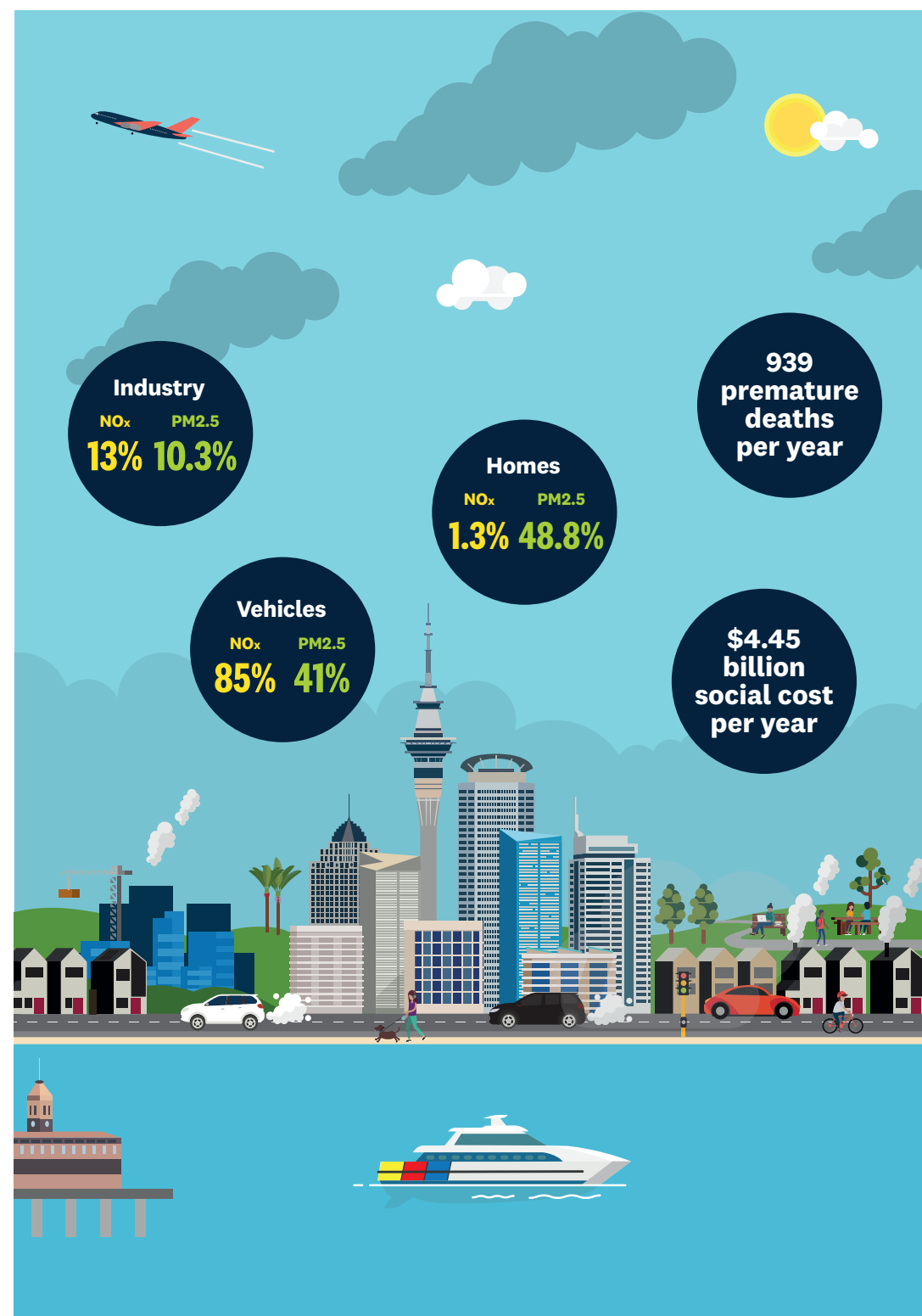


Figure 1: Sources and social cost of air pollution in Auckland.^{1,2}

¹ Data sourced from Xie, S, P Crimmins, J Metcalfe, S Sridhar, L Wickham and S Peeters (2019). Auckland air emissions inventory 2016. Auckland Council technical report, TR2019/024.

² Data sourced from Kuschel et al (2022). Health and air pollution in New Zealand 2016 (HAPINZ 3.0): Volume 1 – Finding and implications. Report prepared by G Kuschel, J Metcalfe, S Sridhar, P Davy, K Hastings, K Mason, T Denne, J Berentson-Shaw, S Bell, S Hales, J Atkinson and A Woodward for Ministry for the Environment, Ministry of Health, Te Manatū Waka Ministry of Transport and Waka Kotahi NZ Transport Agency, March 2022.

Anticipated Environmental Results

The AUP sets out indicators that suggest the anticipated environmental results from the management of air quality under the AUP. These were built on through the monitoring programme to enable the AUP's air quality objectives to be evaluated and to enable some aspects of efficiency and effectiveness to be tested.

In summary, three aspects were examined. The extent to which the AUP is:

1. Contributing to the intended air quality outcomes, as demonstrated through ambient air quality monitoring;
2. Enabling industry, rural production and infrastructure by managing the location of activities to prevent reverse sensitivity effects from constraining these activities as demonstrated by council records of public complaints; and
3. Resulting in the adverse effects of discharges on human health and the environment being appropriately managed, as demonstrated by records of the assessments and management of authorised air discharges.

Data sources

A range of data sources was relied upon in preparing this report. This included:

- Records of over 140 resource consents for discharges to air issued between May 2017 and April 2022. Technical reports, publications and studies on air quality and the effects of air pollution including the results of state of the environment monitoring in Auckland.
- Records of the 3962 pollution complaints relating to dust and odour, responded to by the council between January 2019 and June 2024.
- Meetings with Auckland Council staff with responsibilities for air quality science and monitoring, pollution response and specialist input on resource consent applications.

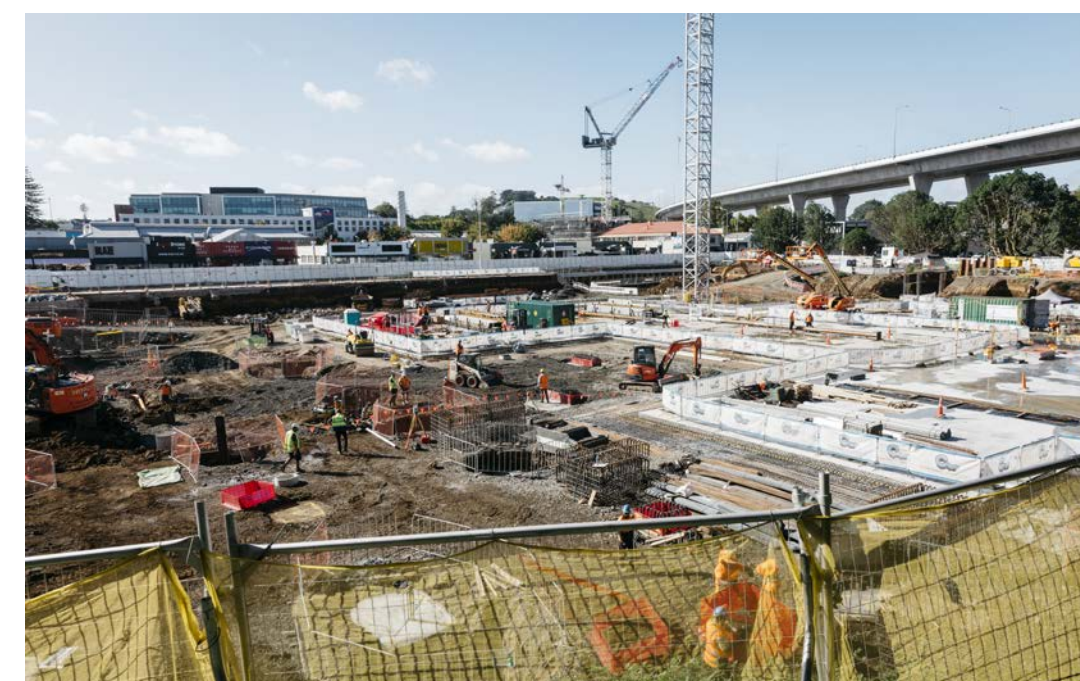


Figure 2: Dust generating construction activity.

Indicator 1:

Region-wide air quality is being maintained within guideline levels and is improving over time.

What can the indicator tell us?

This first indicator is measured by looking at air quality trends, including exceedances of relevant standards and guidelines. It is answering the key question of whether the AUP is effective in achieving the AUP's highest-order air quality objective, Objective B7.5.1(1):

"The discharge of contaminants to air from use and development is managed to improve region-wide air quality, enhance amenity values in urban areas and to maintain air quality at appropriate levels in rural and coastal areas."

Findings

It appears that the AUP has been partially effective in achieving this intended outcome. Alongside the National Environmental Standards for Air Quality (NESAQ), they have been important instruments in improving some aspects of air quality, particularly the contribution of industrial emissions. However, with gains in some areas already being offset by growth and emissions from vehicles continuing to increase, and these being outside the scope of the RMA, the scope for further improvement with the current policy settings appears limited.

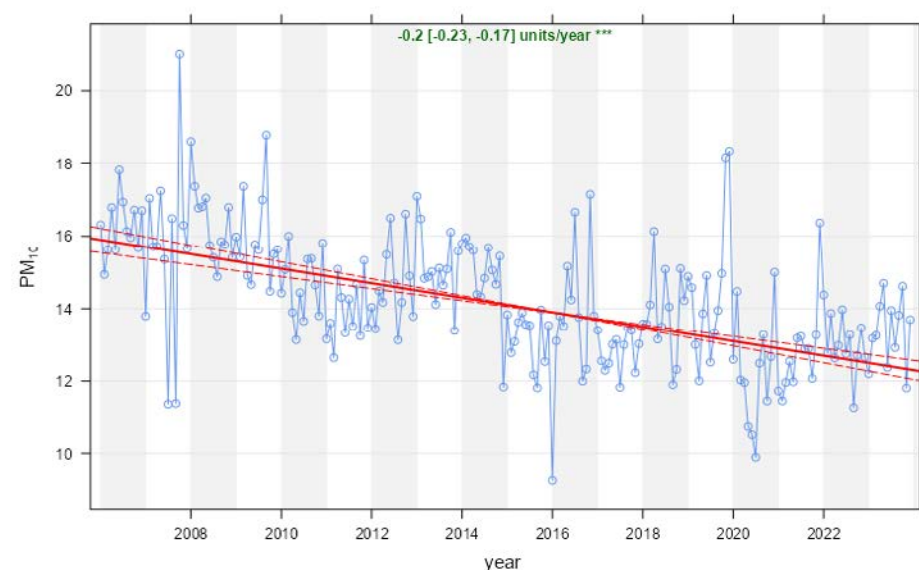


Figure 3: Graph showing long-term trend of improving air quality in Auckland³

³ Figure 3 is adapted from Boamponsem, L K, P K Hopke, P K Davy (2025). Long-term trends and source apportionment of particulate matter (PM10) in Auckland, TR2025/2, Figure 2, pg. 9.

Despite air quality deteriorating by some measures to a point where it exceeds World Health Organization (WHO) guideline levels, because air quality remains within Ambient Air Quality Standards set through the NESAQ and AUP target levels, these standards do not themselves appear to be generating any substantive pressure to improve discharge quality within resource consent processes.

The more stringent 2021 WHO guidelines offer internationally recommended "quantitative health-based recommendations for air quality management" (WHO, 2021). The discrepancy between both the NESAQ and AUP, and the WHO guidelines, both in terms of scope and stringency, will need to be resolved.

Air quality in parts of Auckland does not meet internationally recommended air quality guideline levels, to protect people's health, therefore, further measures to manage exposure risks may be required.

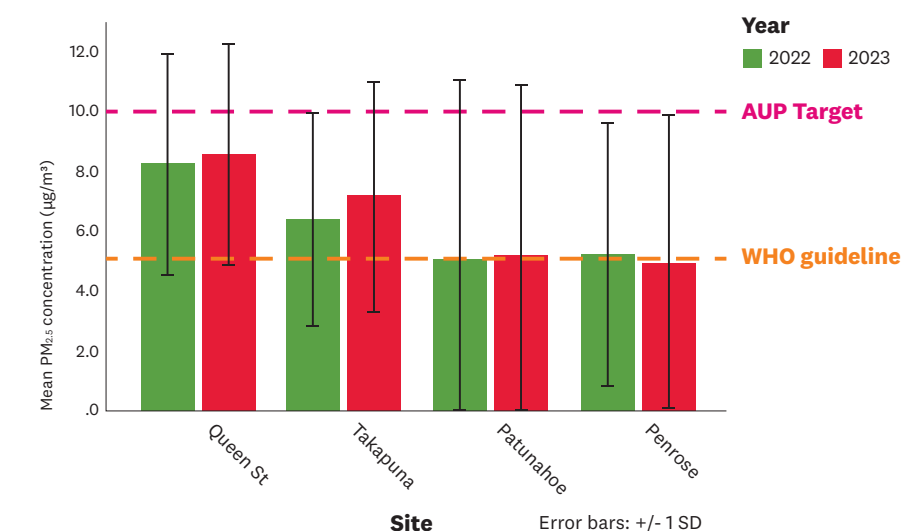


Figure 4a: PM2.5 annual mean concentrations at nine sites, showing AUP target and WHO guideline levels⁴

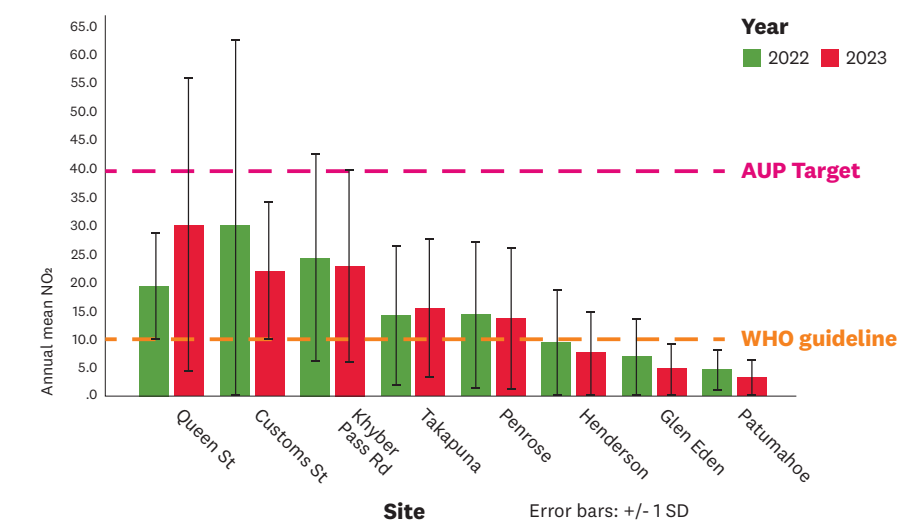


Figure 4b: NO₂ annual mean concentrations at eight sites, showing AUP target and WHO guideline levels⁵

⁴ Figure 4a is adapted from Boamponsem, L. (2024). Auckland air quality – 2023 annual data report. Auckland Council technical report, TR2024/11, Figure 15, pg. 27.

⁵ Figure 4b is adapted from Boamponsem, L. (2024). Auckland air quality – 2023 annual data report. Auckland Council technical report, TR2024/11, Figure 20, pg. 32.

Indicator 2:

Resource consent applications are subject to an appropriate level of scrutiny, relative to the potential for adverse effects.

What can the indicator tell us?

The indicator is measured by examining the extent to which consent processes and decisions are consistent, proportionate, and applying relevant standards concerning a sample of resource consent applications and decisions.

Findings

In relation to activities requiring resource consent for discharges to air, this work makes three key findings:

Firstly, resource consents for discharges were assessed in accordance with the appropriate provisions of the AUP. However, there was considerable inconsistency in whether in-depth assessments were required when:

- determining whether an activity meets the permitted activity standards
- assessing the predicted air quality at nearby sensitive receptors

This highlights the need for appropriately trained and experienced staff as well as an exploration of opportunities to adopt a more explicit and consistent risk-based approach to requiring technical assessments.

Secondly, the ambient air quality guidelines and targets referred to in resource consent applications do not appear to be driving improvements in discharge standards, as Auckland's air quality typically remains within these (now outdated) standards.

While more recently updated WHO guidelines are more comprehensive and stringent, they have limited formal weight and may be overlooked.

Lastly, the rigour of assessment appears inconsistent with the risk of adverse effects for some activities. Notably, the effects on human health of construction dust (largely managed as a transitory nuisance) appear to require additional scrutiny. Conversely, some activities, such as reconsenting existing small-scale wastewater treatment facilities, whose functional requirements and management options are well understood, may be able to benefit from more streamlined requirements.

In relation to the resource consenting of sensitive activities in areas where air quality may be reduced, the variable nature of Light Industry zoned land on the ground necessitates responses that take into account the local context. This appears to be giving rise to a high degree of variability in the assessments of applications for sensitive activities. While this is to be expected, some factors appear not to be being given enough regard as a matter of course, in particular: the potential health effects of reduced air quality and the risk of the activity giving rise to reverse sensitivity effects now or at some future time.



Figure 5a: Rural wastewater treatment plant requiring periodic re-consenting

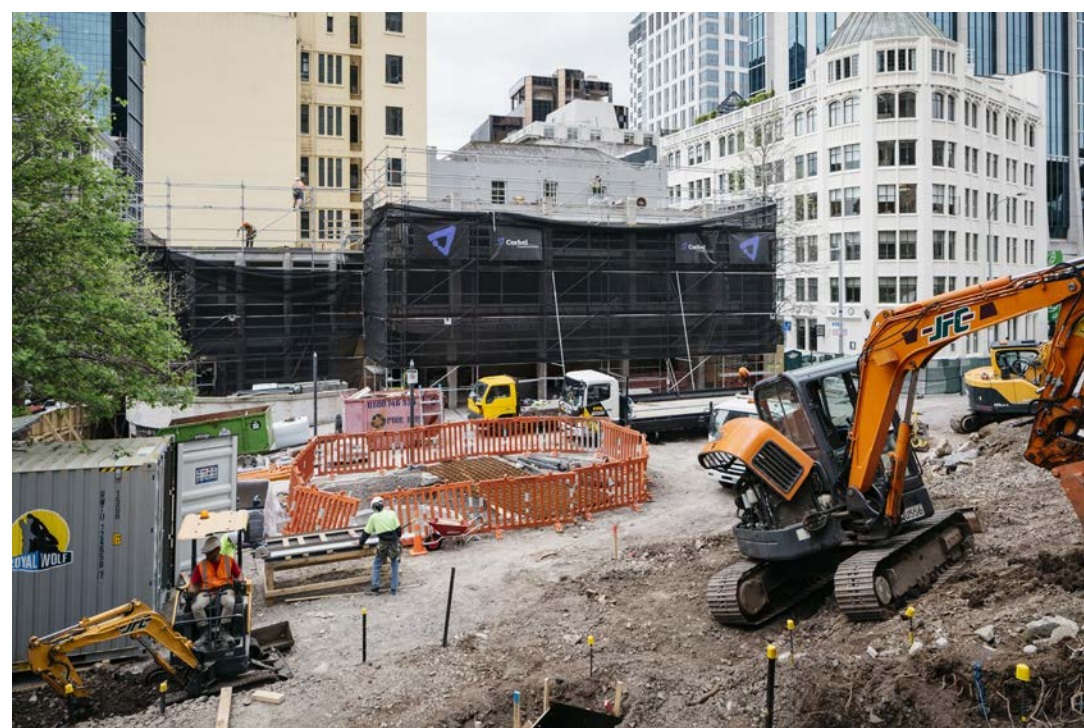


Figure 5b: Construction in Auckland CBD

Indicator 3: Sensitive activities are restricted from locating in the Light and Heavy Industry zones.

What can the indicator tell us?

The indicator is being measured by examining resource consent applications to establish activities sensitive to air discharges⁶ in light and heavy industry zones.

This is to tell us whether the AUP is effective in:

- preventing sensitive activities (like housing or child care centres) from being established where air quality may be reduced due to nearby discharging activities, and
- protecting industrial activities from being adversely affected by sensitive activities moving in nearby (i.e. avoiding reverse sensitivity issues).

Findings

While sensitive activities are prevented from locating in heavy industry zones through a strong policy and rule framework, the picture for the light industry zones is mixed.

Applications for sensitive activities in light industry zones are seldom assessed for whether they would be exposed to reduced air quality. Where some assessment of potential exposure to reduced air quality is made, it is with respect to current air discharges and air quality. There appears to be little consideration given to whether the purpose of the zone could be eroded by making it more difficult to establish industrial activities in those locations in the future.

The picture is complicated by the light industry zone being used in the place of a wide range of business-oriented zones that existed in previous district plans – not just those that were industrial in character.

⁶ Activities sensitive to air discharges are defined as: Activities sensitive to reduced air quality. Includes: dwellings; care centres; hospitals; healthcare facilities with an overnight stay facility; educational facilities; marae; community facilities; entertainment facilities; and visitor accommodation.

Indicator 4:

Activities operating within approved standards can operate without being constrained by reverse sensitivity effects.

What can the indicator tell us?

The indicator is being measured by the frequency and nature of complaints about air quality.

Specific attention was paid to activities in low and medium air quality amenity areas, the issue that gave rise to the complaint and whether the complaint was a result of non-compliance. These correspond with industrial and rural zones that are intended to accommodate activities that may impact air quality.

Findings

Overall, the AUP appears to be effective in enabling activities that may have an impact on surrounding air quality and that are operating appropriately, within designated areas.

While a long-term trend could not be discerned from the data available, there was little evidence of industrial activities in the Heavy and Light Industry zones operating outside of their resource consent conditions as they relate to discharges to air, or of compliant activities being constrained by reverse sensitivity effects.

This was not the case for rural activities, where it does appear that rural production activities at the rural/urban interface are subject to reverse sensitivity effects from encroaching residential and lifestyle development.

In respect of infrastructure, the majority of complaints were associated with construction dust which corresponds with environmental monitoring data, however no compliance issues were evident.

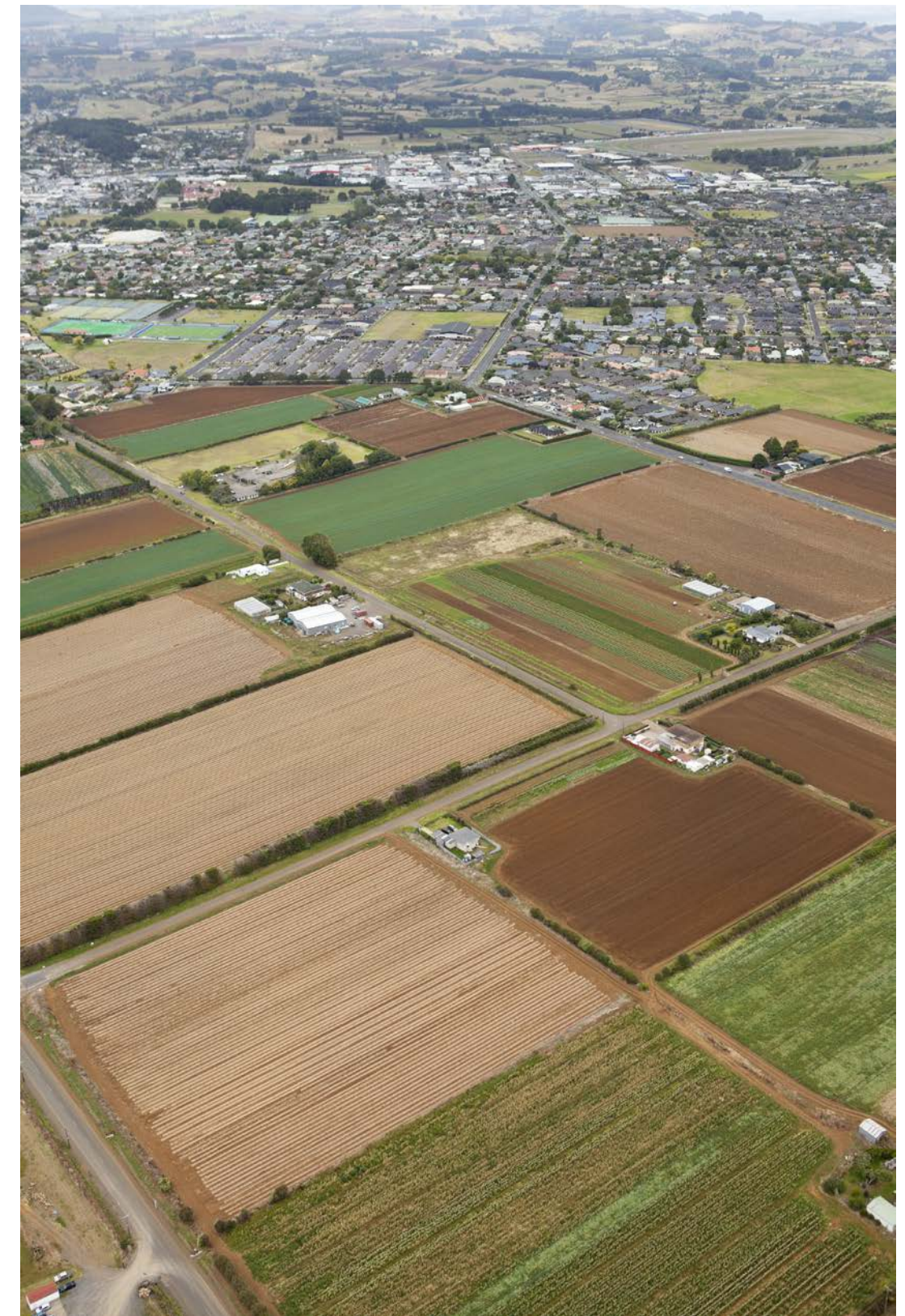


Figure 6: Intensive rural production activity and encroaching urban development.

Summary of main findings

The AUP is proving partially effective in achieving the RPS objectives for air quality, particularly in managing discharges to air that require resource consent and enabling industry and infrastructure to operate in appropriate locations without being unduly constrained by reverse sensitivity effects.

However, the effectiveness of the AUP in achieving the highest order objectives – to maintain and improve air quality and protect human health (B7.5.1(1) and B7.5.1(3)) – is undermined by:

- motor vehicle emissions, which are not regulated under the RMA, being the primary source of air pollution in Auckland; and
- AAQS and AUP air quality targets not reflecting what are now internationally recommended guideline levels for some contaminants.



Figure 7: Traffic congestion in Auckland.

Notwithstanding these constraints, there are some areas where adjustments to AUP policy settings and planning practices are likely to improve effectiveness. Particularly:

- the management of construction dust;
- the management of activities that undertake the outdoor processing of aggregates and metal;
- the management of sensitive activities in areas where air quality is reduced;
- protecting the function of Light Industry zoned land; and
- the management of activities at the rural/urban interface.

Efficiency may also be improved by:

- adjusting the approach to determining permitted activity status;
- ensuring the activity status and level of assessment for some activities are proportionate to the risk of adverse effects; and
- ensuring consistency in the nature of technical assessments required when applying for resource consents for activities with similar risks of adverse effects.

Auckland Council (2025). Auckland Unitary Plan.
Resource Management Act 1991, Section 35 monitoring:
B7.5 Air, Summary Report.
Planning and Resource Consents Department.

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