

The point prevalence of smoking and vaping in five downtown locations in Wellington CBD

**Report for the Wellington City Council on
observations in November 2023**

December 2023

Absolutely Positively
Wellington City Council
Me Heke Ki Pōneke

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Summary

Aim

To observe and report on the point prevalence of smoking and vaping at five downtown locations of Wellington City (Midland Park, Te Ngākau Civic Square, Chews Lane, Grey Street Pocket Square and Te Aro Park). Point prevalence is the proportion of people smoking or vaping at a particular time. Similar observations were conducted at these five locations in November-December 2018, and in Midland Park, Civic Square, and Te Aro Park in November 2015.

Methods

In November 2023, we conducted a total of 152 five-minute scans to count the number of smokers and vapers, those aged over 12 years, and those aged 12 years or under. These observations took place on non-rainy weekdays in the downtown locations.

Results

From 152 five-minute scans, a total of 4,036 people aged over 12 years were observed. Among them, 106 smokers were recorded, resulting in an average point prevalence of smokers of 2.6% (compared to 3.1% in 2015 and 5.8% in 2018). The point prevalence of smoking ranged from 6.6% (10.1% in 2018) for Te Aro Park, 2.9% (4.1% in 2018) for Midland Park, 1.9% (11.3% in 2018) for Grey Street Pocket Square, 1.5% (2.6% in 2018) for Chews Lane, to 0.5% (2.4% in 2018) for Civic Square. These results were statistically significantly different from 2018 for Te Aro Park ($p < 0.05$), Civic Square ($p < 0.005$) and Grey Street Pocket Square ($p < 0.000$), but not significant for Midland Park and Chews Lane.

Among the 4,036 individuals aged over 12 years observed, 320 vapers were recorded, indicating a point prevalence of 7.9%, compared to 1.3% in 2018. These results were statistically different from 2018 for all locations. The point prevalence of vaping varied across locations: 8.6% for Grey Street Pocket Square (1.7% in 2018), 8.3% for Chews Lane (1.1% in 2018), 8.8% for Midland Park (1.5% in 2018), 7.2% for Te Aro Park (2.0% in 2018), and 5.5% for Civic Square (0.6% in 2018).

The proportion of the population who were children aged 12 or under was 1.2% (2.9% in 2018), with more children observed at Civic Square where smoking prevalence is less when compared to other locations.

Discussion

In 2023, smoking prevalence has decreased in all locations when compared to 2018, whereas the prevalence of vaping has increased significantly.

Introduction

This report details the process and results of observations of smoking and vaping in five central Wellington locations (Midland Park, Te Ngākau Civic Square, Chews Lane, Grey Street Pocket Square and Te Aro Park). The observations focused on the point prevalence of smoking and vaping, and a comparison is made with observations of smoking in 2015, and smoking and vaping in 2018.

The point prevalence of smoking is the proportion of people smoking during a particular point in time. Similarly, point prevalence for vaping is the proportion of people vaping at a particular point in time.

Observing the trends in the point prevalence of smoking and vaping for a location provides policymakers with valuable insights. This enables them to compare the extent of smoking and vaping across different locations and track changes in smoking and vaping trends over time. These observations are important in helping policymakers focus their efforts on areas with higher prevalences, allowing for targeted interventions and more effective public health strategies.

The Smokefree Wellington Action Plan reaffirms Wellington City Council's commitment to the nationwide Smokefree Aotearoa 2025 goal (the Smokefree Aotearoa goal) set by the Government in 2011. The Action Plan was initially created in 2016 and underwent an update in March 2019. It focuses on the creation and management of smokefree events and outdoor public spaces. These initiatives aim to assist individuals in their efforts to quit smoking and maintain a smoke-free lifestyle. Additionally, they contribute to preventing young people from initiating smoking by reducing the exposure to smoking in their surroundings. The Council requests that individuals also refrain from vaping in smoke-free spaces or during smoke-free events.

The Wellington City Council has a smokefree policy for Civic Square, Grey Street Pocket Square, Midland Park and parts of Chews Lane. The policy was in place for Midland Park in 2015, and Civic Square was introduced in May 2016. In the parts of Chews Lane (on Council-owned land) and Grey Street Pocket Square, the policy was introduced in 2016/17 and 2019 respectively. See Appendix 3 for photos of smokefree signs in these locations. For more information on the smokefree Wellington policy, please visit [Smokefree Wellington Policy and Action Plan](#).

Previous observational studies conducted in Wellington city revealed a broad range of point prevalence of smoking, from one to 18%.¹⁻⁶ The prevalence was found to be influenced by factors such as location, type of place, and time of day. An observation study in November 2015 at three downtown locations (Midland Park, Civic Square and Te Aro Park) found a point prevalence of smokers of 3.1% (Te Aro Park at 3.9%, Midland Park at 3.3%, and Civic Square at 2.5%).⁴ Another observational study in November 2018 at four downtown locations (Midland Park, Civic Square, Te Aro Park and Chews Lane) found a point prevalence of 4.0% (Te Aro Park at 10%, Midland Park at 4.1%, 2.6% for Chews Lane and 2.4% for Civic Square).⁵ Additionally, in December 2018, an observational study at Grey Street Pocket Square found a significantly higher point prevalence of smokers at 11.3%.⁶

To further explore the extent of smoking in public outdoor places and inform subsequent iterations of the council's policy and action plan, the aims of this research were to:

- observe and report on the point prevalence of smoking and vaping in five downtown locations (Midland Park, Civic Square, Chews Lane, Grey Street Pocket Square and Te Aro Park), and
- make a comparison with the point prevalence of smoking and vaping in November-December 2018 (and November 2015 where possible).

Methods

Observations were made in five central city locations during weekdays (see Table 1). Each city location was divided into sections for observation, according to the concentration of people, and the feasibility of scanning the areas accurately. Details of the sections were recorded for later mapping.

Table 1: Locations and sections observed Centre city locations (weekdays)

Centre city locations	Number of sections per location
Civic Square	4
Midland Park (Lambton Quay)	6
Te Aro Park (Courtenay Place)	2
Chews Lane	3
Grey Street Pocket Square	4
Total observation sections	19

Observations were conducted by the same observer who made similar observations in five downtown locations in November-December 2018. Observations were trialled previously in November 2018 at the four downtown locations by two observers counting separately until the inter-observer variation was zero or near zero.

Each of the observation sections at each location or park was scanned eight times by a single observer. A scan involved a five-minute period in which the number of 'adults/teenagers', children, smokers and vapers were counted. The data was recorded using the 'CounterMan' app (published by Binary Arm (Pty) Ltd on App store) on an iPhone.

A child was defined as a person who subjectively looked 12 years old or under 12. A smoker was defined as a person who possessed a cigarette, whether in mouth or hand.

A vaper was defined as a person who possessed an electronic cigarette, whether vaping (inhaling) or in their hands.

We counted smokers rather than cigarettes. This meant that, if in a 5-minute scan, one person consumed more than one cigarette, they were only counted as one smoker. If, for example, two people shared the same cigarette, they were counted as two smokers. If a person consumed a cigarette and appeared to be vaping during a 5-minute scan, then they were counted as a smoker and also a vaper.

Observation scans were done from a stationary point or along a line of movement, as it was necessary to have a good enough view of all people in the section. For an observation session at a location, all observation *sections* were observed before moving onto the next location or park. The scans were done between 9:00 am and 4:00 pm, on weekdays with no rain. Please see Appendix 2 for data collection dates and times in 2015, 2018 and 2023, with weather observations.

Data was transferred from the smartphone onto an Excel spreadsheet. Numbers were collated for each location, and the point prevalences calculated, by dividing the number of smokers and vapers by the number of those over the age of 12.

Images of each of the locations were found on Google Maps and captured. The observation sections were mapped on to the images and the observation points marked (see Appendix 1). Weather data for observation days was obtained from the Meteorological Service website (see Appendix 2).

Results

During the seven days of observation, a total of 4036 people aged over 12 years were observed. Among them,

- 106 smokers were recorded resulting in a point prevalence of smokers of 2.6% (see Table 2) and
- 320 vapers were observed with point prevalence of 7.9% (see Table 3).
- A total of 49 children who appeared to be aged 12 years and under were observed (see Table 4).

The observation results were from 152 five-minute scans - totalling 12.7 hours observation. Full details of the observations are in the accompanying Excel sheets. All observations were done in the absence of rain, but in a variety of temperatures (ranging from 9 to 23 degrees Celsius), wind (ranging from 35 to 90 km/h) and cloud levels (from overcast to clear - see Appendix 2). The temperatures were somewhat different in November 2023 when compared to November 2018, with more wind in 2023.

On the Wednesday (November 15th), the Wellington Strawberry Festival in Midland Park meant that there were greater numbers of people there compared to normal weekdays.

Point prevalence of smoking

Te Aro Park had the highest point prevalence for smoking (6.6%) followed by Midland Park (2.9%), Grey Street Pocket Square (1.9%) Chews Lane (1.5%) and Civic Square (0.5%).

The comparison with 2018 and 2015 is shown in Table 2. In 2023, there was a significant decrease in point prevalence of smoking in Te Aro Park ($p < 0.05$), Civic Square ($p < 0.005$) and Grey Street Pocket Square ($p < 0.000$) compared to 2018. Smoking prevalence at Midland Park and Chews Lane also appears to be decreased, but not statistically significant.

Table 2: Point prevalence of smoking in central city locations in November 2015, November-December 2018 and November 2023

Location	November 2015	November-December 2018	November 2023
Te Aro Park	3.9% (69/1775)	10% (72/716)	6.6% (39/587)
Midland Park	3.3% (154/4731)	4.1% (97/2355)	2.9% (36/1232)
Civic Square	2.5% (102/4125)	2.4% (34/1430)	0.5 % (3/581)
Chews Lane	-	2.6% (44/1695)	1.5% (14/912)
Grey Street Pocket Square	-	11.3% (223/1976)	1.9% (14/724)
Overall	3.1% (325/10631)	5.8% (470/8172)	2.6% (106/4036)

Note that overall numbers for 2018 also include numbers for Grey Street Pocket Square

Point prevalence of vaping

Among the 4,036 individuals aged over 12 years observed, 320 vapers were recorded, indicating a point prevalence of 7.9%, compared to 1.3% in 2018. These results were statistically different from 2018 for all locations ($p < 0.000$).

The point prevalence for vaping was highest in Midland Park (8.8%), followed by Grey Street Pocket Square (8.6%), Chews Lane (8.3%), Te Aro Park (7.2%), and Civic Square (5.5%). The point prevalence for vaping at the five downtown locations are shown in Table 3 along with comparison with 2018. Vaping point prevalence was not measured in 2015.

Table 3: Point prevalence of vaping in central city locations in November-December 2018 and November 2023

Location	November-December 2018	November 2023
Te Aro Park	2.0% (14/716)	7.2% (42/587)
Midland Park	1.5% (36/2355)	8.8 % (108/1232)
Civic Square	0.6% (8/1430)	5.5% (32/581)
Chews Lane	1.1% (18/1695)	8.3% (76/912)
Grey Street Pocket Square	1.7% (34/1976)	8.6% (62/724)
Overall	1.3% (110/8172)	7.9% (320/4036)

Note that overall numbers for 2018 also include numbers for Grey Street Pocket Square

The proportion of all people who were children, across all the four locations studied in November 2023, was 1.2%. The proportion varied across the locations with the proportion of smokers (higher smoking prevalence, less children) - with no children under 12 years observed at Te Aro Park, and the highest proportion of children in the Civic Square (3.8%) (see Table 4). There was a decrease in the proportion of children observed compared to November 2015 and November-December 2018 (Table 4). No child was observed to be smoking or vaping.

Table 4: Proportion of all people who were aged less than 12 years in central city locations in November 2015, November-December 2018 and November 2023

Location	November 2015	November-December 2018	November 2023
Te Aro Park	0.95% (17/1792)	1.2% (9/725)	0% (0/587)
Midland Park	1.6 (77/4808)	2.8% (69/2424)	1.0% (12/1244)
Civic Square	3.2% (137/4262)	6.3% (96/1526)	3.8% (23/604)
Chews Lane	-	1.6% (28/1723)	0.5% (5/917)
Grey Street Pocket Square	-	1.9% (39/2015)	1.2% (9/733)
Overall	2.1% (231/10862)	3.2% (241/8413)	1.2% (49/4085)

Note that overall numbers for 2018 also include numbers for Grey Street Pocket Square

Other findings

Except for Grey Street Pocket Square, similar smoking patterns were observed in 2023 as in 2018. Specifically, Te Aro Park exhibited the highest prevalence, followed by Midland Park, Chews Lane, and Civic Square. Civic Square had lower levels of smoking and vaping prevalence compared to other locations.

In Te Aro Park, most people observed were walking across the park, but most smokers and vapers were sitting in the park, mostly in the section B.

In Midland Park, smokers and vapers were mostly found in the covered café areas and the corridor areas with entrances from Johnson Street and Waring Taylor Street (see areas E and F in the Midland Park map (Appendix 1).

In Chews Lane, most smokers and vapers were in section C, which is an entrance from Willis Street, and also in section A (see Appendix 1).

In Grey Street Pocket Square, more smokers were observed outside the café area (section C).

Most vapers in the Civic Square were found in section C, which is an entry/exit point, between the i-Site and Library, as well as some area of the covered pathway to the council offices (For images see Appendix 1).

Discussion

In 2023, there was a significant decrease in point prevalence of smoking in Te Aro Park, Civic Square and Grey Street compared to 2018. Smoking prevalence at Midland Park and Chews Lane also appears to be decreased, but not statistically significant.

There were less people in these locations in 2023, when compared to 2018. Possible reasons include:

- Higher wind speeds in 2023. The presence of higher wind speeds in 2023, in contrast to 2018, may have discouraged individuals from spending time outdoors in these locations;
- Flexible Working Policy Post-COVID-19. With the introduction of a flexible working policy post-COVID-19, people may choose to work from home rather than frequent outdoor locations. This shift in work culture, allowing for remote work, could have led to the reduction in the number of people seen in these public spaces during regular working hours.

Among five locations, Te Aro Park had highest smoking prevalence when compared to other locations ($p < .000$). Higher smoking prevalence in Te Aro Park may be attributed to it not being a designated smokefree area, unlike the other four locations that were officially designated as smokefree by the Council.

In November 2023, there was a significant increase in the point prevalence of vaping (7.9%) when compared to 2018 (1.2%). Possible explanations include:

- a general rise in the popularity of vaping in the years following 2018, potentially contributing to the higher prevalence observed in 2023;
- the smoke-free signage present in these locations did not explicitly include vape-free signage; and
- there may be low levels of awareness that areas designated as smoke-free in the city are also intended to be vape-free.

The significant decrease in smoking prevalence in the Grey Street Pocket Square may be due to the introduction of the 'smokefree' policy for the Square in 2019. Another possibility would be the effect of the extensive smokefree signage within the location that may have had an effect on the level of smoking (see Appendix 3).

Previous research conducted outside of Wellington bars and cafés has suggested an inverse relationship between the prevalence of smoking and the presence of children.² Specifically, Civic Square exhibited a higher proportion of children compared to other locations. This higher presence of children in Civic Square could potentially account for the observed lower proportions of smoking and vaping in that particular location.

Strengths and weaknesses

We have used simple and cost-effective methods to observe five downtown locations for the prevalence of smoking and vaping. To ensure a high level of accuracy, these observations were conducted by the same observer who had conducted these observations in November-December 2018. We have divided the locations into smaller observation sections to ensure the accuracy of pedestrians counted.

The challenge of determining whether someone is 12 years old or younger simply by looking at them must be acknowledged. The point prevalences found are conservative. They would be different if a higher age for 'children' had been set than at 12 years or under, and the 'smoking population' denominator against which the number of smokers set was therefore smaller. For instance, if the denominator had been the population 15 years or over, the point prevalences found would be slightly higher.

The structure of some locations made them difficult to observe. For example, in Grey Street Pocket Square, it was difficult to observe people seated facing towards the road or café who were smoking or vaping. At Midland Park, there were large pillars that could obscure people sitting in the café areas. At Te Aro Park, it was difficult to observe people sitting facing the Manners Street in Section B. This posed a challenge for observation from a stationary position and may have underestimated the results. Some movement in the observation point was allowed in order to try and mitigate this. It was also difficult to observe sections at Midland Park during midday periods (12noon-1:30pm) as the park was very crowded.

Further research

Further research is essential to thoroughly investigate the impact of current smoke-free policies. This could involve expanding observational studies to encompass more locations within Wellington (such as the Waterfront, Cuba Street, and Courtenay Place) and extending the duration of observations, incorporating additional five-minute scans. Furthermore, smoking prevalence in locations that include outdoors areas of bars and cafes can be different. So, conducting observations in locations is crucial to gaining a comprehensive understanding of smoking patterns. To examine whether smoke-free policies are equally effective during the night, further research is needed focusing on nighttime smoking patterns.

In order to further investigate the effect of the presence of children, further observation research could study more areas with higher proportions of children, such as the waterfront, outside Te Papa, Frank Kitts Park and at markets. Additionally, observations could be conducted during times of increased child presence, such as weekends. These efforts would provide valuable insights into the effectiveness of smoke-free policies in areas with a higher proportion of children.

Moreover, there is a need to explore the extent of smoking that tourists are exposed to. The exposure of tourists to smoking has the potential to shape their overall perception of an area, possibly leading to a negative impression. Locations frequented by tourists, including landmarks and markets, should be included in the study. This comprehensive approach will contribute to a more thorough understanding of the impact of smoke-free policies across diverse Wellington settings.

Policy implications

With the higher concentrations of smokers in Te Aro Park when compared to other locations that have a smoke-free policy (Midland Park, Civic Square and Grey Street Pocket Square), the implementation of smoke-free policies in Te Aro Park should be considered.

Given the increased prevalence of vaping across all locations, there is a need for a public health campaign to educate individuals that areas designated as smokefree are also vapefree. Moreover, incorporating vapefree messages into smokefree signage in these locations could enhance awareness and compliance with the policies.

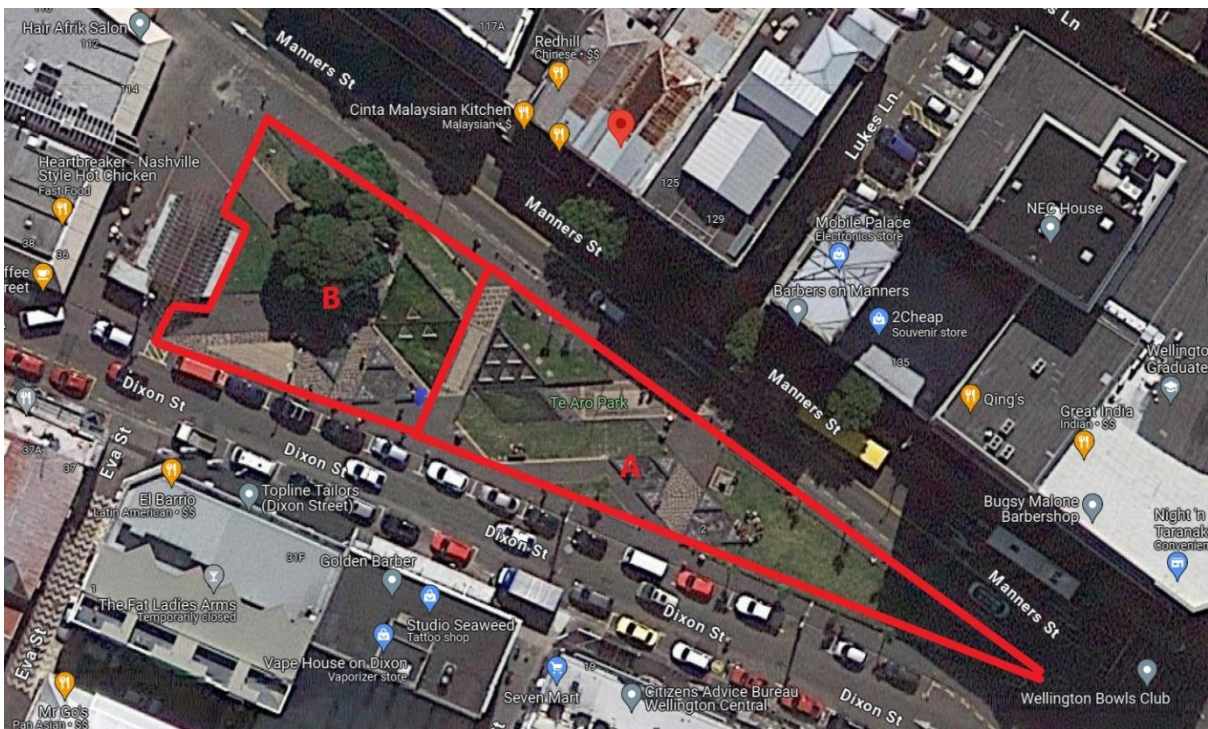
Acknowledgements

This report is closely based on reports authored by Thomson and Pathmanathan in 2015, as well as Thomson and Gurrum in 2018. Some of the language used in this report shares similarities with both of these previous reports. I sincerely acknowledge and appreciate the foundational work conducted by Nethran Pathmanathan and George Thomson in their respective contributions to the 2015 and 2018 reports. Their research forms the basis for this current work.

Appendix 1: Location maps

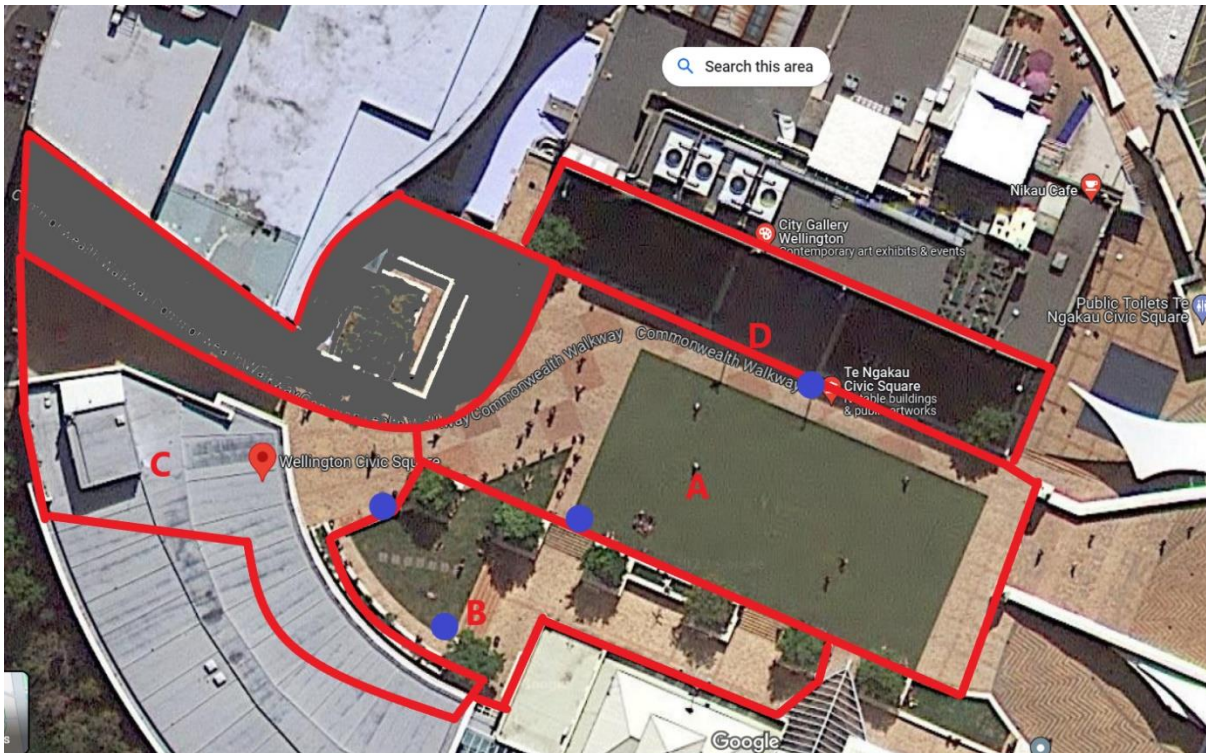
Te Aro Park

Te Aro Park was divided into two sections for observation. It is an A shaped park, with a number of walkways through it, but only one goes straight from one side to the other. This walkway, and everything until the sculpture at the vertex of the A, was considered section A. Everything from before this walkway, until the end of the grass patch was considered section B. The footpaths at the perimeter of the park were excluded.



Civic Square

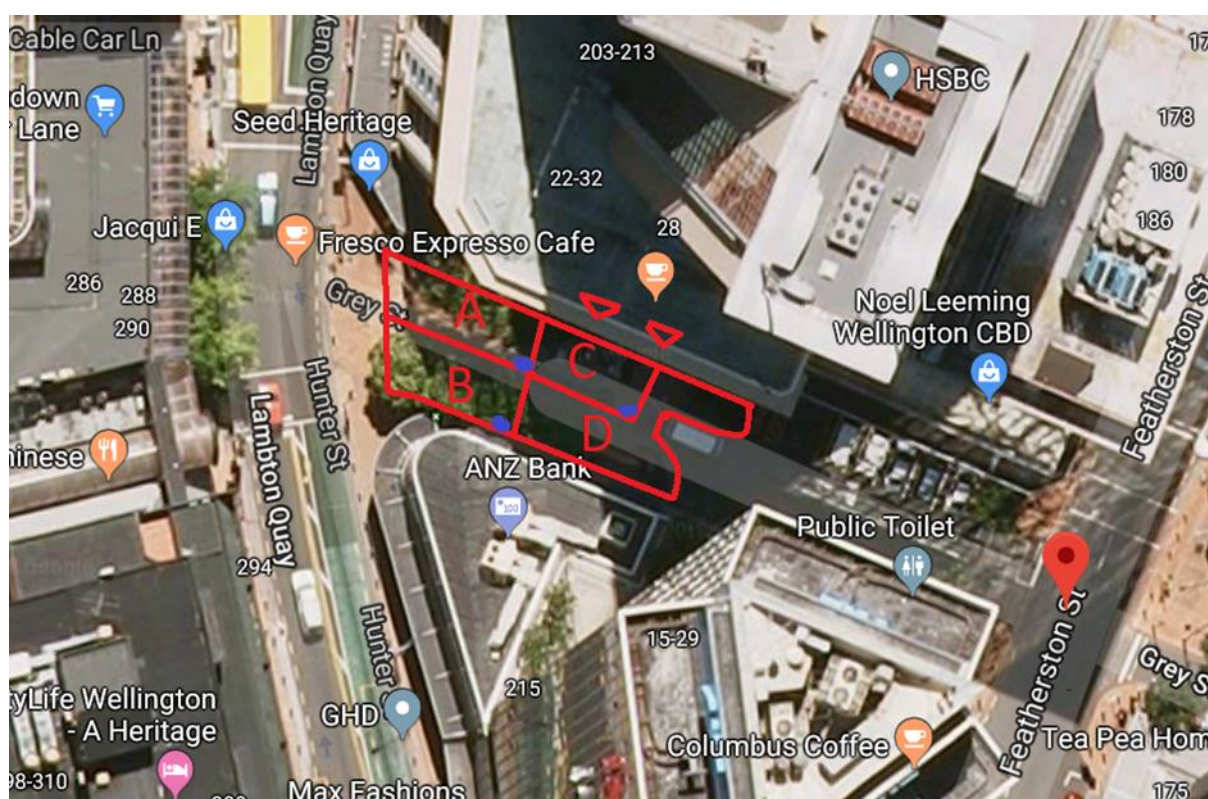
For observation, Civic Square was divided into four sections. One covered most of the square proper, which had an artificial grass area (A). Another covered a grass patch and a section down some steps, outside the council office entrance (B). A further one covered another entry/exit point, between the i-Site and Library, as well as some of the covered pathway to the council offices (C). Section D included the entrance to the City Gallery and two grass patches (also included the seats on that side). Active construction work is happening in the Grey shaded area (Section C).



Grey Street Pocket Square

The pocket square refers to the pedestrian area between the Grey Street road and Lambton Quay. The area includes public seating, trees, a fountain and a café seating area. The area was divided into four sections. Sections A and B were towards Lambton Quay road. Section A was towards the Doubletree Hotel and included two seats. Section B was towards the ANZ Bank building and also covers two seats. Section C included the café seating area. It also includes triangular areas which are shown in the location map. Section D was the area towards the carpark and included the rest of the area on both sides with benches present. These sections did not include any road area in the street. None of these sections included pedestrians walking on the Lambton Quay footpaths and footpaths on both sides of the street.

The blue spots indicate observation points.



Midland Park

Midland Park was divided into six sections for observation. Two of them, A and B, were towards Johnston Street, and covered the grass patches and seats in the centre of the park, as well as half of the covered walkway parallel to Lambton Quay and walkway parallel to Johnston Street. Sections C and D included another half of the walkway parallel to Lambton Quay towards Waring Taylor Street. Section E included the entrances from Johnston Street and Waring Taylor Street up to the entrance to the office building. Section F covered both the café areas. Section A covered the seats on the Johnston Street side and D covered the seats on the entrance from Waring Taylor Street. Neither of these locations covered people on the street footpaths. The blue dots indicate fixed observation positions.



Chews Lane

Chews Lane was divided into three sections. Section A included the area towards Victoria Street and also included seats outside the café. Section B included the walkway into the old NZTA building and included the seats outside the Vietnamese take-away, and Section C was the part towards Willis Street. The blue dots indicate fixed observation positions.



Appendix 2: Data collection dates and times in 2015, 2018 and 2023, with weather observations

For 2015 Report

For Civic Square, observations occurred during 11.30am – 12.30pm, 3.00 – 4.00pm Monday 9th, 11.20 – 11.20am, 2.25 – 3.25pm, Tuesday 10th; 11.20am – 1.30pm, 3.51 – 5.03pm Friday 13th; 11.23am – 12.37pm, 2.55pm – 4.30pm Monday 16th. Area D was not observed on Monday morning 9th. Total- 24 scans, except for Area D which had 21 scans.

For Midland Park, observations occurred during: 9.45 -10.45am, 1.40 – 2.40pm, Monday 9th November; 9.50 – 10.50am, 1.35 – 2.30pm, Tuesday 10th November; 9.56am – 11.10am, 2.15 – 3.43pm Friday 13th November; 10.00 – 11.09am, 1.35 – 2.45pm, Monday 16th November. Three scans per session (six per day) except for one scan with lost data on the morning of the 13th. Total – 23 scans.

For Te Aro Park, observations occurred at 1.15 – 2.15pm, 4.40 – 5.40pm, Monday 9th; 12.35 – 1.20pm, 4.25 – 5.15pm Tuesday 10th; 1.40 – 2.10pm Friday 13th; 12.45 – 1.17pm, 4.20 – 5.25pm Monday 16th. Three scans per session (six per day) except for Friday 13th when there was only one session due to rain, and Monday 16th, when six scans were done in the last session to compensate for the lost session on the 13th. Total – 24 scans.

All observations were done in the absence of rain, but in a variety of temperatures (ranging from 13 to 19 degrees Celsius), wind (ranging from 39 to 96km/h) and cloud levels (from overcast to clear).

For 2018 Reports

For Civic Square, observations occurred during 10:20-11:40am on Monday 12th November, 2:10pm-3:10pm on Tuesday 13th November, 10:10am-11:20am on Wednesday 14th November and 1:15pm-2pm on Friday 16th November. Total – 8 scans.

For Midland Park, observations occurred during 10am -12noon on Tuesday 13th November, 9:20am-11:30am on Thursday 15th November, 2:45pm-3:55pm on Friday 16th November and 10am-11:05am on Wednesday 28th November. Total – 8 scans. The observation session on Wednesday 14th November was aborted due to diminished power in the smart phone. We did not include the data from this aborted session. So, we repeated the session on Wednesday 28th November.

For Te Aro Park, observations occurred during 12:10pm-12:45pm on Monday 12th November, 1:30pm-2pm on Tuesday 13th November, 1:35pm-2:15pm on Wednesday 14th November and 12:45pm-1:10pm on Friday 16th November. Total- 8 scans.

For Chews Lane, observations occurred during 11am-12noon on Tuesday 13th November, 1:40pm-2:40pm on Wednesday 14th November, 2:05pm-2:40pm on Friday 16th November and 11:10am-11:45am on Wednesday 28th November. Total – 8 scans. Observation session on Monday 12th November was aborted due to low battery power on the smart phone. We did not include the data from this aborted session. So, we repeated the session on Wednesday 28th November.

All observations for above four locations were done in the absence of rain, but in a variety of temperatures (ranging from 10 to 21 degrees Celsius), wind (maximum ranging from 39 to 76km/h) and cloud levels (from overcast to clear).

For Grey Street, observations occurred during 9:40 am- 4:00 pm on Monday 3rd December and 9:35 am- 3 pm on Friday 7th December. A total of six observation sessions (12 five-minute scans) were conducted before lunch and another six sessions (12 five-minute scans) were conducted after lunch. Total- 24 scans. Observations for Grey Street were done in the absence of rain but in a variety of temperatures (ranging from 11 to 24 degrees Celsius), wind (maximum ranging from 41 to 50 kmph) and cloud levels (from overcast to clear).

For 2023 report

For Te Aro Park, observations occurred during 12:00noon-12:20pm on Thursday 9th November, 10:35am-10:55am on Wednesday 15th November, 12:30pm-12:50pm on Wednesday 15th November and 12:35pm - 12:55pm on Wednesday 22nd November. Total- 8 scans.

For Grey Street Pocket Square, observations occurred during 10:00am-10:40am on Wednesday 1st November, 9:00am-9:40am on Wednesday 15th November, 2:50pm-3:30pm on Wednesday 15th November and 2:30pm-3:10pm on Wednesday 22nd November. Total- 8 scans.

For Civic Square, observations occurred during 11:00am-11:40am on Wednesday 8th November, 11:05am-11:45am on Wednesday 15th November, 2pm-2:40pm on Wednesday 15th November and 1:00pm-1:40pm on Wednesday 22nd November. Total- 8 scans.

For Midland Park, observations occurred during 11:00am-12:00noon Tuesday 14th November, 1:30pm 2:30pm on Tuesday 14th November, 10:05am-11:05am on Thursday 23rd November and 2:30pm-3:30pm on Thursday 23rd November. Total- 8 scans.

For Chews Lane, observations occurred during 11:30am-12:00noon on Wednesday 1st November, 9:45am - 10:15am on Wednesday 15th November, 1:05pm -1:35pm on Wednesday 15th November and 1:55pm-2:25pm on Wednesday 22nd November. Total- 8 scans.

Weather observations on observation days 2023

From the Met Service Kelburn observations

Date	Temperature (degree Celsius)	Wind (kmph)
1/11/2023	13.2-21.5	63
8/11/2023	9.4-14.5	65
9/11/2023	9.8-15.6	44
14/11/2023	13.2-16.7	90
15/11/2023	13.0-19.1	72
22/11/2023	11.1-22.5	35
23/11/2023	13.0-18.4	69

Appendix 3: Photos of some smokefree signs



Photo at Grey Street Pocket Square (Section B)



Photo at Midland Park (Section D)

References

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