Thorndon Quay Baseline Monitoring Report

Report on the post-implementation impact of road works and street changes

November 2025

Absolutely Positively **Wellington** City Council
Me Heke Ki Pōneke

Contents

Executive summary

This report establishes a methodology to evaluate the Thorndon Quay upgrade based on the business case objectives, augmented by the monitoring of public car space occupancy. It provides a baseline for a programme of routine monitoring to evaluate progress against objectives along Thorndon Quay and Aotea Quay, pre- and post-road layout changes, including consideration of public car park use.

This interim monitoring work indicates the road upgrades have largely achieved their throughput and indicative safety goals for road users. However, this has been at the expense of slower bus throughput, reduced road segment capacity and reduced public car park capacity.

Results in this report are interim due to the short timeframe elapsed since works completion and they are also impacted by current economic conditions. Ongoing monitoring is required to assess safety, road throughput and economic change as the road network, and the precinct evolves, driven by economic and social demand.

Consumer spend is reported for a sample of continuously trading merchants along Thorndon Quay which has declined relative to the city benchmark. However, it is unclear whether that is caused by road layout changes, works disruption, the recession, general economic conditions, public car park removal or other factors.

Public car park spaces have been reduced from 239 in 2020 to 86 (+ 7 mobility parks) in 2025, and the parking designation limited to P10 and P120 on the basis that this space is better used for pedestrian/cycle access, public transport throughput and safety improvements. Analysis using September/October 2020 demand followed by survey of current occupancy suggests the current capacity is adequate to meet the demand provided:

1. Long-stay users park elsewhere (or use alternative transport modes).
2. Policy interventions (enforcement, designation mix and/or the tariff) are active so that demand can be met by the available parks.

It is proposed to monitor progress against this baseline on a 12-monthly basis as required to establish outcomes against the project objectives, and to manage the use of the public car parks along Thorndon Quay.

Introduction

Background

Wellington City Council is dedicated to creating a city that is accessible, thriving, and environmentally responsible. This commitment is reflected in ongoing improvements to key infrastructure and transport systems, aimed at providing better mobility options and reducing the city's carbon emissions. These upgrades are intended to help Wellington grow into a more sustainable and attractive city for all residents, businesses, and visitors.

Meeting these objectives involves making changes to the transport network to support active and public transport, and reduce emissions. While these projects cause disruption during construction, their purpose is to make areas of our city more people-friendly, provide more travel choices and lower the environmental impact of transport.

As movement of people is prioritised along strategic and high-volume routes, people may experience less convenient access to car parks.

Supporting businesses as they adjust to these changes is important for achieving the city's vision - Pōneke, the creative capital where people and nature thrive – and maintaining economic vitality. Both merchants and commuters have indicated they want to understand the impacts of these changes on their travel and business activity. They asked for their concerns to be recognised, and that their feedback and insights be reflected in the Council's planning. They would like to have access to robust data and clear information to inform decision-making.

In response, the Council has developed tools to monitor the changes to transport use, safety, and the economic impact of street improvements on road users and adjacent merchants in the context of wider trends impacting the city.

This report sets up a baseline to establish routine monitoring following the completion of works, but these results are interim. Travel behaviours and business activity often take time to adjust to new street layouts; monitoring and reliable results require observing patterns over multiple years. This report therefore sets an initial reference point that will be tracked in future monitoring updates to provide a clearer picture of long-term impacts.

Purpose

This report examines the performance of the Thorndon Quay – Hutt Road Street improvements against the investment objectives and critical success factors outlined in the Single Stage Business Case[1] approved in February 2022. The five project objectives (page 7) were as follows:

- Improve Level of Service for bus users including improved access, journey times and reliability. Provide sufficient capacity for growth in public transport.

[1] See Thorndon Quay Hutt Road single business case traffic resolution

- Improve Level of Service, and reduce the safety risk for people walking and cycling along and across Thorndon Quay and Hutt Road.
- Reduce the frequency and severity of crashes.
- Improve the amenity of Thorndon Quay to support the current and future place aspirations for the corridor/area.
- Maintain similar access for people and freight to the ferry terminal.

The four critical success factors which informed the development of options for road changes (page 62) were:

- Demonstrate tangible improvements for public transport, pedestrians, and cyclists within the 2018-21/2021-24 NLTP periods.
- Limit the impact of implementation on businesses located on Thorndon Quay and Hutt Road.
- Positive economic impact on businesses on Thorndon Quay and Hutt Road.
- Stakeholders and public feel that they have had the opportunity to contribute and understand the rationale for the recommended programme.

The report presents a baseline for routine monitoring following project completion. It is the Council's intention to monitor changes over time in relation to project outcomes approximately every 12 months, for a period of three to five years.

Method

This report analyses the business case objectives under the following headings:

1. Aotea Quay turnaround and truck use.
2. Thorndon Quay bus corridor passenger throughput and speed.
3. Safety improvements at Aotea Quay and Thorndon Quay.
4. Thorndon Quay consumer spend trends.
5. Public car park use.
   The occupancy of car parks was not a topic in the business case but a section on the monitoring of car park is included due to stakeholder interest.
6. Cycleway counts.

The data sets used to analyse the objectives are:

Indicator	**Data source**
Bus passenger throughput and travel time	GWRC data navigator
Cycle volumes	WCC VivaCity sensors are not yet fully operational so data from the Hutt Road/Ngaio Gorge site will be used as available.
Pedestrian trips on Thorndon Quay	WCC VivaCity sensors are not yet fully operational. No other data source is available. Therefore, this is not reported.
Safety	NZTA Crash Analysis System
Truck travel times	WCC fixed radar detector
Merchant spend	MarketView's EFTPOS network
Parking occupancy	WCC 'park by space' historic monitoring is augmented by camera survey of parking in late 2025

Limitations

This report is interim due to the following:

1. Recent completion
   Works were completed in July 2025 and insufficient time has elapsed to measure most of the strategic outcomes.

2. Te Ara Tupua feeder cycleway not completed
   The cycleway throughput was a significant component of the business case, but it has not been fully analysed in this report since a significant upgrade of a feeder route from Petone to the city is expected to be completed in 2026. Te Ara Tupua is expected to significantly increase the volume of cyclists using the Thorndon Quay route and full evaluation is delayed until then.

3. Timeframe to assess safety improvements
   Road safety impacts cannot be fully tested until there is sufficient time for users to adjust to the new road layout and for speeds and accidents to stabilise to the new conditions. Safety evaluation requires a statistically significant change in the number of reported accidents before analysis can ascertain the cause and effect of changes in layout. A period of two years following works completion is expected for these conditions to be fully met.

4. Parking space utilisation no longer reported
   Parking space utilisation was routinely reported by the historic 'pay by space' system which has been replaced by 'pay by registration plate' which does not routinely report occupancy. Parking occupancy surveys can be commissioned at any time as/when needed.

5. Restricted analysis
   Analysis considers only the morning peak.

6. Not an economic evaluation
   The report considers the business case objectives as stated. It is not a cost/benefit analysis.

This report should be understood as a baseline assessment and an interim monitoring update. It is not a definitive measure of outcomes. While early findings show increased bus passenger throughput of nearly 50%, reductions in recorded injuries since 2021 and declines in merchant spend relative to citywide benchmarks, the timeframe is too short and external factors too significant to isolate the long-term effects of the project. Broader economic pressures, including recessionary conditions, sustained high interest rates, growth in online trade, and sector-specific downturns such as construction, continue to influence observed trends. In addition, works disruption, the removal of public parking, and incomplete feeder connections (notably Te Ara Tupua) mean travel and shopping habits are still adjusting. As such, this report establishes a baseline from which future monitoring will test whether these early patterns stabilise or shift over time.

Acknowledgment

We acknowledge the input from many parties in preparing this report. Report prepared by Research and Evaluation, Wellington City Council, November 2025.

Findings

Ongoing monitoring should assess both immediate and long-term effects of road changes on congestion and safety for all users. Collecting data on pedestrian, cyclist, and bus activity will clarify behavioural shifts and help ensure improvements in safety are not offset by more congestion or reduced transit efficiency, guiding future planning toward efficient and safe access for everyone.

The following findings represent the early impacts.

Aotea Quay turnaround and speed

Investment objective

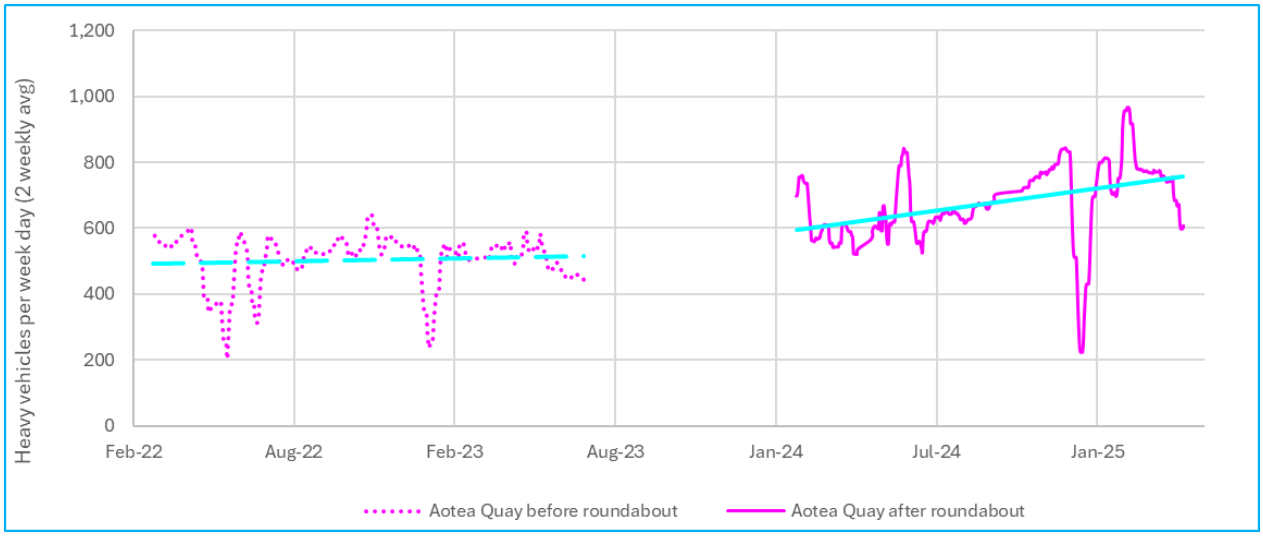
The Aotea Quay turnaround was built to make it easier for large trucks (approximately 60 large trucks/day[2]) to access the Interislander terminal by using the Aotea Quay offramp. Prior to the turnaround, trucks would leave the motorway at Ngauranga Gorge and use Hutt Road and the Aotea Quay overbridge, and then make a sharp right-hand turn into the Interislander terminal underneath the motorway viaduct.

The new turnaround was intended to improve accessibility for freight and reduce safety risk for pedestrians and cyclists on Thorndon Quay/Hutt Road.

Interim monitoring results

The following graph presents the impact of the turnaround on the count of large trucks (17m+) using that route:

Figure 1: Aotea Quay truck counts: Source – Wellington City Council fixed radar counter



[2] See https://www.interislander.co.nz/explore/the-history-of-the-interislander-ferry **Observations**

1. The introduction of the Aotea Quay turnaround has had a significant impact on the number of large trucks (17 metres or longer) using the route to access the Interislander terminal. According to fixed radar counter data from Wellington City Council, the number of large trucks using this route increased from approximately 60 per day before the turnaround to about 110 per day after its commissioning in February 2024. This step change of around 50 additional trucks daily indicates a substantial shift of traffic away from the previous route via Hutt Road and the Aotea Quay overbridge, supporting the primary investment objective of improving accessibility and safety for heavy vehicles. This data demonstrates the turnaround has effectively redirected a major proportion of large truck traffic onto a safer and more suitable route, with over 80% increase in daily truck movements observed post-implementation. These results are consistent with the intended outcomes of the project, although ongoing monitoring is necessary to confirm longer-term trends and impacts across the wider network.

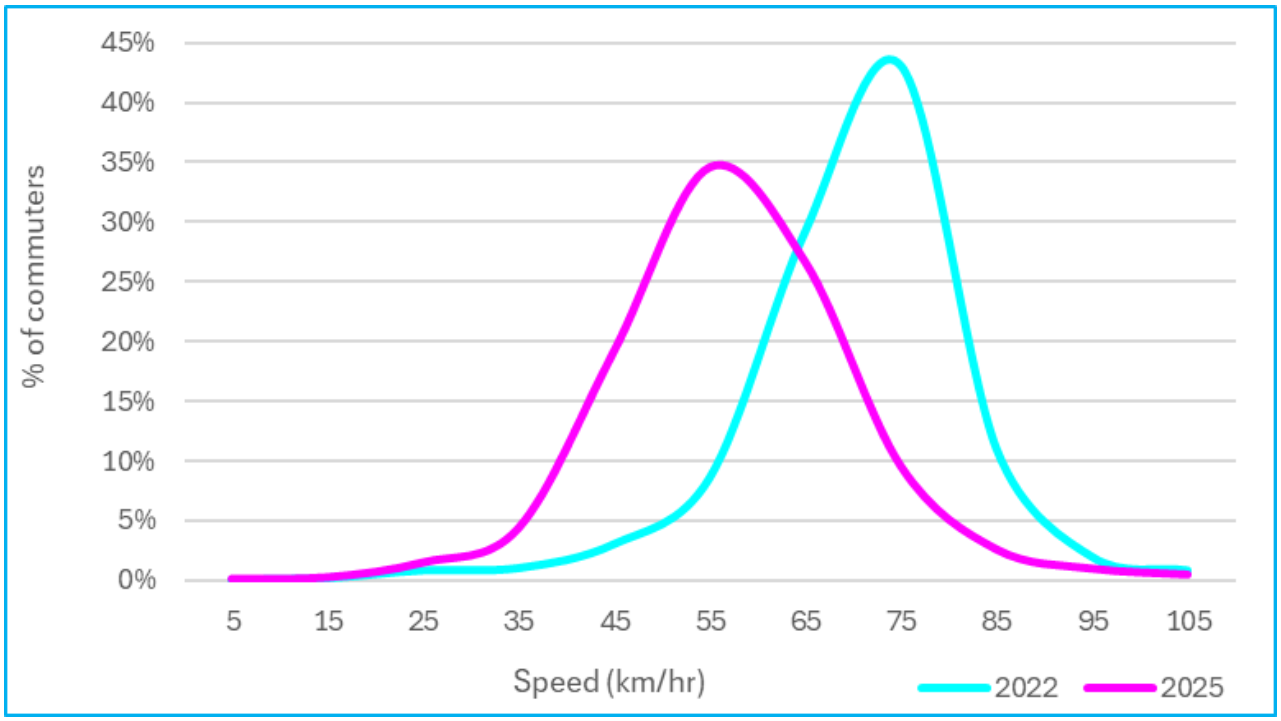
2. The project's objectives did not include assessing effects on freight forwarders at the KiwiRail site, but a senior freight forwarding manager notes the turnaround has been largely neutral, with access being faster at some times and slower at others depending on the time of day and direction of travel.

3. Growth in the number of large trucks along that corridor is observed post the turnaround commissioning. The cause of that growth is uncertain but possibly due to trucks exiting the Interislander terminal and using the turnaround and Aotea Quay to access the motorway.

4. It was not possible to verify a corresponding decline of truck use along Hutt Road due to the lack of detectors on that section of road.

The following chart presents the impact on speeds just south of the Aotea Quay off-ramp across the whole day as a result of the turnaround:

Figure 2: Aotea Quay whole day speed profile change (pre and post), Source – Wellington City Council via NZTA's RAMM data



Observations

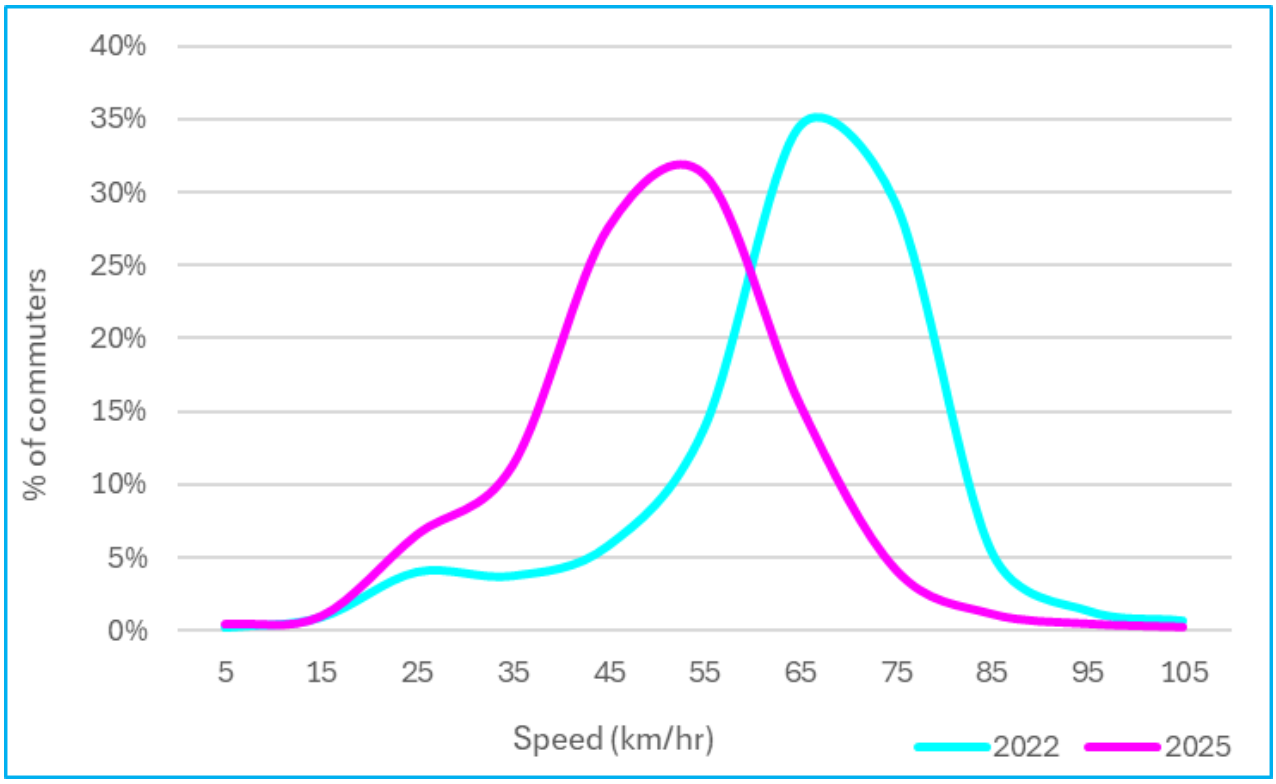
1. The introduction of the Aotea Quay turnaround has reduced median speeds on Aotea Quay from 75km/hr to 55km/hr. This reduction is likely to improve safety for road users, though it comes with an estimated decrease in route capacity of about 7%.

2. The speed profile reveals a shift in traffic flow, with more vehicles now travelling at or below 25km/hr. This suggests increased congestion and queuing, particularly at peak times.

3. The proportion of commuters experiencing significant congestion (speeds at or below 25 km/hr) has risen slightly, from 5% in 2022 to 8% in 2025, indicating a small but noticeable impact on travel times for a segment of users.

The following chart presents the speed profile variation during the morning peak:

Figure 3: Aotea Quay peak speed profile change (pre and post), Source – Wellington City Council via NZTA's RAMM data



Observations

1. This evidence suggests the new layout has increased congestion, although the percentage of commuters affected is small with approximately 3% additional commuters facing increased congestion, that is 8% of commuters travelling less than or at 25km/hr in 2025 versus 5% in 2022.

Summary

The early analysis of the Aotea Quay turnaround demonstrates clear progress towards a safer and more accessible route for large trucks accessing the Interislander terminal. Data indicates the turnaround is achieving the intended redirection objective. Additionally, feedback from freight forwarders suggests the turnaround has a neutral impact on their operations, and that trucks exiting the Interislander terminal are using the turnaround to access the motorway which is a much safer approach than the previous route which involved cutting directly in front of vehicles accessing the on-ramp along Aotea Quay.

From a safety perspective, the turnaround has removed large trucks from an unsuitable route underneath the motorway that was used to both enter and exit the Interislander terminal. In addition, the turnaround has reduced speed, which is expected to further increase safety, which is analysed later

in this report. There is some evidence that the speed reduction has increased congestion, but the impact is small at 3% of peak period commuters[3].

Better public transport

Investment objective

To improve the Level of Service for bus users including improved access, journey times and reliability, and to provide sufficient capacity for growth in public transport along the Thorndon Quay corridor. The analysis considers the approximate 900m stretch from the Woolstore to Capital Quay.

Interim monitoring results

The following graphs have been created using Metlink's GPS trackers and Snapper ticketing system that tracks bus and passenger movements on a per trip basis. When monitoring these changes, it's useful to consider both operations and broader travel trends. Improvements to Aotea Quay's freight and safety have coincided with rising bus use and investments in service and infrastructure. These developments highlight how people adapt their transport modes to upgrades and social and economic changes. Recent data on passenger flows, speeds, and reliability clarify how the route is managing growth while balancing efficiency, accessibility, and safety.

The following figure presents passenger (pax) throughput for morning services travelling into the central city between the Woolstore and the Capital Gateway in May 2025 when works were largely finished, compared to May 2022 when Wellington was largely COVID-19 free.

[3] 4,000 vehicles per day are estimated to take the Aotea Quay offramp, so using an average occupancy of 1.3 passengers per vehicle, the number of commuters impacted by the additional congestion is estimated to be around 156 commuters per day.

Figure 4: Thorndon Quay passenger (pax) throughput (morning peaks), Source: Metlink data navigator

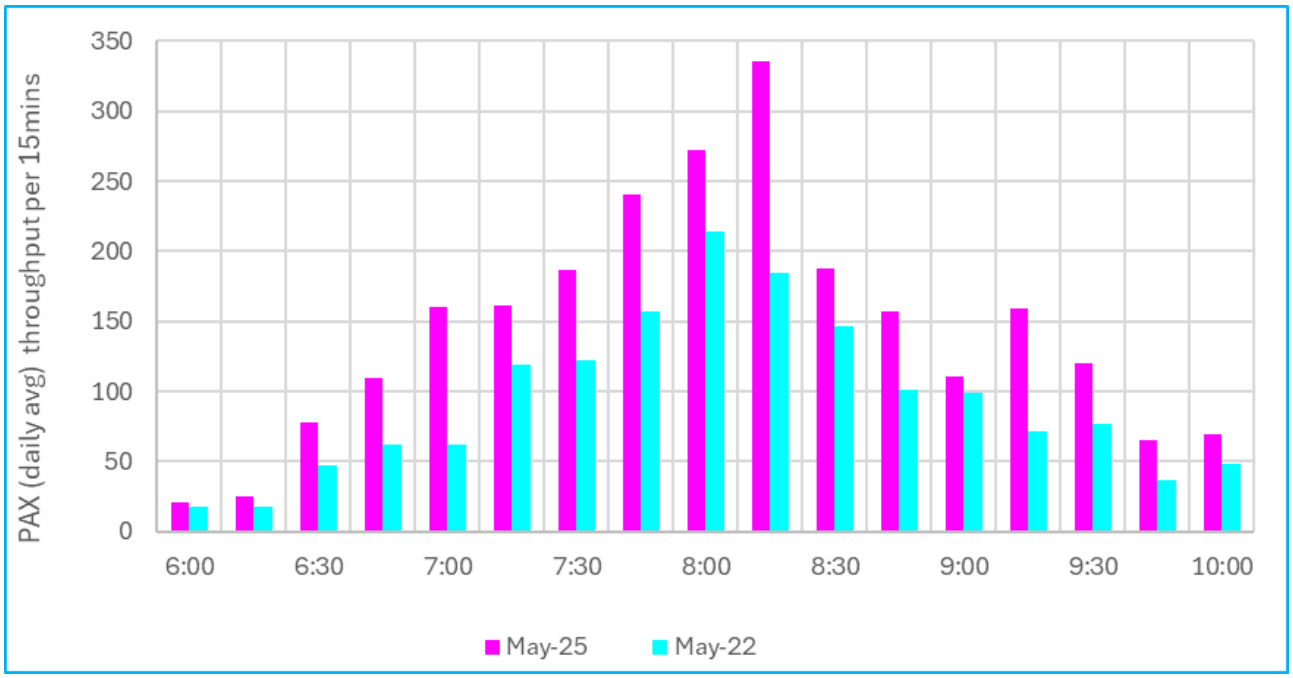


Figure 5: Buses per 15-minute interval, Source - Metlink data navigator

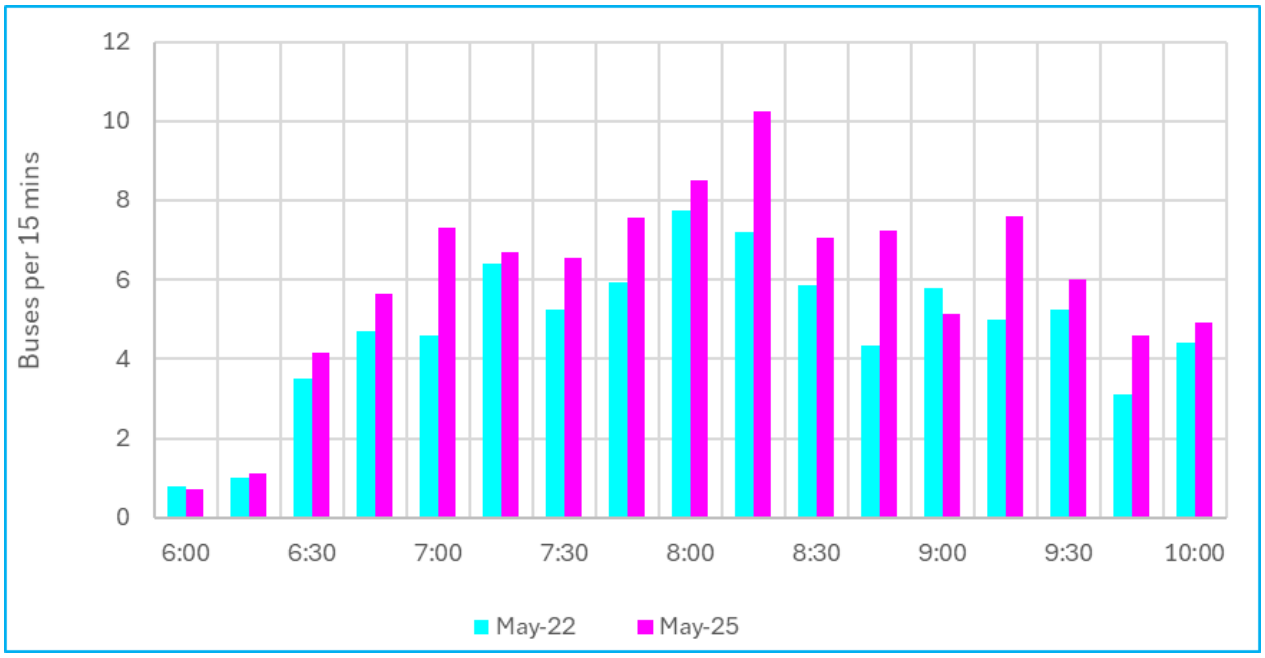
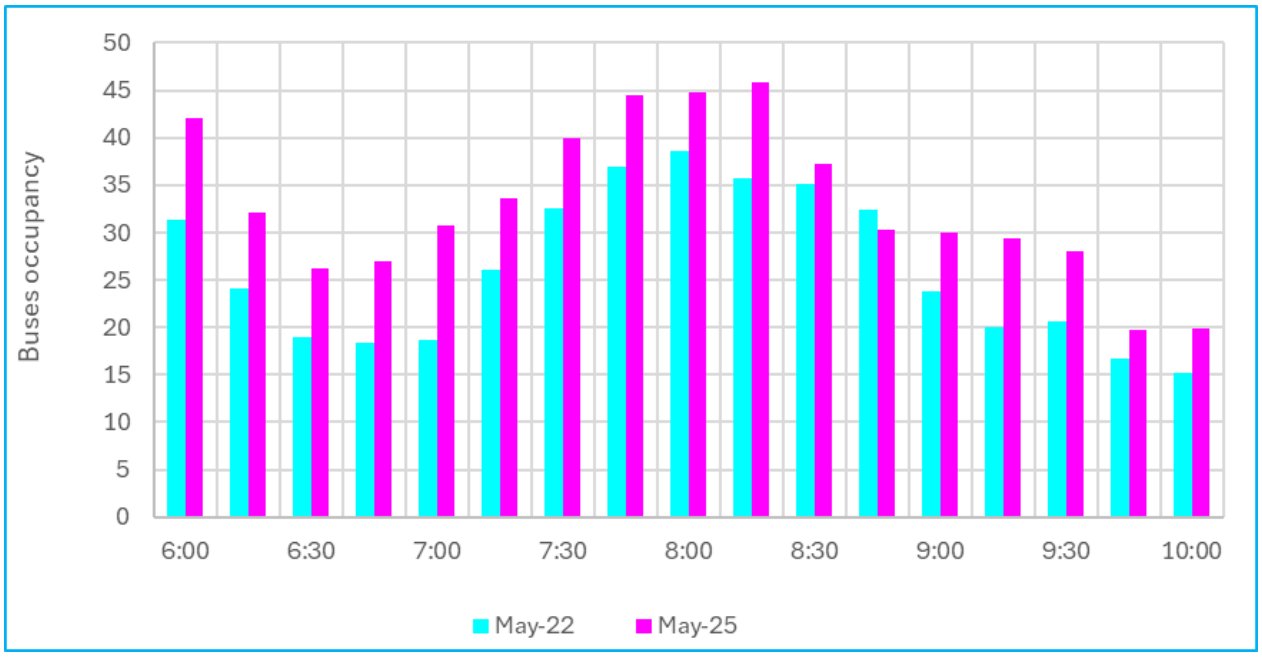


Figure 6: Bus occupancy (pax per service), Source - Metlink data navigator



Observations

1. Passenger numbers using Thorndon Quay bus routes during morning peak in May 2025 increased significantly by approximately 50% compared to May 2022. This substantial rise reflects greater demand for public transport services and increased capacity.

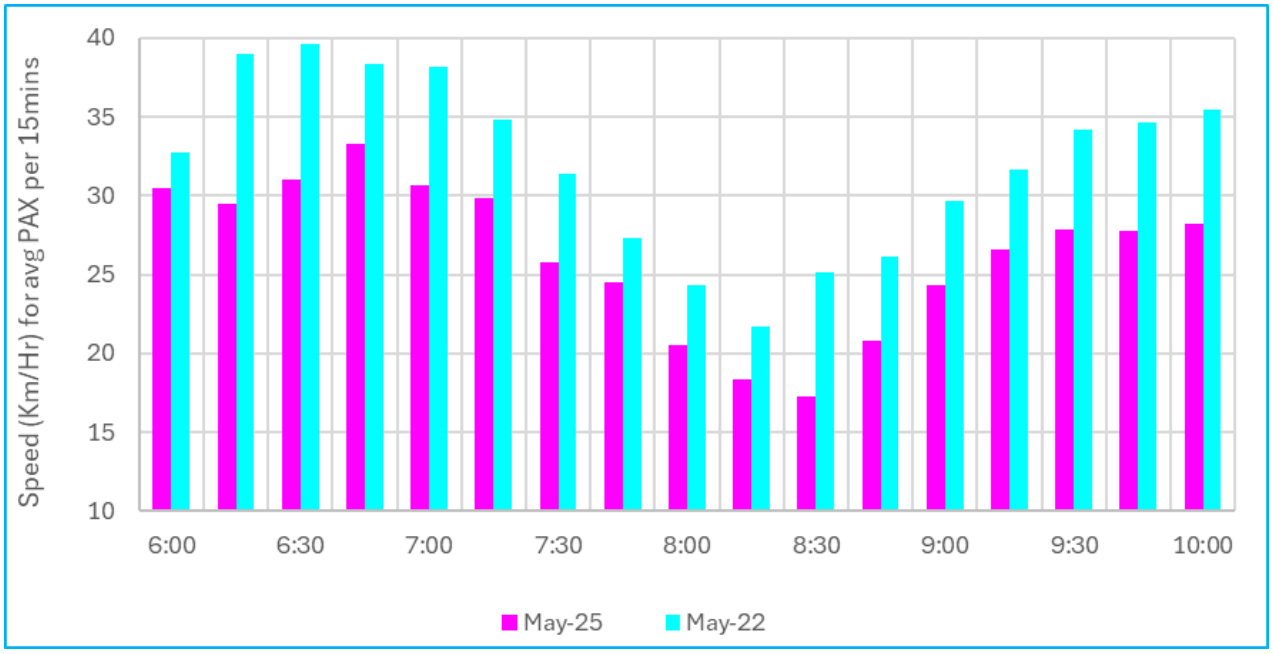
2. In 2025, more buses with higher occupancy, including more double decker buses, are serving the public, especially in the height of the peak around 8am. The 2022 data is impacted by the post-COVID-19 driver shortage that led to an estimated 10%[4] reduction in scheduled services.

3. The route demonstrates robust adaptability, supporting higher demand and increased bus service despite minor slowdowns. This reflects both infrastructure investments, Metlink's investment in more and bigger buses, and changes in travel behaviours, such as less working from home and more public transport usage as daily routines normalised post-pandemic.

[4] See https://www.gw.govt.nz/assets/Documents/2023/03/Proactive-Release-LGOIMA-2022-234.pdf

The following figure presents average speeds around the morning peak (7.30am to 9am):

Figure 7: Thorndon Quay passenger transit speed (morning peak), Source: Metlink data navigator



Observations

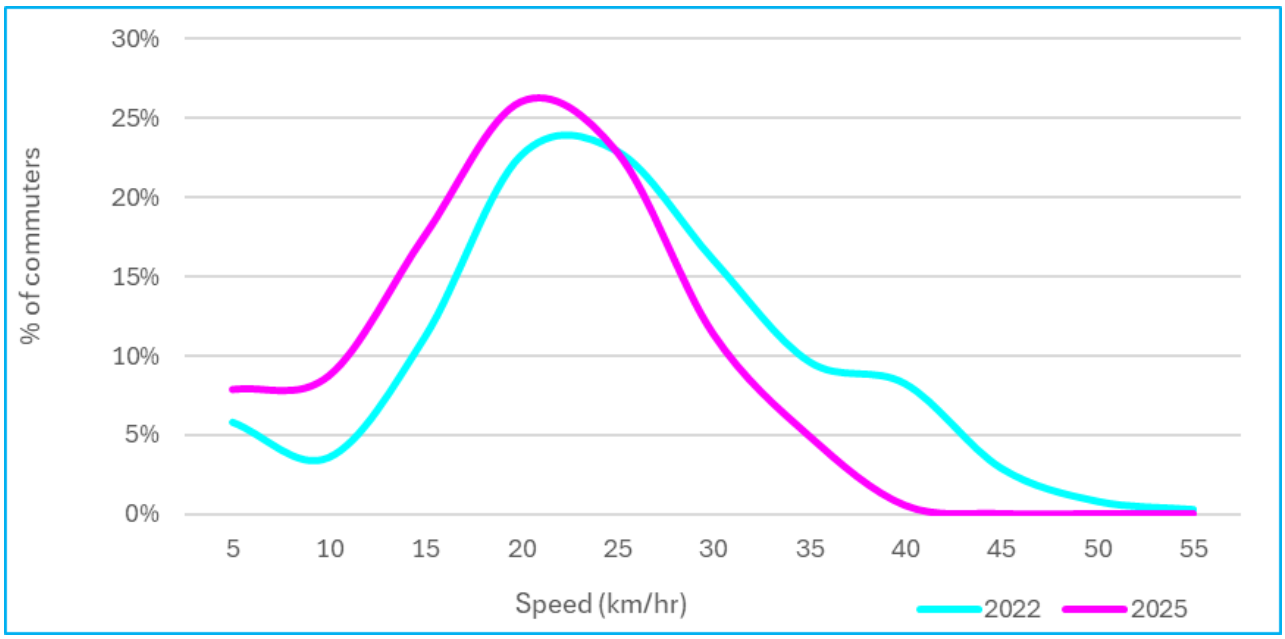
1. Average bus speeds have declined from 2022 to 2025. Off-peak (6.15am to 7am) speeds dropped 25% (from 40km/hr to 30km/hr), while morning peak speeds fell by 20% (from 22km/hr to 18km/hr).

2. The raised pedestrian crossings effectively function as speed humps which improves safety for pedestrians and commuters. However, they likely contribute to a reduction in speed. The current speed reduction appears to reduce the road capacity by approximately 10% based on how variation in speed impacts vehicle throughput[5]. Some work was still underway at the time of analysis, so it is currently unclear whether this speed reduction is due to the new road layout.

[5] The BPR model represents the classic model of road congestion. Similar results can be generated of speed versus throughput assuming a constant separation between vehicles (i.e. 1.5sec separation is reasonable approximation in congested traffic on New Zealand roads).

The following chart presents the speed variation of bus passengers through the road corridor during the peak (7am to 9am):

Figure 8: Thorndon Quay passenger speed profile (morning peak)



Observations

1. The new road layout has not substantially changed the median speed of buses during the morning peak. However, it has noticeably reduced the frequency of higher speed running (above 30km/hr), leading to a greater concentration of vehicles operating at lower speeds.

2. The 2022 data shows an anomalous occurrence at 5km/hr, which suggests there was congestion when transit speeds fell beneath 10km/hr.

3. Using 10km/hr as a threshold for congestion, analysis suggests that in 2025 2% more passengers experience queues or delays due to speed reductions compared to 2022.

Summary

The bus routes on Thorndon Quay have increased passenger throughput by approximately 50% relative to 2022. This increase reflects the return to on-site work and a greater willingness by passengers to use the service, as well as the investment by Metlink in larger buses, more frequent services and additional bus drivers. It also reflects the capacity of the Thorndon Quay route to support that demand. However, these benefits are accompanied by a reduction in average bus speeds, with off-peak speeds reduced by 25% and peak speeds by 20%, partly due to the new road layout or disruption caused by roadworks. Off-peak reductions are caused by road layout changes like raised pedestrian crossings, whereas the slightly lower peak reduction is likely influenced by smoother traffic flow and

reduced congestion. Analysis of the speed profile and passenger loadings suggests an additional 2% of bus passengers have experienced congestion due to this speed reduction[6].

Cycling (interim monitoring)

Investment objective

To improve the Level of Service for people cycling along Thorndon Quay and Hutt Road.

Methodology

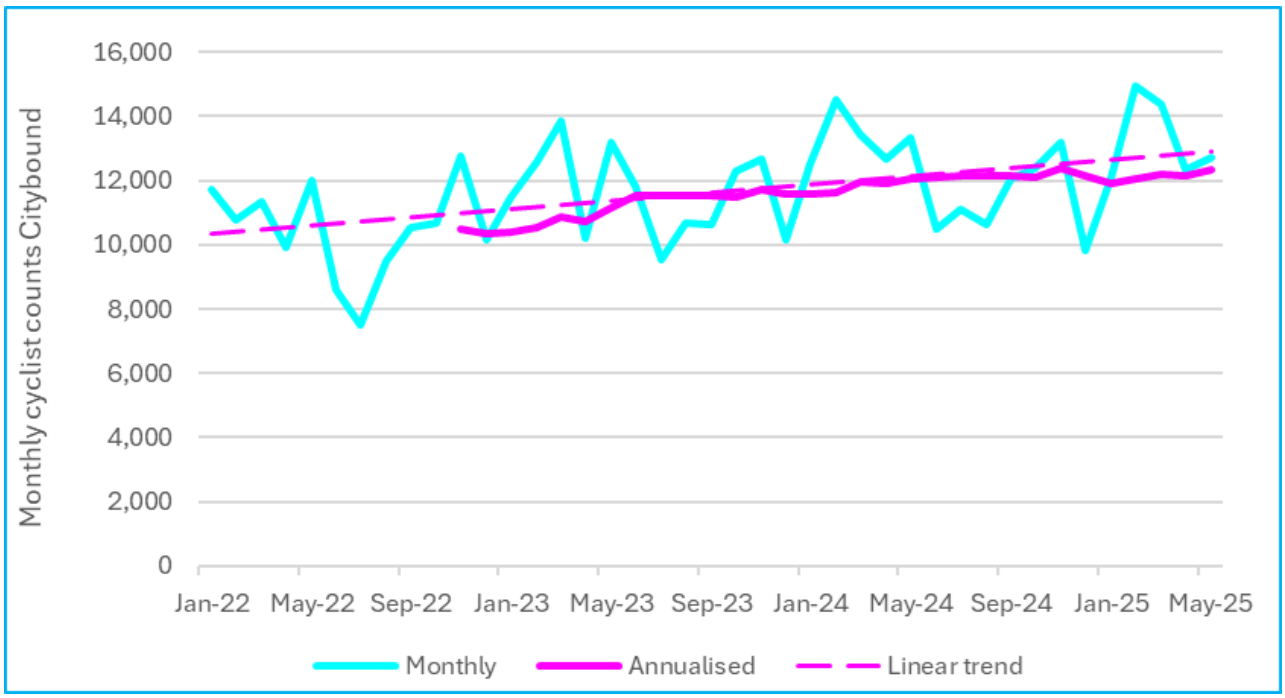
The analysis considers the number of cyclists at the southern end of Hutt Road. This includes cyclists from the west (down Ngaio Road) and north (from Johnsonville and the Hutt Valley). Unfortunately, a 'benchmark' comparison was not available to compare utilisation of the Thorndon Quay route against citywide trends that were not impacted by works.

The analysis is intended to set a baseline that can be used to track the impact of the Te Ara Tupua project which is creating a shared walking/cycling path from Petone to the Hutt Road. Te Ara Tupua is expected to increase numbers using the Thorndon Quay route when it is completed.

Interim monitoring results

The following chart presents the cycling counts for citybound cyclists recorded at the southern end of Hutt Road as extracted from VivaCity counter:

Figure 139: Thorndon Quay cycling counts: Source: Wellington City Council VivaCity



[6] This is estimated to increase travel time along the corridor by approximately 33 seconds

Observations

1. The overall trend has been steadily increasing by approximately 6% per annum largely irrespective of the works interruptions and the road layout changes. It is therefore unclear whether this increase represents wider trends to switch to active modes and the rise of e-bike ownership, or the progressive impact of a safer dedicated bike lane without angle parking.

2. Demand is seasonal and varies by +/-20% where demand is high during warmer months and lower during colder weather.

Summary

The Thorndon Quay route has had some major changes from a cyclist's perspective. The angle parking hazard has been removed, and a separated bike lane has been created. However, the bike lane is still subject to vehicles crossing as they access private parking spaces.

Citybound cycling along the Thorndon Quay route has grown since 2022 irrespective of road layout changes and street improvements. Further insight is likely to be gained from ongoing safety monitoring and the opening of Te Ara Tupua track (Petone to the city).

Safety

Investment objective

To reduce the frequency and severity of crashes along Thorndon Quay and Hutt Road.

Previous analysis indicated safety on Thorndon Quay could be improved. Angle parking was involved in 42% of crashes and cyclists were involved in 25% of crashes.[7]

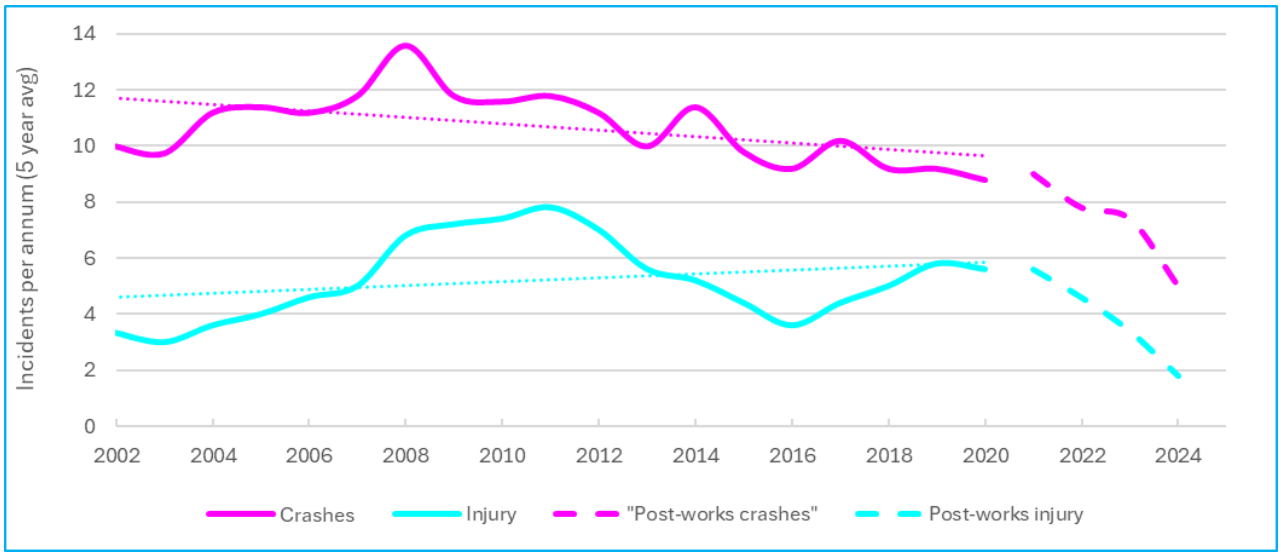
Interim monitoring for Thorndon Quay

Monitoring incidents and collecting user feedback are essential for identifying and addressing risks. By maintaining a strong focus on safety, modifications can better protect all users while supporting mobility, reducing congestion, and fostering a secure environment as travel demand and urban development evolve.

The following chart presents the annual total reported injuries from road crashes recorded on New Zealand Transport Agency's Crash Analysis System (CAS) for Thorndon Quay:

[7] See https://www.transportprojects.org.nz/assets/Thorndon-Quay/ThorndonQuay-Parking-analysis-report.pdf

Figure 10: Thorndon Quay injuries from crashes, Source - NZTA and CAS



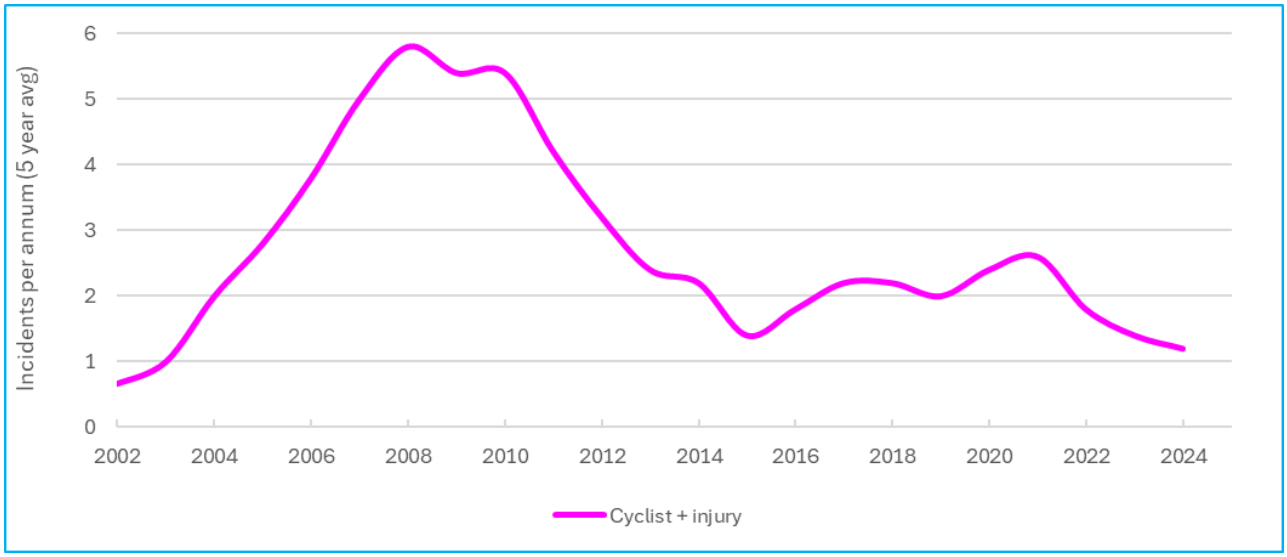
Observations

1. Prior to works starting in 2021, there were approximately five minor injuries per annum (from 10 crashes per annum), although the counts are volatile even though they are averaged over a five-year timeframe.

2. After works began in 2021 injuries dropped significantly, but given the small number of crashes it lacks statistical significance and it is too early to tell whether this is caused by road layout change, lower speeds during construction or due to random variation.

The following chart presents injury reports for cyclists from CAS along Thorndon Quay:

Figure 11: Thorndon Quay cyclist injuries, Source - NZTA and CAS



Observations

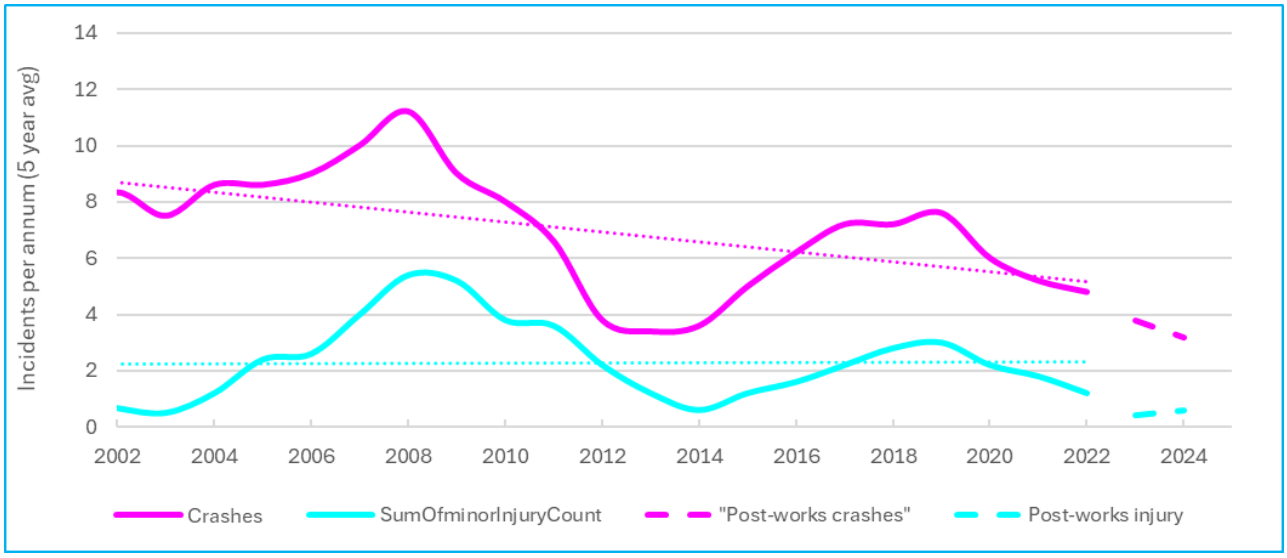
1. Injuries fell after works began in 2021. But the trend is volatile, due to the small number per annum and possibly variation in underlying risk, and it is too early to tell whether this is driven by road layout changes, works-related visibility and associated speed restrictions, or due to random variation. Future injury reporting be normalised to reflect the change in activity from Te Ara Tupua (Petone to the city) cycleway.

2. These injuries are largely driven by the number of cyclists and the hazards encountered, for example the angle parks which lacked good visibility of oncoming bikes. That angle parking hazard has been removed, but others have been potentially created as the cycle lane interfaces with crossing traffic among other factors. Future monitoring of cycling injuries will seek to report causal factors normalised by the volume of cyclists.

Interim monitoring for Aotea Quay

The following chart presents the accident reports for Aotea Quay:

Figure 12: Aotea Quay accidents, Source - NZTA and CAS



Observations

1. Crash numbers on Thorndon Quay – Hutt Rd are small and volatile, and it is too soon to determine whether significant change has occurred.

Summary

Following changes to the road layout and the start of construction works in 2021, recorded injuries from crashes have reduced at both Thorndon Quay (from five to three per annum) and along Aotea Quay, but the historic accident trends are volatile, and it is too soon to determine whether a significant change has occurred. It is expected motorists will require time to get used to the new road layout and

that the incidence of crashes will stabilise around these new behaviours. More monitoring is required to observe this change in behaviour.

Additional monitoring is required to confirm whether road layout change is the main causal factor in the apparent safety improvements. Considering the frequency of injuries involved it is expected that monitoring for five years post works completion is needed to ensure robust results.

Consumer spend

Investment objective

To improve the amenity of Thorndon Quay to support the current and future place aspirations for the route/area, and to achieve a positive economic benefit for merchants.

Methodology

The monitoring uses consumer spend to measure the ability of customers to access and conduct business along Thorndon Quay. In the short-term this measures disruption due to the works. In the long-term it is expected to support new ways of accessing the precinct, which is expected to influence a different mix of consumers and merchants.

Appendix 1 explains how the data on consumer spending was collected and analysed. Merchant data sampled in this analysis is taken from MarketView's EFTPOS network and is limited to merchants who have been continuously trading since 2022 to avoid distortions produced by merchant churn and shifts in market share among the EFTPOS providers. The use of EFTPOS data does not account for cash transactions, and will under-count income for merchants who mostly service the trade via accounts where direct bank transactions are used. In addition the use of continuously trading merchants does not account for short-term vacancies. Monitoring over a longer timeframe is needed to fully capture the long-term economic trend.

Thorndon Quay provides a medium density route and also provides access for trade. These two activities are usually complementary, but at peak times they can be in conflict.

Road layout changes have resulted in the reduction of public car parks along Thorndon Quay, where movement and safety are prioritised over access to on-street parking. As a result, angle car parks were removed as part of the upgrade. This is in comparison to a precinct like Oriental Parade which has high-density angle parking, a low-speed road rating, plus a wide pedestrian boulevard for pedestrians and cyclists[8]. See the following section for analysis of changes to car parks.

Changes along Thorndon Quay have been delivered in two stages. The first started in 2021 with the conversion of angle to parallel parking as a safety measure, and the second stage construction phase for the cycleway and bus lanes started in late 2023. Merchants in the northern part of Thorndon Quay (mostly serving homeware and construction customers) who largely rely on public on-street parking for their customers, tell us their business has been impacted by road layout change. By contrast the Capital Gateway precinct in the south of Thorndon Quay has mostly private off-street car parks for their customers which is considered below.

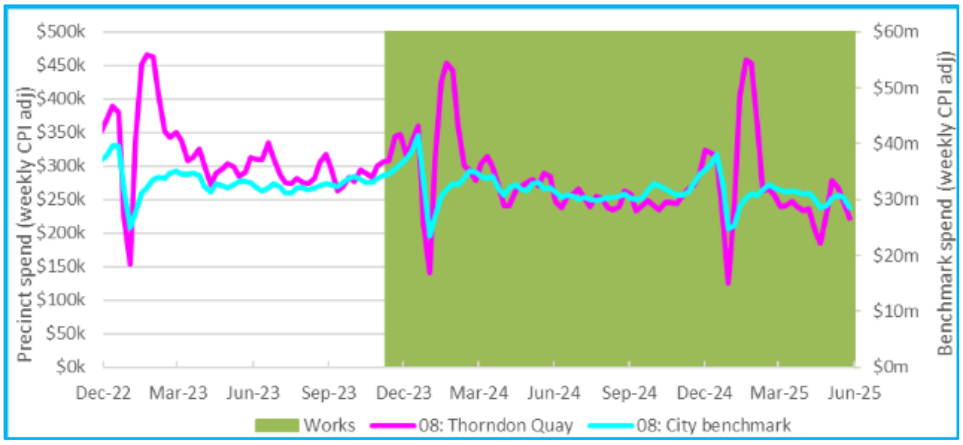
Interim monitoring results

In recent years the Wellington city economy has been impacted by multiple factors including inflation, changing interest rates, a recession, job insecurity and growth of the online marketplace. Benchmark

[8] It is noted that Oriental Bay has traffic load of 4500 Annual Average Daily Traffic (AADT) versus Thorndon Quay's 8,500 AADT.

data sets are used to identify spend trends that impact wide areas of the city to account for seasonality, weather, festivals, events and wider economic trends impacting everyone. Spend data is also adjusted to reflect the impact of inflation.

Figure 12: Thorndon Quay spend compared to benchmark



Observations

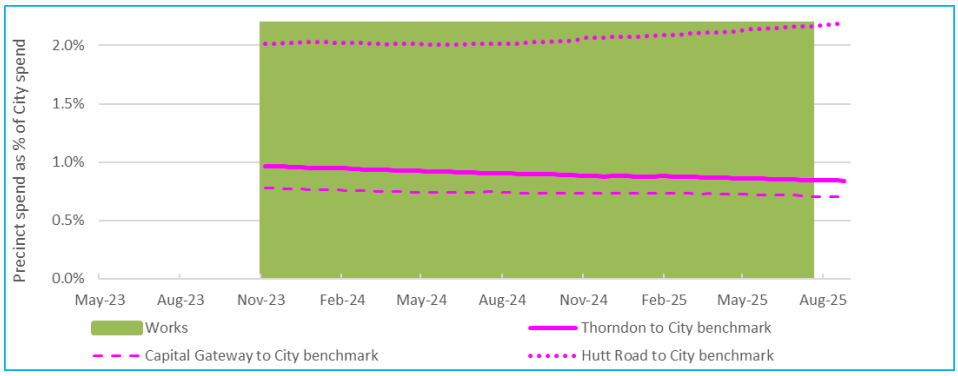
1. The benchmark is included to measure overall economic trends impacting the city where it is noted that the recession, job insecurity and sustained high interest rates for the past three years have impacted consumer spend across the city.

2. There is a strong seasonality in Thorndon Quay spend, where the increase following Christmas is noticeable and a relatively unique trend as customers return from holidays and sales incentives are used to attract custom.

3. Thorndon Quay spend is declining against the benchmark.

Further analysis was performed to investigate the reasons why Thorndon Quay spend is declining against the benchmark. This included removing the seasonality via smoothing (a 12-month rolling average) and observing spend data at adjacent precincts including Capital Gateway and the Hutt Road in Kaiwharawhara. These areas were selected due to their locality, and have some merchant types in common, but they were impacted differently by the works.

Figure 12a: Thorndon Quay plus adjacent precinct spend as a ratio to benchmark (smoothed)



Observations

1. Thorndon Quay and Capital Gateway both show a decline in spend (8% per annum) over this period compared to the city benchmark. There is some suggestion that the trend has stabilised post-works, but the timeline is too short to draw firm conclusions. By comparison, the Hutt Road precinct shows a rising trend, especially from 2025 onwards. See Appendix 2 for an updated graph of recently released data.

2. Possible drivers of these diverse trends are:

   a. Road works disruption is common to both Thorndon Quay and to a lesser extent Capital Gateway. Hutt Road merchants were free to trade without works disruption.

   b. The disruption caused by works and removal of public car parks along Thorndon Quay may have impacted trade for some merchants. By contrast Capital Gateway has seen a similar spending drop but it has private car parks and should not have been impacted by the removal of public car parks.

   c. The construction sector declined in 2024 as interest rates increased and may have impacted merchants along Thorndon Quay and Hutt Road which cater to that sector. However, there are different spend trends in both precincts and it is difficult to draw conclusions from this observation.

Summary

While works were underway, there was anecdotal evidence that road works and layout changes had a significant impact on spend for some merchants along Thorndon Quay. As a consequence, the Council offered micro-grants and other forms of practical business support to acknowledge the disruption[9]. However, context is also important since the city has been impacted at the same time by a recession that has seen spend reduce in some sectors more than others.

[9] See https://www.thepost.co.nz/nz-news/350413425/disruption-payment-could-be-rolled-out-around-wellington and https://www.positivelyponeke.govt.nz/business-support

This analysis shows that average spend for Thorndon Quay and Capital Gateway merchants, in the sample we have access to, has decreased by 8% per annum relative to the city benchmark over the period of the works. The causality of that change remains uncertain, but it is likely to be linked to the works disruption. The comparison to Capital Gateway, which has off-street parking available, also suggests the removal of public carparks did not play a significant factor. Further monitoring over a longer timeline (12 months+) is required to confirm these observations.

Public parking space use

Investment objective

The reallocation of parking spaces along Thorndon Quay was intended to improve safety, accessibility for active modes (cycling and walking) and access to/throughput of public transport.

Background

The following table represents the change in public parking spaces along the northern section of Thorndon Quay (from Davis Street to Tinakori Road), since this section was the subject of extensive works. The Capital Quay section is excluded since the occupancy of those public car parks is influenced by private car parks in the area and is subject to demand from non-precinct users due to its proximity to the central city.

Timeframe	Public car parks
Pre-works (2020)	239
Angle parks to parallel (2021)	147
Post-works (2025)	86

As observed, the number of parking spaces has been reduced from pre- to post-works by 153 parks.

The designation of these parks has also changed. Pre-works there were 47 long-stay parks (120mins+) plus 192 parks for short and medium-term visits (less than 120mins). Post-works there are no long-stay parks and a mixture of short and medium stay parks (P10 and P120):

Parking designation	Parks supplied (2025)
P10	16
P120	70
Mobility (P120)	7
Long-stay	0

Therefore, not only has the total number of parks been reduced, but their accessibility has changed to target the medium-stay customers of local merchants, as opposed to workers or others with longer-stay needs.

As a result of changes to the road layout, stakeholders have raised concerns about the possible negative impact of changes on trade in that precinct, especially the removal of angle parks in the northern section.

This monitoring work is intended to establish a baseline of demand pre-works and use that to compare with the current and future evolving demand for public car parks. It also provides a baseline to monitor and manage car park use so customers of local merchants can benefit from the existing number of public car parks.

Methodology

The baseline uses the parking entry and exit times recorded by in-ground sensors connected to the 'pay by space' system during September and October 2020 (excluding Labour Day on 26 October 2020). This data was readily available, has already been published (see WCC parking analysis) and has been subject to external review. A high-level comparison to a full 2019 dataset indicates the September/October 2020 dataset analysed is compatible with pre COVID-19 trends.

Post-works, 2025 occupancy was sampled using a travelling camera system for two weeks starting on 27 October using runs on the half hour during the peak (9am to 2pm) and on the hour at other times. One good day of samples was created for each day of the week (excluding Sunday) that avoided the bad weather and the holiday weekend that occurred during that period.

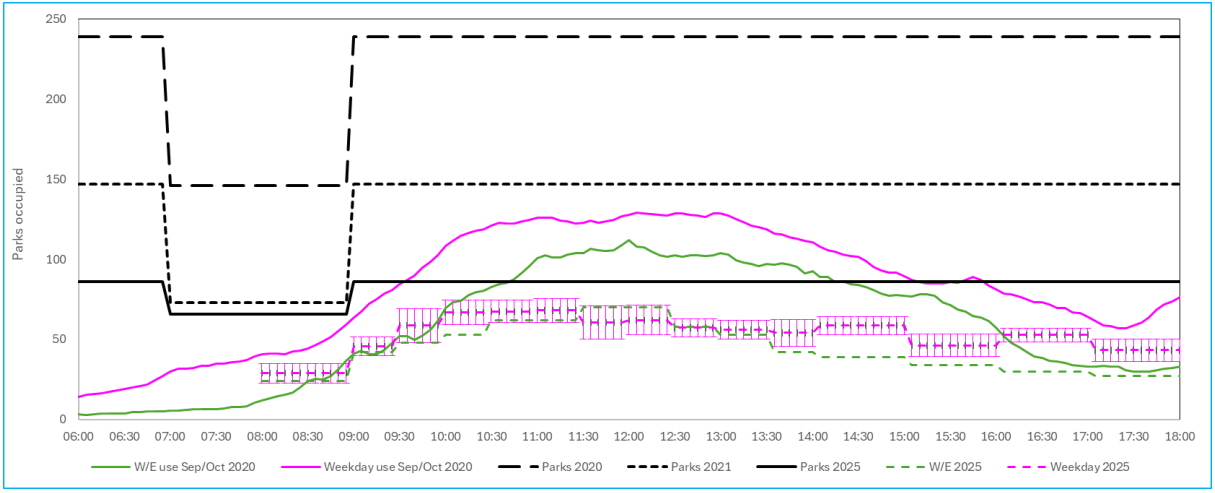
Interim monitoring results

The following chart presents:

1. Historic occupancy during September/October 2020.

2. Public parking spaces provided in 2020, 2021 and 2025.

Figure 13: Thorndon Quay (Davis to Tinakori) parks supplied and parking occupancy in September/October 2020, Source – Wellington City Council 2020 metered data, WCC parking analysis, TRS 26-23 and Wellington City Council survey data for 2025



Observations

Pre-works historic demand:

1. Average peak demand was 124 cars during the working week which represented approximately a 50% utilisation of the available spaces.

2. Weekend demand was 20% less but with a similar occupancy pattern.

Post-works demand in 2025:

3. Car parks have been reduced by 60% from the pre-works level.

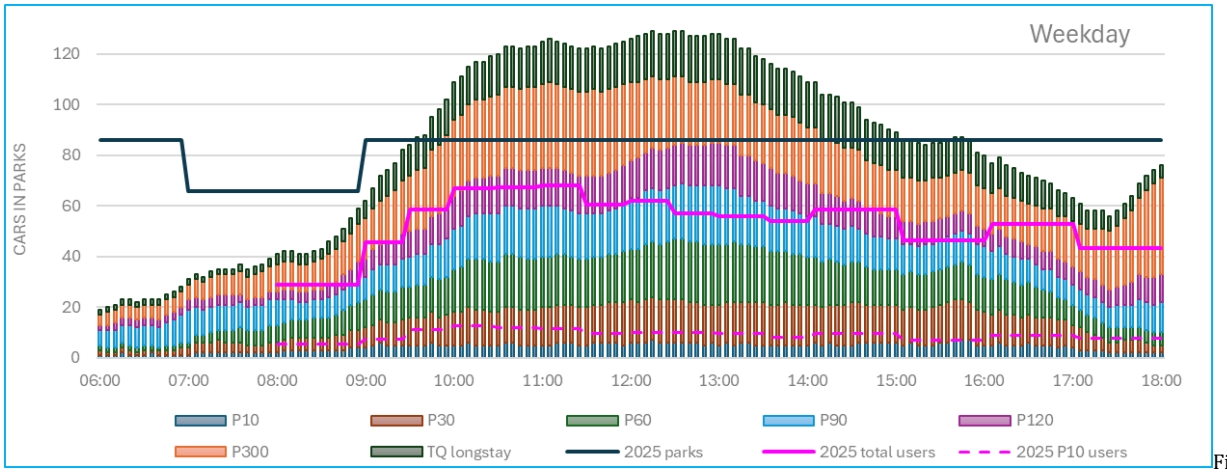
4. But occupancy in 2025 rarely exceeds 80% of the current capacity which is approaching the 85% occupancy that is internationally used as a 'trigger' to review policy interventions (i.e. additional enforcement, parking fee adjustment and/or changes to parking designations).

5. Weekend demand now exceeds (for a brief period) the weekday demand.

6. The error bars reflect the uncertainty of the average weekday values at the 95% level of confidence (see Appendix 3).

Further analysis indicates that many users in the historic dataset (September/October 2020) were long-stay users. The following chart presents the mix of users grouped by their duration of stay, for example P120 indicates a stay less than 120 minutes and longer than 90 minutes, and P90 indicates a stay less than 90 minutes and longer than 60 minutes:

Figure 14: Thorndon Quay (Davis to Tinakori) average parking occupancy September/October 2020 by duration of stay



Figure

The following table summarises the historic demand during the peak versus the number of parking spaces supplied in 2025 for the equivalent duration of stay:

Figure 15: Thorndon Quay (Davis to Tinakori) peak historic demand (12am to 2pm) and 2025 supply of parks

Duration of stay (max mins allowed)	Avg stay (mins) (Sep/Oct 2020)	Parks used (Sep/Oct 2020)	Parks supplied (2025)	Parks used (Oct 2025 peak)
P10	6	6	16	13
P120 (2 hours)	58	76	70	57

Mobility (P120)	undefined	undefined	7	2
P300 (5 hours)	179	27	0	0
Long-stay (8 hours+)	507	18	0	0

Observations

1. Long-stay users no longer have access to parks in this precinct in 2025. They used 45 parks historically (P300 and long-stay parks) and now need to park elsewhere or use a different transport mode. This will free up space for the short to medium stay users.

2. The mix of designations appears to be well matched to demand since the occupancy of P10 parks and P120 parks is closely matched, despite the apparent differences to the historic demand. However occupancy of the mobility parks is usually beneath 30%.

3. The total 2025 demand has been 'flattened' compared to the historic midday peak which has arguably shifted toward the afternoon. As a result the current parking spaces are well used, but they are not 'full' if the international trigger level of 85% is used as the indicator.

4. A programme of monitoring and enforcement is already being applied to Thorndon Quay to ensure users comply with the rules and to encourage behaviour changes so that stays are consistent with the parking designations. Further work may be needed to adjust the mix of park designations so they are aligned to need, (i.e. perhaps a P90 designation).

Summary

Pre-works there were 239 public parking spaces along the northern section of Thorndon Quay, which were 60% utilised on average. To improve safety, access for pedestrians/cyclists and better public transport throughput, 92 were removed in 2021 and by 2025 a further 56 parks were removed to leave the current inventory of 86 public car parks across P10 and P120 designations.

The historic peak demand was an average of 124 parked cars (September/October 2020). However approximately 45 of those users were long-stayers who parked longer than 120mins. There are no long-stay parks in the 2025 parking space designations and long-stay users now need to park elsewhere or use an alternative transport mode. The removal of long-stay users is designed to free up space so that the customers of merchants in the local precinct (an average of 80 at the historic peak) are better able to manage their needs with the 86 car parks currently supplied.

Parking demand was measured over two weeks in late October 2025 and indicates the peak demand is close to 80% of available parks. This is slightly less than the internationally accepted 'trigger' point when demand regularly exceeds 85% of capacity at which policy interventions are used to control demand. However, there is a suggestion that the peak demand has flattened and shifted toward the afternoon. This suggests further monitoring and investigation is needed so the policy interventions available to optimally match demand to supply have been fully explored.

Parking enforcement is active in Thorndon Quay in response to stakeholder concerns. The occupancy

monitoring will further inform the parking management at Thorndon Quay and it is proposed to re-visit this report in 12 months' time.

Critical success factor outcomes

The following were the critical success factors that informed the options development for this project.

1. Demonstrate tangible improvements for public transport, pedestrians, and cyclists within the 2018-21/2021-24 NLTP periods.

2. Limit the impact of implementation on businesses located on Thorndon Quay and Hutt Road.

3. Positive economic impact on businesses on Thorndon Quay and Hutt Road.

4. Stakeholders and public feel that they have had the opportunity to contribute and understand the rationale for the recommended programme.

The evidence to date indicates:

Better public transport and active mode infrastructure

It is too soon to confirm outcomes, but initial evidence suggests the intended outcomes have largely been met. More monitoring is needed to confirm initial findings and safety outcomes.

Implementation impacts managed

During the upgrade, every effort was made to adjust road flow and provide signage to meet customer and commuter needs.

Economic benefits to Thorndon Quay and Hutt Road

The investment is intended to meet growing demand for public transport, walking and cycling in alignment with the Council's transport priority to "Transform our transport system to move more people with fewer vehicles". The full realisation of benefits is expected to take more time. The development of Thorndon Quay and Hutt Road as a pedestrian realm will also require further construction of high-density residential housing around the Thorndon suburb, and potentially an expansion of commercial capacity nearby.

Consultation with affected parties

The consultation has been challenged by stakeholders via petition and in the courts where the significant events were:

1. Accountability documents
   A series of approved documents including the design, business case and traffic resolution are available on the Council website.

2. Petition requesting a stay of works
A petition with nearly 2,000 signatures was presented to the Council, requesting a pause in the Thorndon Quay revamp to allow for an independent review of the water pipes beneath the road.

3. Court of Appeal findings
A group of Thorndon Quay stakeholders requested a judicial review of the decision-making process on the removal of angle parking and the Court of Appeal found in their favour, although the court did not force the reinstatement of the removed parks. This forced a review of process within the Council:

- In February 2025 the Thorndon Quay Collective Incorporated ("TQC") successfully secured a declaration that Wellington City Council ("WCC") failed to properly consider all reasonable options when making a decision to reconfigure angle parking to parallel parking on Thorndon Quay, as required by the Local Government Act 2002 ("LGA").

- The Court of Appeal granted TQC a declaration that the Council's decision-making processes did not comply with its obligations under section 77. However, it declined to formally quash the decision or order the reinstatement of angled parking due to:

The decision being intended as an interim measure. As part of the Let's Get Wellington Moving initiative, a two-way cycle lane is to be constructed, which would require removal of the angled parking. Note that the change from angle parking to parallel parking was in response to an NZTA audit that recommended their removal.

The evidence before the court showed safety concerns. It would not have been appropriate for the court to order the Council to take steps that would potentially put the safety of cyclists at risk.

Summary

This report uses traffic monitors and EFTPOS sales data to measure changes on travel, safety, parking and economic activity along Thorndon Quay and Aotea Quay, pre- and post-road layout changes.

This interim monitoring work indicates the road upgrades have largely achieved their throughput and indicative safety goals for road users. However, this has been at the expense of slower throughput, reduced road segment capacity and reduced public car park capacity.

Due to the short timeframe since works were completed, the results are interim and are impacted by current economic conditions. The full impact on safety requires a sufficiently long time to establish a new baseline of accidents, where historic experience suggests at least two years will be needed before an evaluation of the cause and effect on safety is statistically robust. The cycleway volumes have grown by 6%/annum but a full analysis is deferred until after the feeder route from Petone to the city has been completed.

Consumer spend is reported for a sample of continuously trading merchants along Thorndon Quay using publicly available information from MarketView. When seasonal variation is removed it is clear that spend for Thorndon Quay merchants in our sample has declined relative to the city benchmark. However, it is unclear whether that is caused by road layout changes, the recession and general economic conditions or other factors such as car park removal. Comparison to Capital Gateway (which has private car parks) suggest the decline in spend is most likely due to the works.

Public car park spaces have been reduced by 60% and the parking designation limited to P120. Initial analysis indicates the current number of car parks are meeting demand, but occupancy can approach 80% during the peak which is close to the internationally recognised 'trigger' level of 85% at which policy interventions are investigated to reduce demand. Further monitoring and enforcement is proposed to change behaviours so that users comply with the parking limit designations and the long-stay users park elsewhere.

Further monitoring is required to assess safety, road throughput and economic change as the road network, and the precinct evolves, driven by economic and social demand.

Appendices

Appendix 1: Methodology to monitor retail spend

EFTPOS spend trends

The market for EFTPOS network providers is highly competitive, especially in the current environment. Therefore, shifts in market share between EFTPOS network providers are managed in this analysis using a set of 'continuously trading' merchants who are trading over the analysis window. This 'continuously trading' group does not measure churn among the merchant group, but it does ensure consistency of the market that is sampled so that underlying market trends are observed. Issues of note are:

How retail spend is monitored

- EFTPOS spend data comes from Marketview.
- Marketview 'samples' approximately 70% of the national EFTPOS market, but the share can be variable at the route and precinct level. Fuel merchants are excluded since it is an essential item whose price is highly variable which may distort spend trends.
- Merchants are grouped to a route that is likely to be impacted by works.
- Confidentiality is achieved by including at least five merchants and averaging spend.
- Precinct spend is compared to a benchmark that reflects city-wide trends driven by seasonality, weather, events and wider economic trends such as the recession, job insecurity and high interest rates.

Benchmark comparison

Benchmark data sets are used to identify spend trends that impact wide areas of the city to account for seasonality, weather, festivals, events and wider economic trends impacting everyone. Spend data is also adjusted to reflect the impact of inflation.

Market observations

1. The city has a seasonal spend trend which peaks at Christmas and declines during January as residents leave on holiday. Spend is higher in summer versus winter and events stimulate spend (i.e. World of Wearable Arts in October).

2. Suburban spend in the medium-term has been more stable than the central city.

3. Central city spend and has been impacted by multiple factors including working from home, high interest rates, and job insecurity arising from public sector layoffs.

Merchant selection

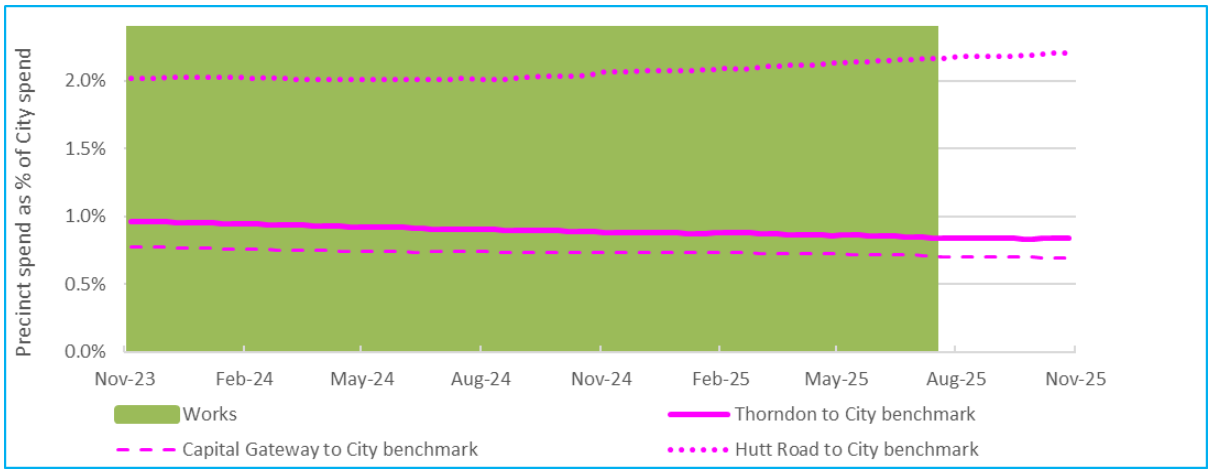
The spend data has been taken from merchants who are 'continuously trading' through the analysis period. This has the benefit of avoiding the impact of churn (merchants starting up, closing down or leaving the EFTPOS vendor) which could introduce an 'artefact' to the analysis suggesting that the

market was trending either down or up when it simply reflects merchant decisions to switch EFTPOS provider.

In summary, while the dataset is currently the best commercially available, it is sampled and subject to limitations from churn as market share of the provider shifts in response to trading conditions. Using 'continuously trading merchants' is considered the most robust method to handle the econometric challenges.

Appendix 2: Recently released spend data

Thorndon Quay plus adjacent precinct spend as a ratio to benchmark (smoothed)



Observations

The latest data to November 2025 suggests that recent trends have continued:

1. Thorndon Quay and Capital Quay spend has continued to stabilise as disruption caused by the works has ceased.

2. Hutt Road merchant spend continues to rise.

In conclusion further monitoring is needed to observe the future trajectory of consumer spend in Thorndon Quay that was subject to works disruption and road layout changes.

Appendix 3: Sampling statistics

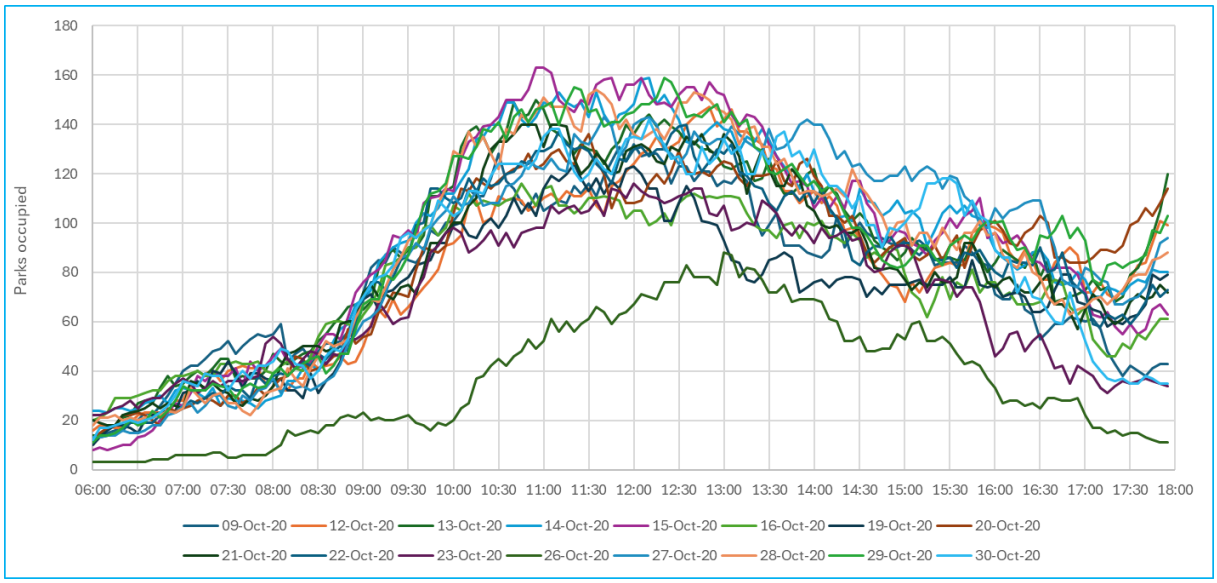
Objective

This section documents the issues of monitoring and managing the occupancy of parking spaces.

Historic data statistics

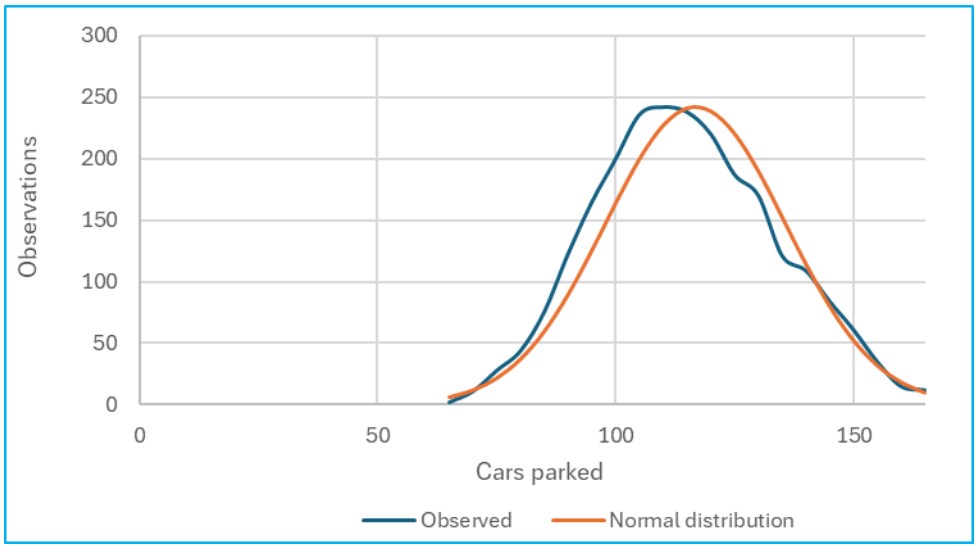
In 2016 Wellington City Council (WCC) installed a 'pay by space' parking system that continuously monitored occupancy and turnover. That system was replaced by a 'pay by plate' system in 2024 that requires external sampling, currently delivered using a 'floating car' with a video camera using with 30 minute or 60-minute sampling to measure occupancy.

The following chart is taken from the historic 'pay by space' system that measures the variation in weekday parking demand from 9 October to 30 October and includes Labour Day (26 October), where 239 parks were available at the time:



As observed, the variation between the maximum and minimum between working days can be +/-30 cars at the peak (11am to 1pm) and there is sometimes variability between the morning and afternoon.

The following chart compares the historic demand (September/October 2020) versus a normal distribution generated using the same average and standard deviation (STDdev) where 239 parks were available at the time:



As observed, the historic demand is close to a normal distribution, although the historic distribution has more observations at the low end presumably brought about by bad weather or other disturbances to trade. Importantly this historic demand is not affected by capacity constraints at the upper end. Post works it is expected that occupancy will be impacted by capacity constraints since the capacity lies underneath the historic demand.

Therefore the standard error (STDerr below) has been estimated using normal statistical methods.

Uncertainty estimates from sampling

The average or mean of a sample is given by:

Average = ($\sum_{1..N}$ sample$_n$) / N

The standard error of the average is given by:

STDerr = STDdev(sample) / $\sqrt{N}$

The uncertainty at various levels of confidence for a normally distributed set of observations are:

Uncertainty@x% = z_score * STDerr

Estimated example

Indicative levels of uncertainty are given for sampling data at 11am during the weekdays using the historic data (September/October 2020):

Average$_{11:00}$ = 126 cars

STDdev$_{11:00}$ = 18 cars

Sample number	Confidence@95% (z score of 1.96)	Calculation
5	15.4	1.96 * 18 / $\sqrt{5}$

10	10.9	$1.96 * 18 / \sqrt{10}$
20	7.9	$1.96 * 18 / \sqrt{20}$

Therefore the quoted estimate for the 11am hour of occupancy using 10 samples is:

126 +/-11 cars

NOTE: these samples could be collected by sampling on the hour over 10 days or sampled every 30minutes over five days assuming normal conditions. However, issues impacting user demand such as the weather, holidays, sales incentives etc need to be factored in to a sampling strategy.

User acceptability of this result will determine the number of samples required in the future, either by changing the frequency of the sampling or the duration used to collect the samples. The results for each hour of the day will follow a similar pattern with the average and the standard deviation for each hour.

Estimates for alternative sampling and confidence levels

The following table summarises the uncertainty in the mean (or average) for the Thorndon Quay weekday example (using a standard deviation of 10%), depending on the number of samples available:

Samples provided	'Error' in mean @ 95% level of certainty (z score of 1.96)	'Error' in mean @ 80% level of certainty (z score of 1.282)
5	8%	5%
10	5%	3%
20	4%	2%

As observed, the user can improve the estimate of 'error' in the mean by supplying more samples. To provide an estimate of the occupancy at 11am, this can be achieved by sampling more frequently (i.e. 30-minute samples) or hourly samples over a longer timeframe. If a level of uncertainty for the average occupancy value of +/-5% (@ 95% certainty), then 10 samples are needed, or at (@ 80% certainty) then five samples are needed.

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