

The Impacts of Transport Emissions on Air Quality in Auckland's City Centre, TR2018/028

Nick Talbot and Rita Lehn

Report overview

Transport emissions degrade air quality within Auckland's City Centre. Recent downward trends in particulate and nitrogen dioxide (NO₂) pollutants have recently reversed and are now slowly increasing. These pollutants can negatively impact the lives of those who live, work or visit the City Centre.

The key air pollution findings are:

- Elevated Black carbon (BC) concentrations observed on Queen Street. Although there is no national standard for BC, when compared to internationally comparable cities, Queen Street long-term average concentrations are 2-3 times higher.
- NO₂ levels appear to peak in the downtown area.
- Evidence of air pollutants emitted further up Queen Street flowing north-east towards the downtown area.
- Key City Centre pollutant sources come from busy roads and intersections, downtown, Britomart bus exchange and ports activities.
- Evidence from research and monitoring results strongly suggest diesel-fueled vehicles such as buses, construction vehicles and ferries account for the majority of the elevated BC and NO₂ concentrations recorded in the City Centre.
- Modelling work carried out with C40 in London showed that if we remove a third of private vehicles from the City Centre NO₂ reduces by 15%, with notable social and economic benefits.
- The proposed Mercury Lane entrance to the CRL K Rd station would be situated next to the location where the highest NO₂ concentrations anywhere in New Zealand are recorded by NZTA roadside monitoring.

This report places air quality findings in the context of council policy decisions that will influence transport, infrastructure and urban design strategies.

The report establishes the importance of the fossil fuel-free commitment signed by the Mayor which commits to electrifying Auckland's bus fleet and zero emission zone by showing how impactful removing vehicles from the Central City area will be on air quality as well helping to achieve numerous other cross-council aspirations.

To conclude:

Policy decisions that promote safer streets, climate action, active and public transportation modes as well as congestion mitigation strategies have multiple and interdependent benefits. These include increased economic activity, vibrant social spaces and a cleaner, more sustainable environment, including cleaner air.