

Auckland Air Quality Report May 2021

Data tables and graphics

Introduction:

This is the first edition of this year's air quality monthly report including data tables and graphics. This report has three sections: Sections A and B present a general overview of air quality status in the Auckland region based on the data collected from the active monitoring sites. Section C focuses on one monitoring site – for this edition, the spotlight is on Queen Street.

For more information or questions, please send inquiries to environmentaldata@aucklandcouncil.govt.nz

Section A – Data tables

Table 1. Summary information about Auckland's air quality monitoring programme – January to April 2021

Number of active monitoring sites	10
Location of monitoring sites	Queen St, Customs St, Khyber Pass Rd, Penrose, Henderson, Takapuna, Glen Eden, Pakuranga, Papatoetoe, and Patumahoe
Standard contaminants monitored	PM ₁₀ (fine particles < 10 microns in diameter), carbon monoxide (CO), nitrogen dioxide (NO ₂), ozone (O ₃), and sulphur dioxide (SO ₂)
Other key contaminants monitored	PM _{2.5} (fine particles < 2.5 microns in diameter), and black carbon
Number of exceedances (National Environmental Standards for Air Quality) NES	0
Number of exceedances (Auckland Ambient Air Quality Targets)	0
Maximum PM ₁₀ 24-hour mean (Jan - Apr)	29.5 µg m ⁻³ (59% of NES) ↔ recorded at Takapuna on 27 Jan 2021
Maximum PM _{2.5} 24-hour mean (Jan - Apr)	11.0 µg m ⁻³ (44% of Auckland target) ↔ recorded at Queen St on 5 Feb 2021
Maximum NO ₂ 1-hour mean (Jan - Apr)	200 µg m ⁻³ (100% of NES) ↔ recorded at Customs St on 15 Mar 2021
Maximum SO ₂ 1-hour mean (Jan - Apr)	18 µg m ⁻³ (5% of NES) ↔ recorded at Customs St on 17 Feb 2021
Maximum O ₃ 1-hour mean (Jan - Apr)	68 µg m ⁻³ (45% of NES) ↔ recorded at Patumahoe on 21 Feb 2021
Maximum CO running 8-hour mean (Jan - Feb)	Approximately 1 mg m ⁻³ (10% of NES) ↔ recorded at Khyber Pass Rd in Jan 2021

Table 2. General trends of the key contaminants monitored for the last 4, 16 and 28 months.

Notes

PM₁₀ is monitored at Glen Eden, Henderson, Khyber Pass Rd, Pakuranga, Papatoetoe, Patumahoe, Penrose, Takapuna and Queen St.

PM_{2.5} is monitored at Customs St, Glen Eden, Pakuranga, Patumahoe, Penrose, Takapuna, and Queen St.

NO₂ is monitored at Customs St, Glen Eden, Henderson, Khyber Pass Rd, Pakuranga, Patumahoe, Penrose, Takapuna and Queen St.

Black carbon is monitored at Customs St, and Henderson.

CO is monitored at Khyber Pass Rd.

Ozone is monitored at Patumahoe.

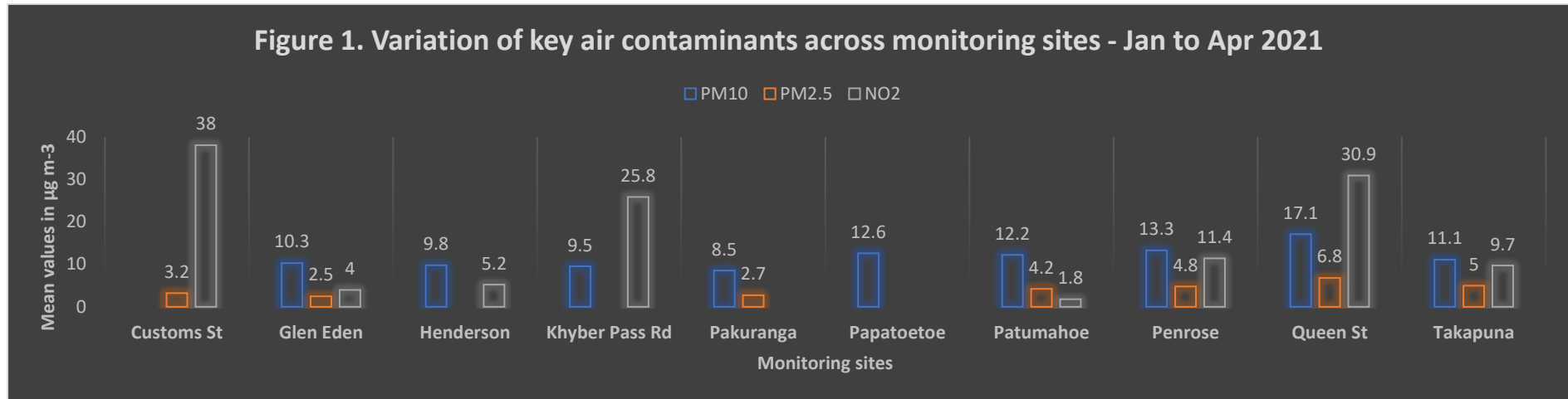
SO₂ is monitored at Customs St, and Penrose.

There is missing data for Khyber Pass Rd and Pakuranga due to faulty data loggers.

Red colour indicates an upward trend while green indicates a downward trend. n/a implies not applicable.

Site	PM ₁₀			PM _{2.5}			NO ₂			Black carbon			Ozone			CO		SO ₂			Air Quality Index(AQI)			Site
	Last 4 months	Last 16 months	Last 28 months	Last 4 months	Last 16 months	Last 28 months	Last 4 months	Last 16 months	Last 28 months	Last 4 months	Last 16 months	Last 28 months	Last 4 months	Last 16 months	Last 28 months	Jan to Feb	2020 to Feb 2021	Last 4 months	Last 16 months	Last 28 months	Last 4 months	Last 16 months	Last 28 months	
Customs Street	n/a	n/a	n/a	■	■	n/a	■	■	n/a	■	■	n/a	n/a	n/a	n/a	n/a	n/a	■	■	n/a	n/a	n/a	n/a	Customs Street
Glen Eden	■	■	■	■	■	■	■	■	■	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	■	■	■	Glen Eden
Henderson	■	■	■	n/a	n/a	n/a	■	■	■	■	■	■	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	■	■	■	Henderson
Khyber Pass Road	■	■	■	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	■	■	n/a	n/a	n/a	n/a	n/a	n/a	Khyber Pass Road
Pakuranga	■	■	■	■	■	■	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	■	■	■	Pakuranga
Papatoetoe	■	■	■	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Papatoetoe
Patumahoe	■	■	■	■	■	■	■	■	■	n/a	n/a	n/a	■	■	■	n/a	n/a	n/a	n/a	n/a	■	■	■	Patumahoe
Penrose	■	■	■	■	■	■	■	■	■	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	■	■	■	■	■	■	Penrose
Takapuna	■	■	■	■	■	■	■	■	■	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	■	■	■	Takapuna
Queen Street	■	■	■	■	■	■	■	■	■	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	■	■	■	Queen Street

Section B. Key air contaminants across the 10 air monitoring sites



Section C. Focus on a monitoring site: Queen Street

Figure 2. NO₂ long term trend for Queen St - 2010 to Apr 2021

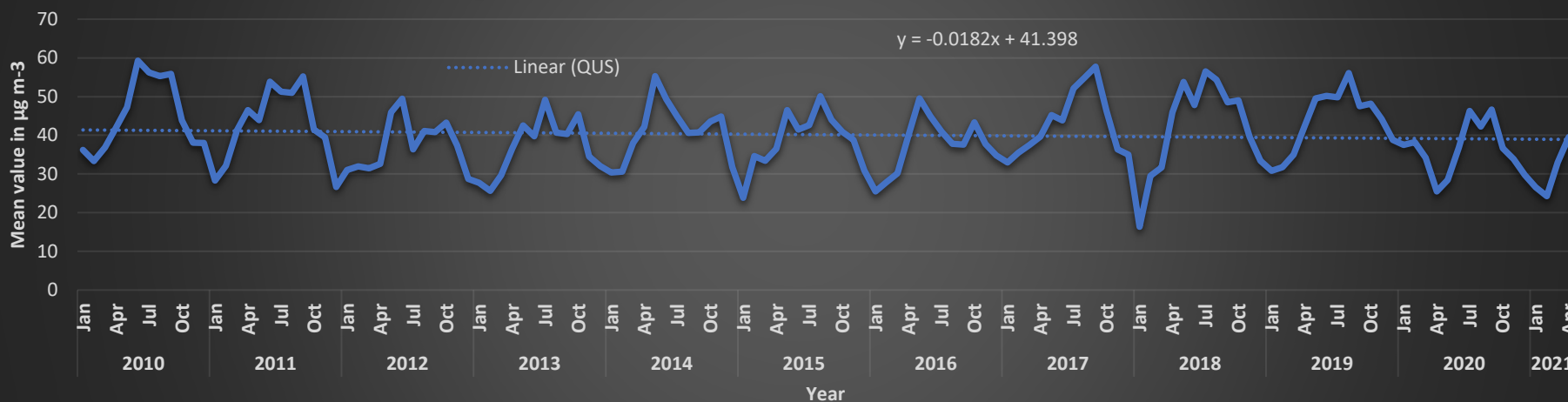


Figure 3. PM₁₀ long term trend for Queen St - 2010 to Apr 2021

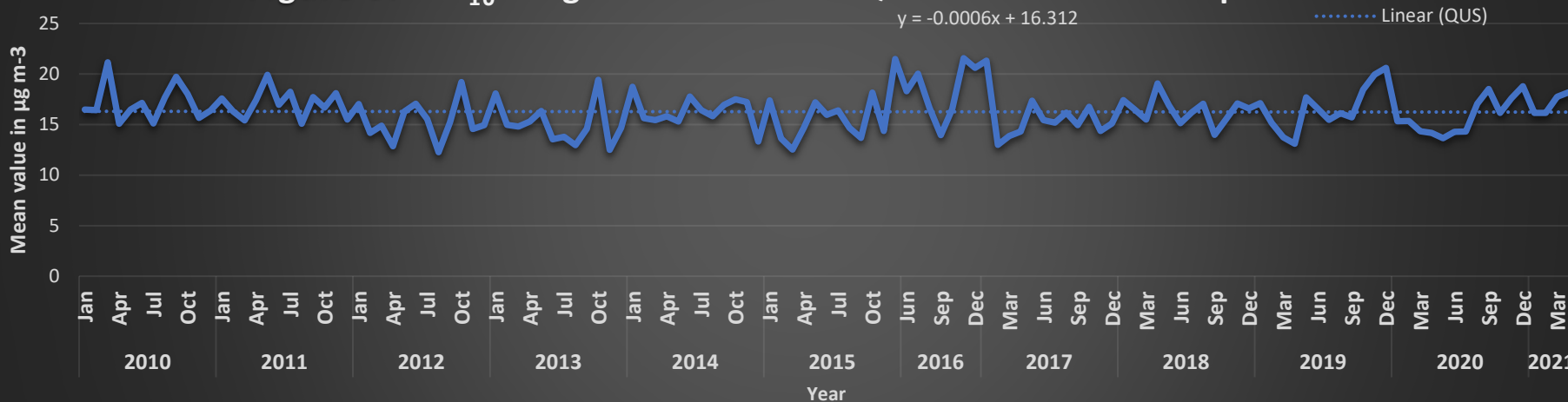


Figure 4. PM_{2.5} long term trend for Queen St - 2010 to Apr 2021

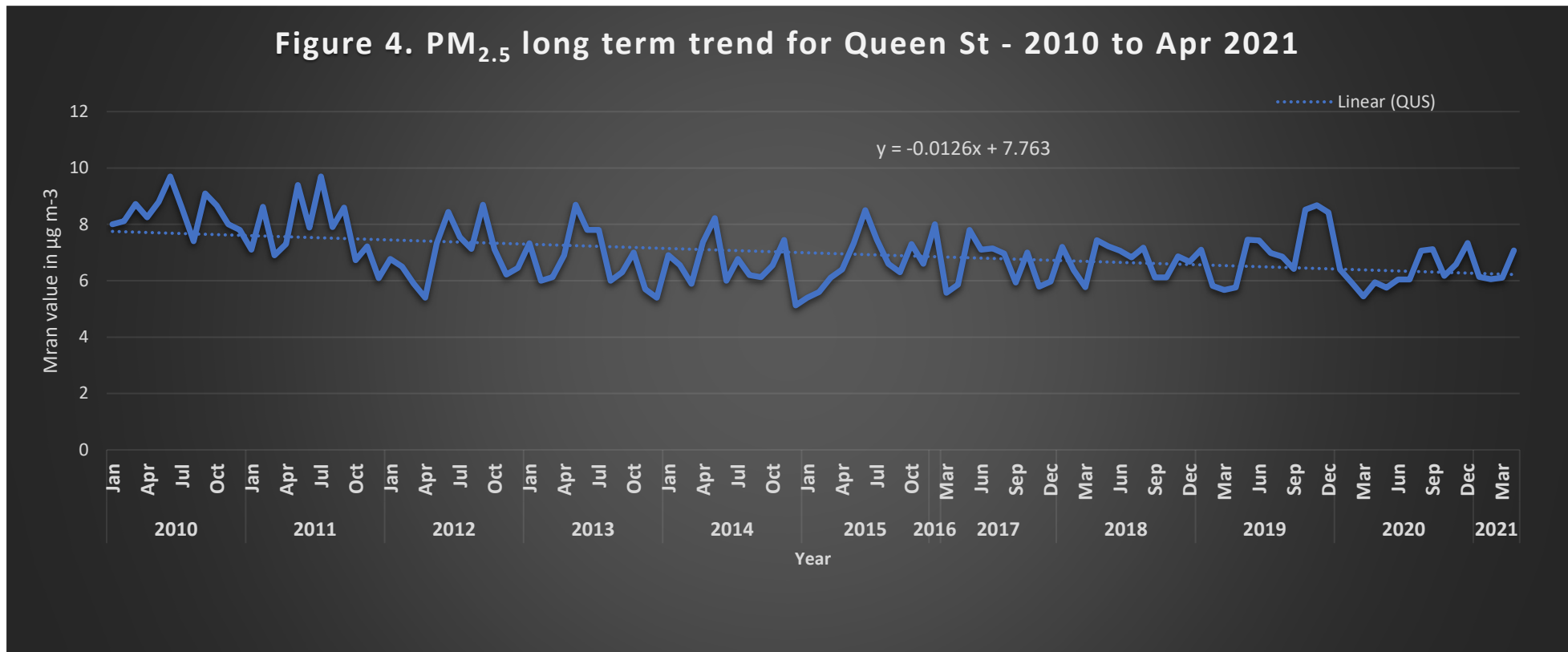


Figure 5. Queen St NO₂ (Jan to Apr 2021): compared to a rural site: variation across day type

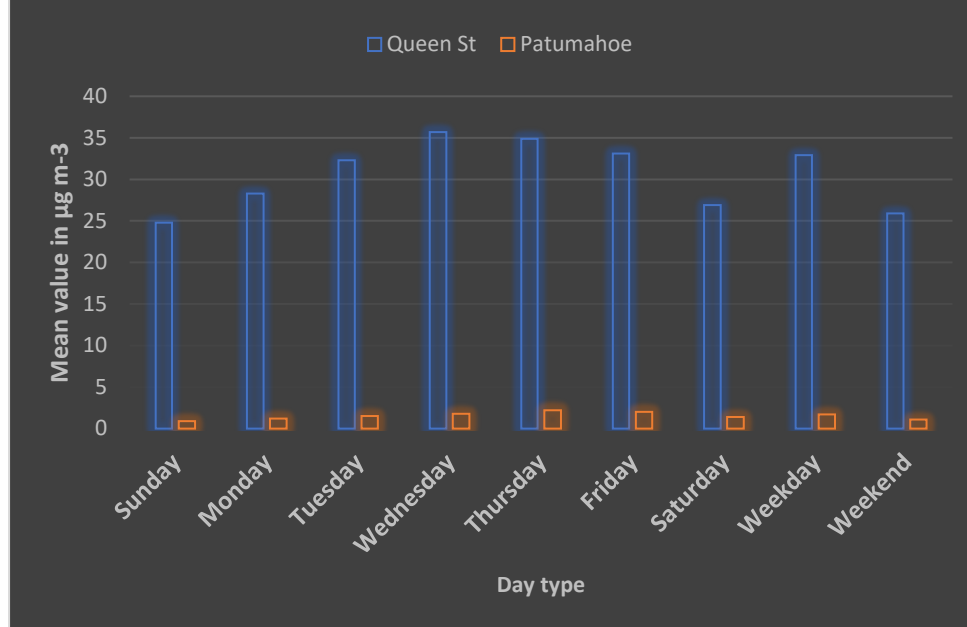


Figure 6. Queen St PM_{2.5} (Jan to Apr 2021): compared to a rural site variation across day type

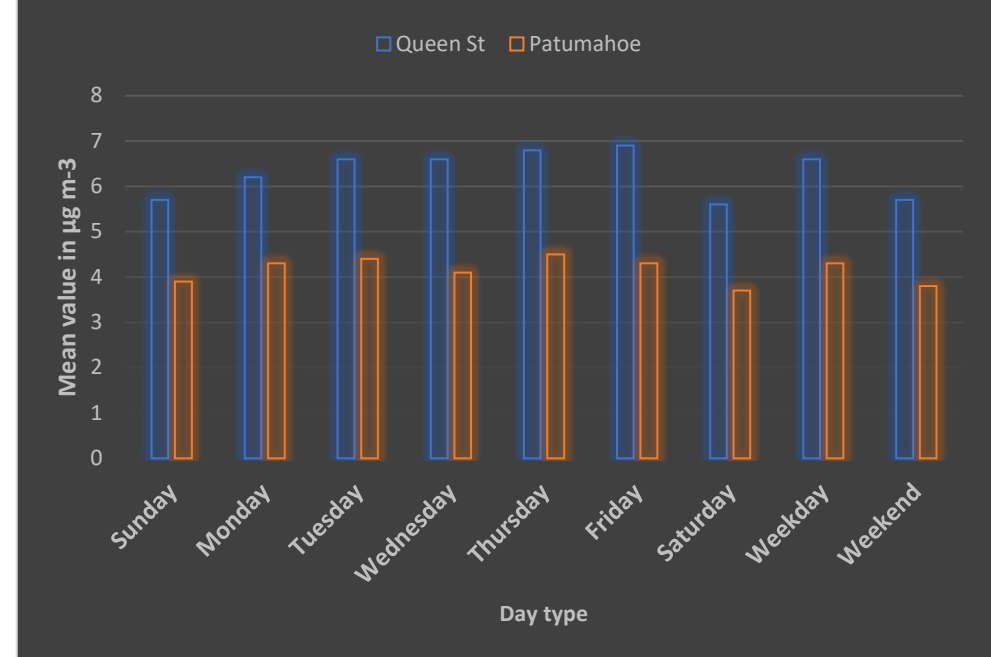


Figure 7. Queen St AQI (Jan to Apr 2021) compared to a rural site: variation across day type

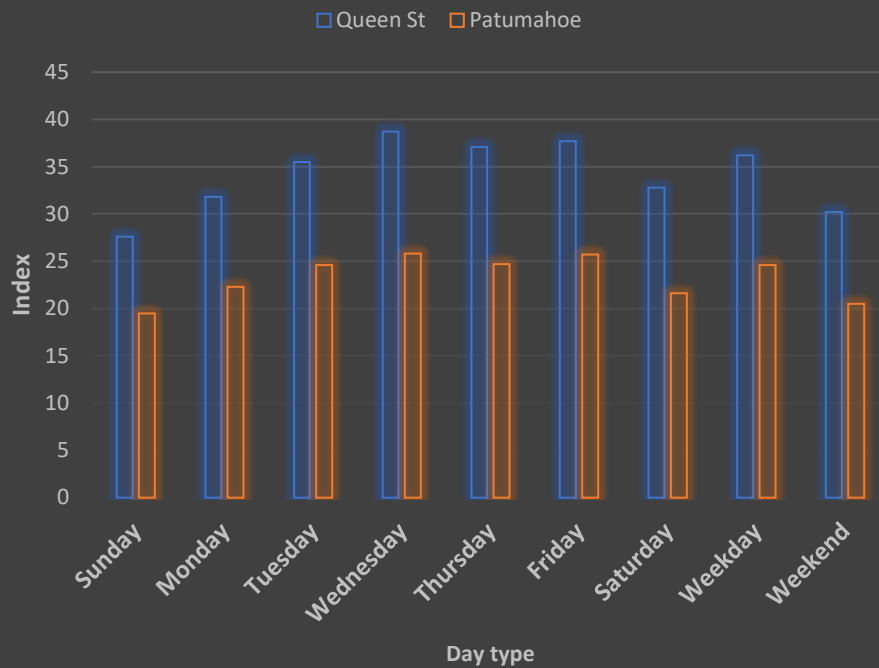
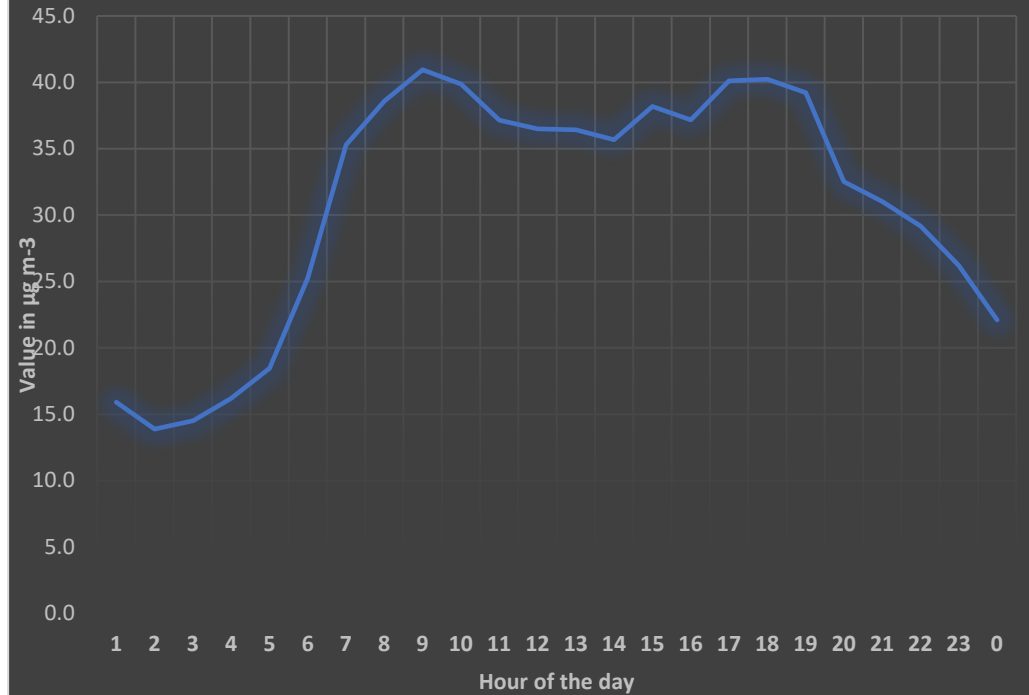


Figure 8. Queen St NO₂ (Jan to Apr 2021): variation across the hour of the day



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