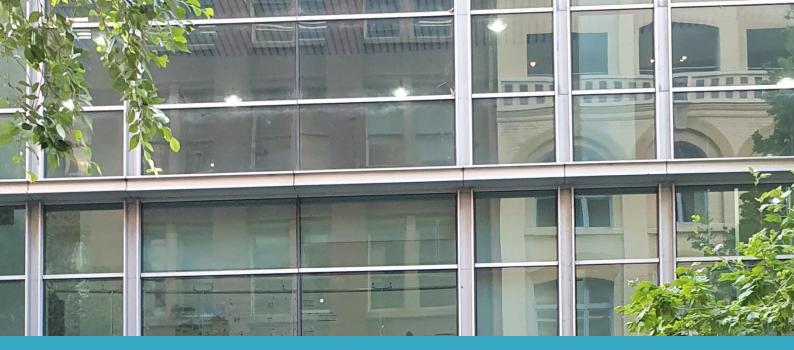
Attachment A12

Pedestrian Comfort Assessment



383 Kent Street: Pedestrian Comfort Assessment

Reference: 015-C 383KSPCA

FINAL 21.07.2023



Executive Summary

This Pedestrian Comfort Assessment (PCA) Report has been prepared by Movissian in support of a Planning Proposal to amend the Sydney Local Environmental Plan 2012 (Sydney LEP). This report has been prepared on behalf of Charter Hall Holdings Pty Ltd (Charter Hall) (the Proponent) and it relates to a single development lot identified as Lot 1 in DP 778342 or 383 Kent Street, Sydney (the site).

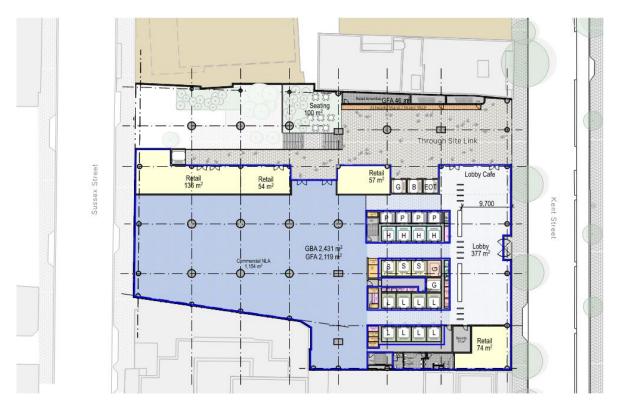


Figure 1 383 Kent Street - street interface

The PCA has followed TfNSW's Walking Space Guide which is a requirement of the City of Sydney Guidelines for Site Specific Planning Proposals. The assessment has looked at four scenarios:

- 1. 2022 Existing: Existing (post covid) conditions based on recorded observations and data. This sets the baseline for analysis.
- 2. 2042 Existing Development, Future Background Flows: Future 2042 Performance including background growth due to employment (@0.4% per annum). This sets the baseline for future analysis.
- 3. 2022 Future Development, Existing Background Flows: A new 65,110m² NLA (~75,021m² of GFA) development in operation as of 2022 with existing background flows. This assumes a similar occupancy/profile as of 2022.
- 4. 2042 Future Development, Future Background Flows: Future 2042 Performance including background growth due to employment and the *net* impact of the future development at 383 Kent Street. This assumes a proxy return to pre-covid behaviours.

A pedestrian survey was undertaken to derive Street Type classifications. The results indicated that the west side of Kent Street should be classified at the low end of a Street Type 4, whereas the east side is classified as a Street Type 3. The Street Type 4 band relates to a pedestrian peak hour volume between 400 p/hr and 2000 p/hr. The results across scenario 1-3 are the same as the volumes are estimated to stay within this range. Only in Scenario 4, which assumes a higher

return to the city akin to pre-covid behaviours does the southern-west side of Kent Street move into a Type 5 classification.

The review shows:

- The east side of Kent Street has a modal performance of Level of Service C, but does narrow in places around trees/furniture that create the Walking Space metric of Level of Service D-E.
- The west side of Kent Street and the east side of Sussex Street are both expected to be largely unchanged and can both meet a Level of Service C criteria under the Walking Space Guidelines.
- The 383 Kent Street property itself has very few obstructions and fronts to parked cars along the length of the title boundary. As such, for all scenarios, Level of Service C can be provided if 3.7m of width is maintained and assumes parked vehicles are retained (or even better, the parking lane is returned to pedestrians). The reference design maintains this width along the frontage of Kent Street.
- It is noted that several localised areas along the western pavement between Market and King streets narrow due to trees, poles, a phone booth, parking meters, benches and a bus stop. The Walking Space analysis indicates these localised points are considered Level of Service F – even at existing demand levels. This holds true for Scenarios 2 and 3. The Walking Guide indicates that, to achieve Level of Service C, a clear channel (excluding the obstructions and recognising areas adjacent to moving vehicles) of 3.7m. The total width of the pavement is approximately 3.7m.
- For the future Scenario 4, where behaviours are moving towards to 2019 levels, the south-west side (south of 383 Kent Street) is estimated to be within a Type 5 classification, and therefore puts pressure on pavement widths and the ability to maintain the bus stop at the existing location.

Recommendations to improve pinch-point areas in the short term include:

- Removal of Telstra cabinet (responsibility of the City of Sydney)
- Removal of parking meter directly outside of 383 Kent Street (responsibility of City of Sydney). If this is achieved, and the development maintains the 3.7m outside, then LoS C can be achieved. Two localised reductions in width will still be evident at the two tree locations outside of the development but the value of the trees (shade and urban amenity) should outweigh the reduction in Level of Service.
- Static survey around the public bench (location #4) at the north-west of Kent Street to understand usage and whether this is better placed elsewhere (CoS). This is recommended on the basis that observations showed little usage of the bench, and its adjacency to both the signalised intersection and moving traffic would indicate extra width in this location would offer better value for pedestrians.
- Review of the lamp post/traffic signal pole at the South-East corner of Kent/King (responsibility of the City of Sydney). Existing observations showed this to be a pinch-point – and likely to be a constraints/compromise as a result of the inclusion of the cycle lane.

Recommendations to improve walking performance as volumes, arrival/departure profile and occupancy trend towards Scenario #4:

- Removal of parked vehicles and extend the footpath all the way to Market/Kent intersection (responsibility of the City of Sydney).
- Consider moving the bus stop to an indent just further north of 383 Kent Street (i.e. to approximately where the parked motor bikes are currently located). (responsibility of TfNSW/CoS)
- Encourage greater usage of both sides of Kent Street by usage of a zebra crossing which
 is likely to be needed to aid the cross city through links. (responsibility of City of Sydney
 /TfNSW). This shares arrival / departure demand across both sides of the street.

Recommendations for the next stage of the development design include:

Review of the quantum and placement of the entrance portals to the building. There may be better opportunities to have the main 'postal address' revolving door as shown, but with a secondary, larger entrance (potentially sliding doors subject to wind impacts) for staff movements in/out of the laneway as well as one within the noted 'retail' outlet at the south. This will be dependent on speedstile locations and hence lift core, so can be reviewed during the subsequent design competition stage.

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Appendix

A: Footpath Measurements

B: Pedestrian Counts

1 Introduction

This Pedestrian Comfort Assessment Report has been prepared by Movissian in support of a Planning Proposal to amend the Sydney Local Environmental Plan 2012 (Sydney LEP). This report has been prepared on behalf of Charter Hall Holdings Pty Ltd (Charter Hall) (the Proponent) and it relates to a single development lot identified as Lot 1 in DP 778342 or 383 Kent Street, Sydney (the site).



Figure 2 Aerial Map [Source: Nearmap, edits by Ethos Urban]

The purpose of this Planning Proposal is to amend the site's maximum Height of Building development standard and maximum Floor Space Ratio (FSR) development standard to unlock additional floor space to be used exclusively for employment generating land uses, consistent with the vision and intent of the Central Sydney Planning Strategy (CSPS) for tower cluster sites. This Planning Proposal will also seek to facilitate significant public benefits through additional site activation by way of a new pedestrian through-site link, shared loading dock facility and delivering on sustainable initiatives to contribute to the City of Sydney's vision to achieve net zero energy buildings.

The proposed Sydney LEP amendment is part of the broader redevelopment plan for the site to demolish the existing structure on the site (including the existing 10 storey car park), and construct a new 42 storey commercial office tower with a total GFA of approximately 75,021m².

1.1 Indicative Reference Scheme Overview

The reference scheme supporting the Planning Proposal and site specific DCP can be described as follows:

- Demolition of the existing building, including removal of the over 800 capacity public car park.
- Construction of the following:
 - New 42-storey office tower comprising a total GFA of 75,021m², up to a height of RL 189.60 (approximately 170m above Kent Street and 180m above Sussex Street).

- New premium-grade commercial floorspace totalling 71,497m² of GFA.
- New through-site link connecting Kent and Sussex Streets, including public art activation.
- New ground floor activation opportunities, including 640m² of retail GFA.
- 2 levels of basement, comprising:
 - Basement Level 1 facilitating 70 car parking spaces; and
 - Sussex Street ground level shared loading dock facility including SRV and MRV short term stay bays to service retail tenancies within buildings along Kent Street (located between Market Street and King Street).
- New end of trip facilities below the Kent Street ground level comprising 1,976m² GFA.

The reference design drawing below shows the main entry into 383 Kent Street as well as the interface to Sussex Street.

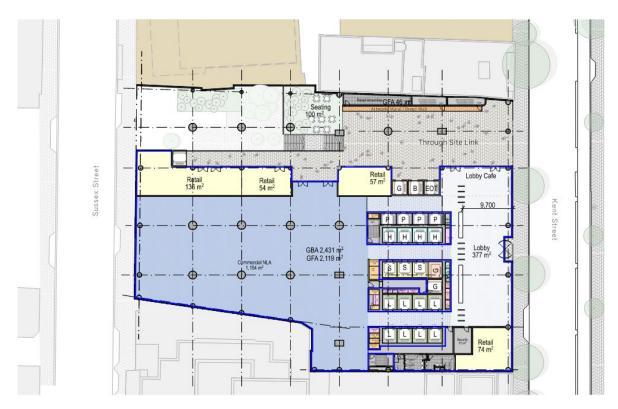


Figure 3 383 Kent Street – street interface

1.2 Pedestrian Comfort Assessment Analysis

The analysis has focussed on a] both sides of Kent Street as well b] the two adjacent intersections north and south. The review has also considered the movements along Sussex Street. The analysis provides TfNSW and CoS considerations of action for the future that are in their direct control and informs Charter Hall on the parameters and opportunities to improve pedestrian amenity around the development in their control.

The assessment has followed the Walking Space Guide framework. The Walking Space Guide has been complimented by the following:

- Site visit and observations
- A walking journey assessment from key transport modes of arrival
- Survey of pedestrian activity for both AM and PM peaks along footpaths and at the two intersections (Market/Kent and King/Kent)
- A count of movements into/out of 383 Kent Street to provide a post-covid arrival / departure profile for the existing tenants
- A review of the 2016 Census data for the specific DZN in which the development sits and provide a high-level assessment of the impact of Metro West.
- A review of the transport trips within Sydney in 2019 compared with 2022 (to provide a Covid adjustment)
- A review of the intersections of Market/Kent and King/Kent to understand the ability for the reservoir spaces to absorb the additional demand

The combination of data sources as well as the observations of behaviour on-site have informed the recommendations of the study.

2 Study Area

2.1 Context

The building of 383 Kent Street sits between King Street to the north and Market Street to the south. The main entry of the building is via Kent Street, although there is an opportunity to enter the building from Sussex Street. The proposed development increases the NLA from just under 18,000m² of NLA¹ to approximately ~65,110m² of NLA (based on ~75,021m² of GFA). The dotted area in red has been used to define the study area.



Figure 4: Study area denoted by red dotted line

2.2 Existing & Future Arrival Modes

The opportunities to access 383 Kent Street using mass transit modes are excellent. Figure 5 shows the relationship between the site and the surrounding transit nodes. Not only is the building located within easy reach of these nodes, but most of the walking routes to/from these transit hubs are in highly pedestrianised environments (e.g., Pyrmont Metro via the bridge, Martin Place via the existing streetscape network, Town Hall/Pitt St stations via underground connections or George Street pedestrianised shareway). The ambition for the site should therefore be to encourage a high public transport access strategy.

The routes also indicate that Kent Street is the primary arrival point. There are opportunities to transfer from the extended Pyrmont Bridge to the new Sussex Place (as part of the Cockle Bay Wharf redevelopment), but that would require a grade change down to Sussex Place, only to rise again within the development. Kent Street is therefore considered the most welcoming address for staff and visitors with any vehicular modes will accessed via Sussex Street.

The study investigated the time to walk from each of the key points of arrival to 383 Kent Street. The times for each are presented in the Table 1. The interesting finding was that the timing from Town Hall Station was longer than Wynyard Station and (future) Pyrmont Station. The timing was influenced by the number of intersections required to be crossed. The quickest journey was from Wynyard Station – primarily because of the movement via the partial Kent Street Tunnel and the

¹ Sale of 383 Kent Street Sydney | Dexus

efficiency of moving either south or west at a signalised intersection which minimises waiting time.

The introduction of the new Pyrmont Station provides an efficient and largely pedestrianised walking environment. It would imply that almost all people that have the opportunity to access the new Metro station once completed would shift from using Town Hall Station as the primary arrival point (e.g., all those travelling from Paramatta). However, in terms of the PCA study, the introduction of Metro West does not influence or change movement patterns significantly. If the development was much further north then a shift to Hunter Street Station away from Town Hall Station would influence the directional approach to the building.



Figure 5: 383 Kent Street and routes to major transport nodes (map source: DCP), and Mode Shares

| Station | Time from station (ticket line) to 383 Kent Street |
|----------------------|--|
| Pyrmont Station | 9 mins 5 seconds |
| r yrmont station | 3 mins 3 seconds |
| Wynyard Station | 7 mins 20 seconds |
| | |
| Martin Place (Metro) | 7 mins 45 seconds |
| | |
| Town Hall Station | 10 mins 45 seconds |

Table 1: Timing from key station locations

Existing mode shares were also examined by analysing 2016 Census data (2021 data being compromised by abnormal behaviours during Covid). The data shows over 55% of people accessed the site by rail and 23% of people used Bus (or now LR). Cycling is noted as only 1% for the zone. The development will provide 500 bike spaces (7.5% of building occupancy), so contributes to the opportunity for greater use of sustainable modes of travel.

3 Approach to the Pedestrian Comfort Assessment (PCA)

A four-step approach for the PCA follows the recommendations set out in the "Walking Space Guide: Towards Pedestrian Comfort and Safety". ² The following sections outline each of these steps in detail.

3.1 Step 1: Select and Assess the Site

A site visit was undertaken on 23rd and 24th November 2022 with a subsequent pedestrian survey undertaken on Tuesday 29th November. The site visit provided the opportunity to review behaviours during the AM, Midday and PM periods. The observations were able to answer the following questions posed within the Walking Space Guide.

| Walking Guide Prompt Questions | Response |
|--|---|
| Is the footpath now (or likely to become) a walking route to or from a transport stop (bus or light rail stop or train station)? | The footpath currently contains a bus stop to the south of the development. However, this bus stop is not a major stop with high volumes (either alighting or boarding). For rail, Metro West does not provide a significant change of walking route as the introduction of Pyrmont Station does not significantly alter the southern approach to the building. |
| Does it connect major destinations? | No. The major connections would be Pyrmont Bridge to George Street, or along the Sydney Walking 'Ribbon'. Kent Street (between Market and King Streets) is not considered part of a connection between major destinations. |
| Are there any locations with high numbers of people waiting (static activity) that may require a static activity survey? | No. There is a bus stop close by, but the volumes observed waiting were low. A café is located opposite the development on the east side of Kent Street. Again, volumes were low and not considered high enough to require a static activity survey. [see observations] |
| Are there any other issues about pedestrian activity and behaviours that may be relevant? | The area does not have many high-volume commercial developments (383 Kent Street and 2 Market Street are the only major offices in the study area). There are no major retail outlets, major restaurants, or other attractions to drive movement or waiting behaviour. |

Table 2: Walking Guide Questions

Observations

The busiest time of the day for the west side of the street was during the AM peak. Approximately 40-45% of all Northbound or Southbound movements were travelling to 383 Kent Street. The east pavement observations were very similar during both AM and PM peaks and observed to be lower during the midday. The PM peak generally showed a flatter departure profile, and this is reflected in the PM pedestrian counts. Midday was relatively quiet – mainly because the footpath is not part of a major connection to shopping/lunch destinations. The west side of Kent Street (where the development sits) was busier than the east side. But this was largely driven by the commercial offices of 383 Kent Street and 2 Market Street. The survey counts were therefore focussed on the AM and PM peak periods.

Passengers were seen waiting and alighting buses at the nearby bus stop. Observations (and filming at this location) showed negligible impediment to movement because of the alighting or waiting behaviour. During the AM peak, waiting was negligible. During the PM period, the adjacent food outlet removed the outdoor furniture and an additional circulation width is provided by the 2 Market Street development (see Figure 6). The area could be improved during

2

² Walking Space Guide (nsw.gov.au)

the AM peak by removing (or finding an alternative placement) of the Cali Press retail advertising board.

The café across the road to the development was seen as being active, but not especially busy. People were seen crossing the road away from the intersection to get to the café.

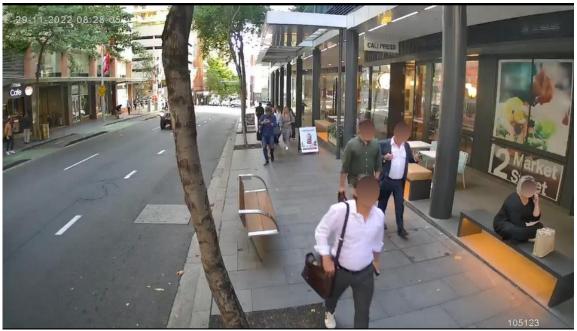


Figure 6: Bus Stop, west side of Kent Street, looking south, 29th November 2022 AM Peak (08:28)

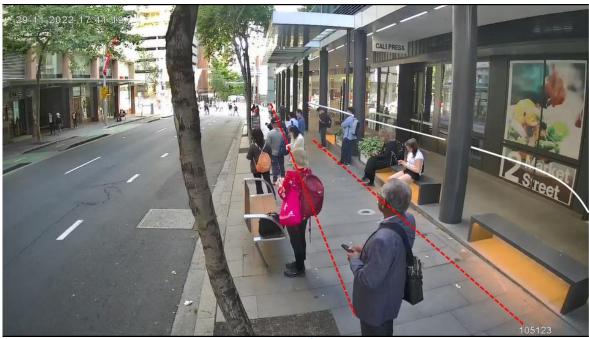


Figure 7: Bus Stop, west side of Kent Street, looking south, 29th November 2022 PM Peak (17:41)

Footpath Dimensions for Assessment

Measurements were taken along both sides of Kent Street. Measurements were taken periodically to test overall width and were taken where any obstruction was observed. Each location (locations labelled A-T) and measurement have been provided within the Appendix. Nine key locations (labelled 1-9) were then taken forward for assessment. These are provided in Figure 8. These locations are the main pinch points along each side of the road and are not reflective of the generic modal width of the full street length. For the east side, the general (or modal) width available is approximately 2.7m-2.9m, with a maximum of 3.6m. A dedicated bike lane is adjacent to the footpath. For the west side the general mode of available width is similar, and the maximum width was measured as just over 3.7m. The difference on the west side is that a portion of the street has parked vehicles, removing the Kerb Side Traffic buffer, and a portion of the street has free flowing traffic within a 40km/hr zone.

The diagram also shows placement of parked vehicles (cars/bikes) and the location of the bus stop. The development is located within a 40km/hr CBD traffic zone.

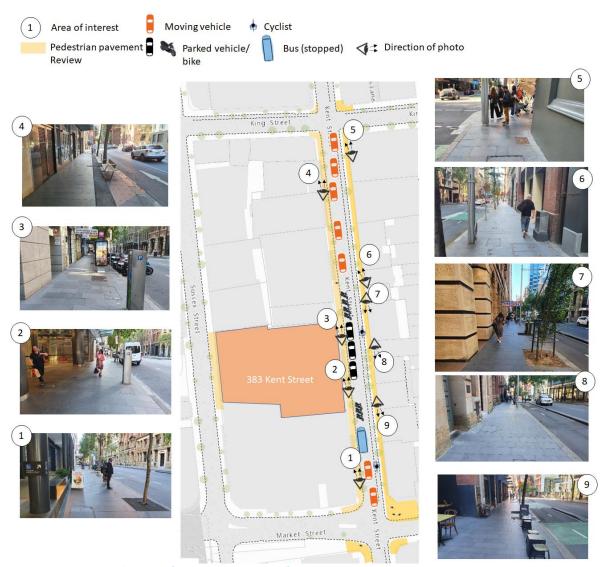


Figure 8: The nine key locations for the Pedestrian Comfort Assessment

Pedestrian Counts

The pedestrian survey counts were undertaken on 29th November for both sides of Kent Street, the two intersections (King and Market) as well as directly outside of 383 Kent Street to assess movement in and out of the existing building. The numbers entering and exiting the existing 383 Kent Street building were then used to adjust for volumes on the west side pavement (i.e. locations 1, 3, and 4).

The peak hour counts for both sides of Kent Street (including those entering and exiting 383 Kent Street) are given in the tables below. The west side shows a higher volume during the AM peak. The east side is slightly higher in the PM, but not significantly and demonstrates a more even split.

There is a dominance from the south during the AM peak – reflecting movement from Town Hall Station and Light Rail stops. This is reversed in the PM.

| Time Period | | West side of Kent Street | | | | | | | | | |
|-------------|----|--------------------------|-------------|-------------|--------------|-------|---|---|-------|-------|-------|
| | | Left IN | Left OUT | Right IN | Right OUT | Total | NB Incl 383KS, North of 383 KS | SB Incl 383KS, North of 383 KS | Total | Grand | |
| 8:10 | to | 9:10 | 284 | 59 | 97 | 49 | 489 | 415 | 229 | 644 | 1,133 |
| 17:00 | to | 18:00 | 18 | 70 | 3 | 211 | 302 | 249 | 338 | 587 | 889 |

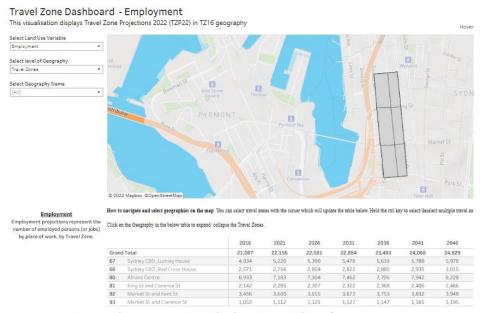
Table 3: Pedestrian Counts, west side of Kent Street, peak hour, 29th November 2022

| and Total | t Street | ide of Ken | East s | Time Period | | | | | |
|-----------|----------|------------|--------|-------------|----|-------|--|--|--|
| Grai | Total | SB | NB | | | | | | |
| 324 | 324 | 115 | 209 | 9:00 | to | 8:00 | | | |
| 357 | 357 | 170 | 187 | 18:00 | to | 17:00 | | | |

Table 4: Pedestrian Counts, east side of Kent Street, peak hour, 29th November 2022

Background Flow uplift

The TfNSW Travel Zone explorer was utilised to estimate the uplift to background flows up to 2042. Six travel zones either side of Kent Street were used as a proxy for movement through the study area. This provided a per annum uplift factor of 0.4%. This is relatively low for Sydney CBD, and likely to reflect this specific corridor.



 $\textbf{Figure 9: Employment forecasts to aid uplift of background flows} \ \ \underline{[\textit{Source: } \underline{\textbf{Travel Zone Explorer - Visualisation} \mid \underline{\textbf{Transport for NSW}}]}$

3.2 Step 2: Classify Footpath Types

The pedestrian survey was undertaken for both the AM (3hrs) and PM (2hrs) peaks. These were the two peaks observed to have the greatest movement activity. The peak hour demand for both AM and PM were then utilised for the analysis. Note the demand values includes the existing patrons of 383 Kent Street. The approach used for the 'Footpath Type' is based on the peak hour flows as outlined in the Walking Space Guide (using Table 2A, Page 22 of 58). Table 5 shows the resultant classifications.

| Location# | Location Description | Peak Hour Flows | Footpath Type |
|----------------|--|--------------------------|--|
| (see Figure 8) | | (Based on observed data) | (Based on Table 2A of the Walking Guide) |
| 1 | Bus Stop, west side | 821 | Type 4 |
| 2 | Between Parking Meter and 383 KS property Line, west Side | 537 | Type 4 |
| 3 | At Telstra Phonebooth, west side | 644 | Type4 |
| 4 | At bench, west side | 644 | Type 4 |
| 5 | At intersection (SE of Kent/King) between lamp post and wall, east side | 357 | Type 3 |
| 6 | Between signal box and lamp post, east side | 357 | Туре 3 |
| 7 | Between newly planted tree and building edge, east side | 357 | Type 3 |
| 8 | At widest part of east side of Kent Street, east side – directly opposite 383 Kent Street | 357 | Type 3 |
| 9 | In between furniture, east side | 357 | Туре 3 |

Table 5: Footpath Classifications

The table shows the east footpath (locations 1-4) have the highest volumes and are classified as 'Type 4'. Locations on the east of Kent Street are classified at the high end of Type 3.

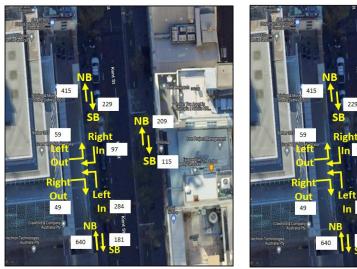


Figure 10: Peak hour flows during AM (left) and PM (right) periods, Nov 2022

3.3 Step 3: Determine the Walking Space

An assessment was undertaken to determine the Walking Space used to then define the Level of Service. The Walking Space was calculated based on the overall footpath width minus:

- <u>Kerbside Traffic Buffer</u>: The development is situated in a 40km/hr CBD Traffic area. A kerbside buffer of 1.2m is therefore applicable at certain locations.
- <u>Width of obstructions:</u> The available pavement width at key locations is provided in the appendix.
- <u>Any Static Activity:</u> Whilst a bus stop is placed south of the development, a static assessment was not undertaken given low volumes.
- <u>Active Edges:</u> not applicable as there are no significant active edges along either side of Kent Street.

The resultant walking space for each of the nine locations is given in Table 6.

| Location# | Walking Space | Adjustment | Comment |
|-----------|---------------|------------|--|
| | (unadjusted) | | |
| 1 | 2400mm | None. | Note, the retail board (see Appendix, Location B), is a temporary board, and therefore for the purposes of this assessment is assumed to be able to be relocated easily. The measurement does however consider waiting passengers. |
| 2 | 2531mm | None | Opportunity to utilise full width of pavement if meter is removed given parked vehicles |
| 3 | 2092mm | -200mm | Buffer for the physical obstruction of the advertising |
| 4 | 2537mm | -500mm | For people waiting (although no one observed to sit at this bench) |
| 5 | 1983mm | None | Based on 'Individual Posts', page 40 of the Walking Guide |
| 6 | 2290mm | None | Based on 'Individual Posts', page 40 of the Walking Guide |
| 7 | 1896mm | None | This has the opportunity to increase in width as the tree matures and the protective cage could be removed. |
| 8 | 3510mm | None | Adjacent to bike lane, not a vehicular lane |
| 9 | 2400mm | None | Lane in between furniture. |

Table 6: Walking Space with adjustments and comments

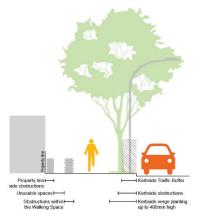


Figure 11: Walking Space were derived based on the intent provided within the Walking Space Guide.

3.4 Step 4: Assessment

The following scenarios have been assessed:

- 1. **2022 Existing**: Existing (post covid) conditions based on recorded observations and data. This sets the baseline for analysis.
- 2. **2042 Existing Development, Future Background Flows**: Future 2042 Performance including background growth due to employment (@0.4% per annum). This sets the baseline for future analysis.
- 3. **2022** Future Development, Existing Background Flows: A new ~65,110m² NLA (~75,021m² of GFA) development in operation as of 2022 with existing background flows. This assumes a similar occupancy/profile as of 2022.
- 4. **2042 Future Development, Future Background Flows**: Future 2042 Performance including background growth due to employment and the *net* impact of the development at 383 Kent Street. This assumes a proxy return to pre-covid behaviours, but still reflects a shift to a more flexible arrival profile than is evident today.

1. Existing Conditions

The assessment of the walking types (Types 3 & 4) indicates that the target Walking Space to meet the Walking Space Guide LoS C criteria is 3.7m for Type 4 and 3m for Type 3 (excluding Kerbside Traffic Buffers). Type 4 is triggered if the peak hour volumes range from 400-2000 per hour. On a per minute basis this is estimated to equate to 8 people per minute through to 40 people per minute. This range of flow rate would traditionally be described as being Fruin LoS A Walkways through to Fruin LoS C Walkways and would indicate a significant range. The impact and physical characteristics of a flow of 40 people per minute is very different to that of 8 people per minute. The London TfL Pedestrian Comfort Levels (PCL) of 9-11 people per metre per minute or PCL B+ would be considered to be a desirable comfort level.

The inclusion of trees and other obstructions noted in Table 6 show that the Walking Space is reduced from the maximum footpath width of 3.7m, to widths ranging from ~2.0m through to ~3.5m. The generic modal width along each footpath is 2.7m-2.9m.

The analysis process of the Walking Guide indicates that, at the assessment points, the current existing conditions of the pavement LoS along the eastern side of Kent Street are all **Level of Service F – "intervention triggers".** This is because the Walking Space Guide recommends a Type 4 street to have a target width of 3.7m to meet the Level of Service C and a Level of Service F is triggered for walking space less than 2.7m. The full widths of the pavements are approximately 3.7m and 3.5 metres for the west and east sides of Kent Street respectively. This analysis indicates that the Walking Guide Level of Service target metric can only be met on the eastern side if all furniture is removed (and some considerations of a buffer for the bike lane). The Walking Space performance metric can only be met on the western side if a traffic lane is removed (and this cannot be achieved at the northern part of the street). This is for existing conditions. This feels at odds with existing observations and footage which does not show the need for LoS F intervention triggers – even at the assessment points.

For the majority of the footpaths, (i.e. the modal widths), the performance based on the Walking Space Guide would be LoS E on the west where parked cars are evident, and LoS C on the east side.

| LocM5+A 5:M14 | Location Description | Observed Peak Hour flow rate | Observed Peak 5 minute Flow | Footpath Type | Active Building Edge | PPMM (Walking Guide = Observed Pk hr/60) | Walking Space | LOS - Walking Guide | Flow rate (based on observed peak 5mins) | LOS - Fruin Walkways |
|------------------|--|---------------------------------|--------------------------------|------------------|-------------------------|--|------------------|---------------------------|--|----------------------------|
| 1 | Bus Stop, west side | 821 | 100 | 4 | Not Adjacent | 5.7 | 2.40 | F | 8.3 | Α |
| 2 | Between Parking Meter and 383 KS property Line, west Side | 537 | 70 | 4 | Not Adjacent | 3.5 | 2.53 | F | 5.5 | Α |
| 3 | At Telstra Phonebooth, west side | 644 | 85 | 4 | Not Adjacent | 5.7 | 1.89 | F | 9.0 | Α |
| 4 | At bench, west side | 644 | 85 | 4 | Not Adjacent | 5.3 | 2.04 | F | 8.3 | Α |
| 5 | At intersection (SE of Kent/King) between lamp post and wall, east side | 357 | 56 | 3 | Not Adjacent | 3.0 | 1.98 | F | 5.6 | Α |
| 6 | Between signal box and lamp post, east side | 357 | 56 | 3 | Not Adjacent | 2.6 | 2.29 | E | 4.9 | Α |
| 7 | Between newly planted tree and building edge, east side | 357 | 56 | 3 | Not Adjacent | 3.1 | 1.90 | F | 5.9 | Α |
| 8 | At widest part of east side of Kent Street, east side – directly opposite 383 Kent Street | 357 | 56 | 3 | Not Adjacent | 1.7 | 3.51 | Α | 3.2 | Α |
| 9 | In between furniture, east side | 357 | 49.98 | 3 | Not Adjacent | 2.5 | 2.40 | D | 4.2 | Α |

Figure 12: Walking Space Guide Level of Service Assessment, Existing Conditions.

Summary Point #1 – Existing Conditions

The maximum width of the Kent Street pavement is 3.7m – so there is little opportunity to meet the Walking Space Guide's Level of Service C Target – even during existing (post covid) conditions. Traffic lanes are adjacent to the pavement for approximately 60% of the road between King and Market Streets. Therefore, an additional 1.2m of width is required in certain locations to cater for the 40km/hr speed restrictions.

An analysis taking into consideration the observed peak 5-minute flows and reflecting a Fruin Walkways analysis was also undertaken. The flows per metre per minute ranged from 3.2people/m/min through to 9.0 people/m/min. These rates are very low and would be considered to meet the desirable flow of PCL B+ if the TfL Pedestrian Comfort Guidelines are utilised. The physical characteristic of this flow would be described as 'free circulation' and be considered as Level of Service A – Fruin Walkways. This aligns to the video footage of the survey. Hence, even with obstructions, it is unclear why an 'intervention trigger' is required.

The analysis also shows for sites 8 and 9 that the difference in flow rate *per metre per minute* is 1 person. Yet the corresponding Walking Space metric increases from Level of Service A through to Level of Service D. This is because Walking Space Guide is driven by bands of widths for Footpath type (which itself is a large range of volume), and not for the resultant per minute flows.

The per minute flow for each location was also mapped the Walking Space Guide's research of 'Comfort vs. Flow'. This is shown in Figure 13. It shows that the percentage of people having comfort at these assessment locations are above 50%. The intent of the guide is that 50% and more people should feel comfortable to meet the target. On this basis, only the locations of 1, 3 and 4 are the ones in which further investigation may be warranted. Location 2 – directly at 383 Kent Street can utilise the full pavement width (of 3.7m) given parked vehicles *if* the parking meter is removed. This then provides a **Walking Space Guideline of Level of Service C**.



Figure 13: Observed Peak Per Minute flows (PPMM) plotted against the research underpinning the Walking Space Guide

Summary Point #2 – Recommendation for the development to meet LoS C

With respect to the 383 Kent Street development – the modal pavement widths directly outside of the building entrance (i.e. from property line to the kerb) are approximately 3.7m. The design (see Figure 1) shows the development building edge is aligned to the footages of the adjacent buildings and so aims to maintain these modal pavement widths. The adjacency of the parked vehicles means that the whole width can be used and therefore 383 Kent Street is predominantly **Level of Service C.** The only main pinch point is the parking meter, which is recommended to be removed given there are two meters within the length of 383 Kent Street block title. There are also two trees (see Location D in the appendix). As such, the key for the development is to maximise the opportunity to maintain 3.7m – assuming either parked vehicles are maintained or, even better, the parking area is returned to pedestrians.

2. Existing Development with future background flows

The volume of patrons entering and exiting the 383 Kent Street building were removed from the survey counts to construct a background flow demand set. This background demand was then uplifted by 0.4% per annum over a 20-year period. Unsurprisingly, because the background demand within this corridor is low, the results for the Walking Space Guide and Fruin Walkways is the same as existing conditions. The same conclusions and recommendations from Scenario 1 therefore apply.



Figure 14: Background demand extracted from the counts and then uplifted at 0.4% per annum over 20 years

| Loc# | Location Description | Observed Peak Hour flow rate | Adjusted Peak 5 minute flow | Footpath Type | Active Building Edge | PPMM (Walking Guide = Observed Pk hr/60) | Walking Space | LOS - Walking Guide | Flow rate (based on adjusted future peak 5mins) | LOS - Fruin Walkways |
|------|--|---------------------------------|--------------------------------|------------------|-------------------------|--|------------------|---------------------------|--|----------------------------|
| 1 | Bus Stop, west side | 862 | 102 | 4 | Not Adjacent | 6.0 | 2.40 | F | 8.5 | Α |
| 2 | Between Parking Meter and 383 KS property Line, west Side | 578 | 72 | 4 | Not Adjacent | 3.8 | 2.53 | F | 5.7 | Α |
| 3 | At Telstra Phonebooth, west side | 685 | 87 | 4 | Not Adjacent | 6.0 | 1.89 | F | 9.2 | Α |
| 4 | At bench, west side | 685 | 87 | 4 | Not Adjacent | 5.6 | 2.04 | F | 8.6 | Α |
| 5 | At intersection (SE of Kent/King) between lamp post and wall, east side | 387 | 57 | 3 | Not Adjacent | 3.3 | 1.98 | F | 5.8 | Α |
| 6 | Between signal box and lamp post, east side | 387 | 57 | 3 | Not Adjacent | 2.8 | 2.29 | E | 5.0 | Α |
| 7 | Between newly planted tree and building edge, east side | 387 | 57 | 3 | Not Adjacent | 3.4 | 1.90 | F | 6.1 | Α |
| 8 | At widest part of east side of Kent Street, east side – directly opposite 383 Kent Street | 387 | 57 | 3 | Not Adjacent | 1.8 | 3.51 | Α | 3.3 | Α |
| 9 | In between furniture, east side | 387 | 56 | 3 | Not Adjacent | 2.7 | 2.40 | D | 4.6 | Α |

Figure 15: Walking Space Guideline results and Fruin Walkway Results for Scenario 2

3. Future Development with Existing background flows

This scenario assumes the development is built and operational as of November 2022. This is purely a theoretical exercise to understand the impact of increasing the NLA of the existing building within the background demands of the noted survey date.

Since Covid has fundamentally changed travel behaviours within the CBD, both occupancy rates (i.e. number of people who travel) and arrival/departure profiles (when people travel) have been impacted by the hybrid working practices of employees. The process for estimating the future demand has been based on the existing observed demand entering/exiting 383 Kent Street and uplifting these volumes by the ratio of existing (18,000m²) to future net lettable area (65,110m²). i.e.

Future Peak hour entries = Existing Peak hour entries x (65,110 [future NLA] / 18,000 [existing NLA])

Future Peak hour exits = Existing Peak hour exits x (65,110 [future NLA] / 18,000 [existing NLA])

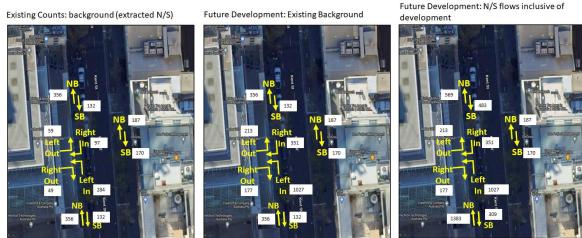


Figure 16: Future Development demand and existing background demand

The results of the Walking Space Guide analysis provide the following outcomes.

- The Classification Type is still Type 4 for the west side of the Kent Street and Type 3 for
 east side of Kent Street. As such, the Level of Service based on the Walking Space Guide
 remain the same as existing conditions (i.e. a modal result of LoS C for the west and LoS A
 for the east).
- Based on an adjusted estimated flow rate, the predicted flow rates through the bus stop and adjacent to the Telstra booth are approx. 18 and 20 people per metre per minute.
 These rates are getting high and would benefit from improvement in available walking space in areas both within and outside of the control of the Developer. The options could include:
 - Removal of the Telstra Booth. This would seem a sensible intervention measure given there are better locations available (e.g. north east corner of Market/Kent Street intersection).
 - Move the bus stop further north past the 383 Kent Street site (the highest flows are still anticipated to arrive from the south).
 - Removal of the parked vehicles/bikes. This could be enabled by the City of Sydney and aligned with the move of the bus stop. This would aid the southern portion of the west side of Kent Street. This would also seem sensible if a zebra crossing is required to aid the cross city through links.

- The performance of the west side of the Kent Street pavement is considered to be unchanged (people are expected to cross at the intersections). However, there may be an opportunity in the future for a zebra crossing located close to the development as part of City of Sydney's proposed through site (east-west) links. In this way the opportunity exists to share demand originating from Wynyard/Martin Place and Town Hall Stations via the west side of the street.
- The results also indicate that the parking meter directly outside of the development should be removed (there is a second meter very close to the north) to maximise the opportunity to have a clear 3.7m of width to align with the Walking Space Guide recommendation for a Type 4 street.

| Loc# | Location Description | Future Predicted with Development | Adjusted Peak 5 minute flow | Footpath Type | Active Building Edge | PPMM (Walking Guide = Observed Pk hr/60) | Walking Space | LOS - Walking Guide | Flow rate (based on adjusted future peak 5mins) | LOS - Fruin Walkways |
|------|--|--------------------------------------|--------------------------------|------------------|-------------------------|--|------------------|---------------------------|--|----------------------------|
| 1 | Bus Stop, west side | 1,692 | 213 | 4 | Not Adjacent | 11.8 | 2.40 | F | 17.7 | Α |
| 2 | Between Parking Meter and 383 KS property Line, west Side | 665 | 149 | 4 | Not Adjacent | 4.4 | 2.53 | F | 11.8 | Α |
| 3 | At Telstra Phonebooth, west side | 1052 | 185 | 4 | Not Adjacent | 9.3 | 1.89 | F | 19.6 | Α |
| 4 | At bench, west side | 1052 | 181 | 4 | Not Adjacent | 8.6 | 2.04 | F | 17.8 | Α |
| 5 | At intersection (SE of Kent/King) between lamp post and wall, east side | 357 | 56 | 3 | Not Adjacent | 3.0 | 1.98 | F | 5.6 | Α |
| 6 | Between signal box and lamp post, east side | 357 | 56 | 3 | Not Adjacent | 2.6 | 2.29 | E | 4.9 | Α |
| 7 | Between newly planted tree and building edge, east side | 357 | 56 | 3 | Not Adjacent | 3.1 | 1.90 | F | 5.9 | Α |
| 8 | At widest part of east side of Kent Street, east side – directly opposite 383 Kent Street | 357 | 56 | 3 | Not Adjacent | 1.7 | 3.51 | Α | 3.2 | Α |
| 9 | In between furniture, east side | 387 | 56 | 3 | Not Adjacent | 2.7 | 2.40 | D | 4.6 | Α |

Figure 17: Walking Space Guideline results and Fruin Walkway Results for Scenario 3

Summary Point #3 - Impact of the development to Street Type Classification

With respect to the 383 Kent Street development – the future development (existing post covid behaviour) does not trigger a change to the street type. As such, the recommendations for Scenario 3 are the same as existing conditions. The adjacency of the parked vehicles means that the whole width can be used and therefore 383 Kent Street is predominantly operating at **Level of Service C.** The only main pinch point is the parking meter (location #2), which is recommended to be removed given there are two meters within the length of 383 Kent Street block title. There are also two trees (see Location D in the appendix). For scenario #3 the key for the development is to maximise the opportunity to maintain 3.7m – assuming either parked vehicles are maintained or, even better, the parking area is returned to pedestrians.

4. Future Development with Future background flows (2042)

This scenario combines Scenario 2 with Scenario 3. The difference in this scenario is that a factor has been applied to reflect an 'occupancy' return to pre-covid behaviours, but still reflects the more flexible arrival/departure profile that is observed today (i.e. the legacy of Covid is a greater acceptance by employers for more flexible work practices). This factor has been derived by comparing overall transport trips within the city both pre-covid to post-covid and using the ratio as a proxy for the covid impact. Analysis of travel trips across all travel modes in 2019 vs 2022 is shown in Figure 18. The number of trips in 2019 pre-Covid is approximately 66% higher than in 2022. The graph also shows a month-on-month increase in trips from February through to November 2022 which is reflected of a return-to-city behaviour. It is not clear whether this uptrend will continue to pre-covid levels, but we have assumed that they have returned to at least the trip volumes associated with 2019 (i.e. have excluded additional employment growth between 2019-2022) and have maintained the assumed floor ratio of the existing 383 Kent Street.

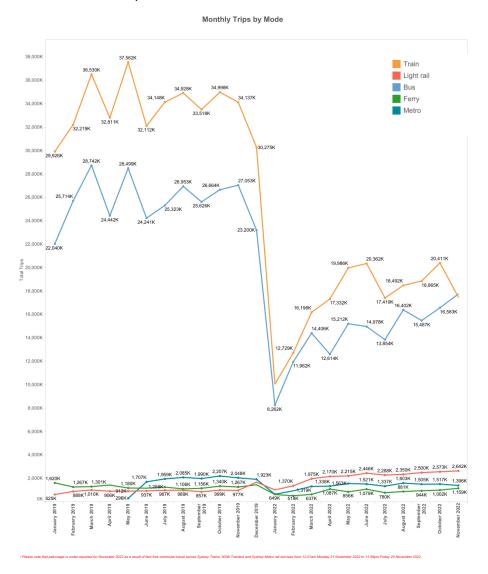


Figure 18: Comparison of 2019 vs 2022 travel trips [Source: Public Transport Patronage - Top Level Chart | Transport for NSW]

The results for Scenario 4 are provided in Figure 20 and indicate a total of approximately 2500 staff arriving within the peak hour (some people arrive before or after the peak). Considering bike and basement carparking, this total equates to approximately 45% of full occupancy at 1:10, and 54% of full occupancy at 1:12. Surveys pre-Covid shows arrival profiles were in the range of 55-

65% of building occupancy. Therefore, the process has (by uplifting from existing data of 383 Kent Street) reflected a more flexible working arrangements, including the time of arrival / departure.

These results indicate that the demand from the south past the bus stop may exceed 2000 people in a peak hour and move the Footpath Classification at this location into Type 5. Once people enter 383 Kent Street, the volumes reduce back to Type 4. Movement from the north is within the Type 4 classification.

The results indicate that the bus stop might be a constrained area (and would indicate a higher usage of the link adjacent to 2 Market Street during the PM peak as more people wait for buses). However, the demand across the area could be reduced with the inclusion of zebra crossing (likely with the introduction of the through-site link and other east-west through site city links as proposed and shown in Figure 5). The volumes from Town Hall Station / Light Rail are still estimated to be higher than that from Pyrmont Station and as such, there is greater opportunity to share demand across both sides of the street up to the point of the zebra crossing.

The public bench to the north of Kent Street is also identified as having high adjacent flow rates. A review of usage might indicate that the bench is not being utilised sufficiently and that an alternative placement may aid both users of the bench, and those walking along this footpath. The Telstra cabinet is also recommended for removal, if possible.



Figure 19: Future Demand Movements for Scenario 4

| Loc# | Location Description | Future Predicted with Development | Adjusted Peak 5 minute flow | Footpath Type | Active Building Edge | PPMM (Walking Guide = Observed Pk hr/60) | Walking Space | LOS - Walking Guide | Flow rate (based on adjusted future peak 5mins) | LOS - Fruin Walkways |
|------|--|--------------------------------------|--------------------------------|------------------|-------------------------|--|------------------|---------------------------|--|----------------------------|
| 1 | Bus Stop, west side | 2,529 | 308 | 5 | Not Adjacent | 17.6 | 2.40 | F | 25.7 | В |
| 2 | Between Parking Meter and 383 KS property Line, west Side | 822 | 107 | 4 | Not Adjacent | 5.4 | 2.53 | F | 8.5 | Α |
| 3 | At Telstra Phonebooth, west side | 1466 | 193 | 4 | Not Adjacent | 12.9 | 1.89 | F | 20.5 | А |
| 4 | At bench, west side | 1466 | 193 | 4 | Not Adjacent | 12.0 | 2.04 | F | 19.0 | А |
| 5 | At intersection (SE of Kent/King) between lamp post and wall, east side | 387 | 61 | 3 | Not Adjacent | 3.3 | 1.98 | F | 6.1 | Α |
| 6 | Between signal box and lamp post, east side | 387 | 61 | 3 | Not Adjacent | 2.8 | 2.29 | E | 5.3 | Α |
| 7 | Between newly planted tree and building edge, east side | 387 | 61 | 3 | Not Adjacent | 3.4 | 1.90 | F | 6.4 | Α |
| 8 | At widest part of east side of Kent Street, east side – directly opposite 383 Kent Street | 387 | 61 | 3 | Not Adjacent | 1.8 | 3.51 | Α | 3.5 | А |
| 9 | In between furniture, east side | 387 | 54 | 3 | Not Adjacent | 2.7 | 2.40 | D | 4.5 | Α |

Figure 20: Walking Space Guideline results and Fruin Walkway Results for Scenario 4

3.5 Sussex Street

A review of the existing and future pedestrian movements of Sussex Street has also been undertaken. The November 2022 survey identified the busiest period along with street (east) side) was during the AM peak with an hourly flow of 254 pedestrians (08:20-09:20). All these flows are considered predominantly background demand as access to the existing 383 Kent Street is via Kent Street and does not have the proposed through-site link. There is a significant level change between Sussex Street and Kent Street and therefore it is unlikely that the through site link will generate a significant switch in background movement behaviour from those coming from the north towards Market Street/Kent Street intersection as the new route is similar in distance but requires greater effort given the vertical rise via stairs. The new through route does however provide better mobility access given the pavement grade from Sussex Street to the Market Street/Kent Street intersection is steep and not DDA compliant.

In terms of the majority of pedestrian movement driven by the development, those coming from the south (i.e. either from Pyrmont Bridge or Town Hall/ George Street) are estimated to stay at a higher level if accessing 383 Kent Street for Ground Level and above. Those arriving from the north are likely to access via Kent Street as noted in the previous analysis.

There is approximately 1445m² of NLA attributed to the Lower Ground level which can be accessed from both Kent Street and Sussex Street. For a 1:10 floor ratio, and 60% within the peak hour would equate to approximately 87 people in the peak hour. Those that arrive during the AM from the south (i.e. approximately 50%) are estimated to walk down the hill along Market Street (or access directly to Sussex Street from the Pyrmont Bridge). There is also the option of utilising the through-site link to access retail (e.g. to grab a coffee prior to work). These workers then have the ability to access the site directly from the stairs within the through-site link with no pedestrian-vehicle conflicts from the development's carpark entry (i.e. the design provides an amenity choice). Those that arrive from the north will likely utilise the through site link or, less likely, continue down King Street towards Sussex Street.

| 10mins interval | | | | | | | | | | | | | |
|-----------------|------|--------|----------|-------|------|--------|----------|-------|----------------|------|-----|-------|----------------|
| Time Period | IN | | | | оит | | | | nd al | Peds | | | P = |
| | Cars | Trucks | Cyclists | Total | Cars | Trucks | Cyclists | Total | Grand Total | NB | SB | Total | Grand Total |
| 7:30 to 7:40 | 5 | 0 | 0 | 5 | 2 | 0 | 0 | 2 | 7 | 10 | 11 | 21 | 21 |
| 7:40 to 7:50 | 5 | 0 | 0 | 5 | 2 | 0 | 0 | 2 | 7 | 17 | 11 | 28 | 28 |
| 7:50 to 8:00 | 12 | 0 | 1 | 13 | 2 | 0 | 0 | 2 | 15 | 7 | 15 | 22 | 22 |
| 8:00 to 8:10 | 6 | 0 | 0 | 6 | 2 | 0 | 0 | 2 | 8 | 10 | 11 | 21 | 21 |
| 8:10 to 8:20 | 11 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 11 | 13 | 27 | 40 | 40 |
| 8:20 to 8:30 | 13 | 0 | 0 | 13 | 2 | 0 | 0 | 2 | 15 | 29 | 20 | 49 | 49 |
| 8:30 to 8:40 | 5 | 0 | 0 | 5 | 1 | 0 | 0 | 1 | 6 | 16 | 18 | 34 | 34 |
| 8:40 to 8:50 | 9 | 0 | 0 | 9 | 2 | 0 | 0 | 2 | 11 | 32 | 17 | 49 | 49 |
| 8:50 to 9:00 | 11 | 0 | 1 | 12 | 2 | 0 | 0 | 2 | 14 | 19 | 28 | 47 | 47 |
| 9:00 to 9:10 | 14 | 0 | 0 | 14 | 2 | 0 | 0 | 2 | 16 | 16 | 19 | 35 | 35 |
| 9:10 to 9:20 | 9 | 0 | 0 | 9 | 3 | 0 | 0 | 3 | 12 | 10 | 6 | 16 | 16 |
| 9:20 to 9:30 | 11 | 0 | 0 | 11 | 2 | 0 | 0 | 2 | 13 | 11 | 7 | 18 | 18 |
| AM Total | 111 | 0 | 2 | 113 | 22 | 0 | 0 | 22 | 135 | 190 | 190 | 380 | 380 |

Figure 21: Pedestrian counts along Sussex Street directly outside of the development parcel (vehicle counts in/out of carpark). Counts over two hours in the AM peak.

The Footpath Type Classification for this side of the street is assessed as Type 3 (<399 pedestrians per hour) and requires 3m of footpath width to meet a LoS C – PCA rating (Based on Table 4a of the Walking Space Guide). This 3m of width is more than provided for within the reference drawings with the colonnade being retained to provide a generous walking environment. The increase in pedestrian movement as a result of the development is not estimated to change the classification of the street even if all workers to the lower ground floor utilised Sussex Street. No changes are therefore recommended.

4 Summary Findings & Recommendations

The results of the Walking Space Guide for each scenario along **Kent Street** are summarised in the Table 7. The Street Type 4 band relates to a pedestrian peak hour volume between 400 p/hr and 2000 p/hr. The results across scenario 1-3 are the same as the volumes are estimated to stay within this range. Only in Scenario 4, which assumes a higher return to the city akin to pre-covid behaviours does the southern-west side of Kent Street get triggered into a Type 5 classification.

The east side of the street has a modal performance of Level of Service C, but does have narrowing's around trees/furniture that create the Walking Space metric of Level of Service D-E.

For **Sussex Street**, the existing classification is Type 3 and expected to remain Type 3 even with the development. A width of 3m is therefore sufficient to maintain Level of Service C performance.

Summary Point #4

The 383 Kent Street property itself has very few obstructions and fronts to parked cars along the length of the title boundary. As such, for all scenarios, Level of Service C can be provided *if* 3.7m of width is maintained and assumes parked vehicles are retained. A more beneficial pedestrian outcome is that the parking lane is returned to pedestrians given that 3 of the 6 parking bays are loading bays. A return of this space to pedestrians may also aid the opportunity to include a zebra crossing to support movement to/from the through-site link

Recommendations to improve assessment areas in the short term in the vicinity of the site include:

- Removal of Telstra cabinet (CoS/Telstra)
- Removal of parking meter directly outside of 383 Kent Street (CoS). If this is achieved, and the developer maintains or improves (by indenting the building) from the property line.
- Static survey around the public bench (location #4) at the north-west of Kent Street to understand usage and whether this is better placed elsewhere (CoS)

Recommendations to improve walking performance as behaviours tend towards Scenario #4

- Removal of parked vehicles and extend the footpath all the way to Market/Kent intersection (CoS).
- Move the bus stop to an indent just further north of 383 Kent Street (i.e. to approximately where the parked bikes are currently located). (TfNSW/CoS)
- Encourage greater usage of both sides of Kent Street by usage of a zebra crossing which is likely to be needed to aid the cross city through links. (CoS/TfNSW)

Recommendations for the next stage of the development design competition include:

Review of the quantum and placement of the entrance portals to the building. There may be better opportunities to have the main 'postal address' revolving door as shown, but with a secondary, larger entrance (potentially sliding doors subject to wind impacts) for staff movements in/out of the laneway as well as one within the noted 'retail' outlet at the south. This will be dependent on speedstile locations and hence lift core, so can be reviewed during the subsequent design competition stage.

| Scenar | io | Modal Performance (West/East) | Performance at Assessment Points (West/East) |
|--------|--|---|--|
| 1. | Existing | LoS E / LoS C | LoS F / LoS D-E |
| 2. | Existing + Future Background | LoS E / LoS C | LoS F / LoS D-E |
| 3. | Future Development + Existing Background | LoS E / LoS C | LoS F / LoS D-E |
| 4. | Future Development + Future Background (pre-covid profile) | LoS F (south of 383KS) — although this excludes the through link of 2 Market Street. LoS E (all other areas on east) / LoS C | LoS F / LoS D-E |

Table 7: Summary of LoS analysis for Kent Street based on the Walking Space Guide

5 Intersection Analysis

The Walking Space Guide does not provide guidance on the data collection or approach to I pedestrian movement at intersections. The guidelines do indicate a complimentary guide will be released, but as far as we are aware that has not yet occurred.

For completeness, Movissian has investigated the current volumes associated with both the Kent/King intersection to the north and Kent/Market intersection to the south.

A pedestrian survey was undertaken investigating the crossing volumes for each leg, as well as some level of indication of the primary routes to the west side of Kent Street.



Figure 22: Kent / King St intersection (left) and Kent / Market St intersection (right)

The volumes associated with the legs (A-G) for each intersection as noted in Figure 22 are given in the tables below. The peak hour demands are similar for both the AM and PM peaks.

The Kent/Market intersection has pedestrian volumes that are over double that of the Kent / King St intersection. The signals operate on a 90 second cycle, inclusive of a dedicated bike phase.

East-west pedestrian movements are higher than north-south movements. This is a likely to be a factor of:

- greater attractions east-west (e.g. movement to George Street or movement to/from Cocklebay Wharf/across Pyrmont Bridge) and;
- the pedestrian timings for the intersection in which greater vehicular time (and hence pedestrian green time) is awarded to east-west movements. Approximately 25 seconds is awarded to North-South crossing movements and up to 45 seconds for East-West movements (Nb. The available crossing time is less for movements labelled "E & F" of Kent/Market given right turning vehicle movements).

| Time Period | | South Lea (Kent St) | • | | East Leg (King St) | | | North Le (Kent St) | | | West Leg (King St) | Į. | nd al |
|----------------|-----|------------------------|-------|-----|-----------------------|-------|-----|-----------------------|-------|-----|-----------------------|-------|-------------|
| | Α | В | Total | С | D | Total | E | F | Total | G | Н | Total | Gra Tota |
| 8:10 to 9:10 | 335 | 207 | 542 | 373 | 117 | 490 | 133 | 180 | 313 | 135 | 127 | 262 | 1,607 |
| 17:00 to 18:00 | 242 | 397 | 639 | 136 | 241 | 377 | 221 | 223 | 444 | 112 | 101 | 213 | 1,673 |

Table 8: Kent St / King St peak hour counts

| Time Period | | South Leg (Kent St) | • | (1 | East Leg Market S | | | North Le _l (Kent St) | • | | West Leg Market S | • | nd al |
|----------------|-------|------------------------|-------|-----|----------------------|-------|-----|------------------------------------|-------|-----|----------------------|-------|----------|
| | Α | В | Total | С | D | Total | E | F | Total | G | Н | Total | Gra |
| 8:10 to 9:10 | 1,097 | 481 | 1,578 | 204 | 252 | 456 | 230 | 438 | 668 | 486 | 154 | 640 | 3,342 |
| 17:00 to 18:00 | 763 | 1,156 | 1,919 | 299 | 144 | 443 | 439 | 254 | 693 | 172 | 325 | 497 | 3,552 |

Table 9: Kent St / Market St peak hour counts

Reservoir Analysis

Movissian has considered the average volumes of people waiting on each corner across the peak hour. The average volumes waiting for Kent/King are all below eleven people. There is more than sufficient space at each corner to cater for this demand.

| | Time Peri | South Leg eriod (Kent St) | | East Leg (King St) | | | | North Leg (Kent St) | | | West Leg (King St) | | | |
|-------|-----------|---------------------------|---|------------------------|-------|---|---|------------------------|---|---|-----------------------|---|---|---|
| | A B Total | | С | D | Total | E | F | Total | G | Н | Total | | | |
| 8:10 | to | 9:10 | 8 | 5 | 14 | 9 | 3 | 12 | 3 | 5 | 8 | 3 | 3 | 7 |
| 17:00 | to | 18:00 | 6 | 10 | 16 | 3 | 6 | 9 | 6 | 6 | 11 | 3 | 3 | 5 |

Table 10: Kent St / King St average number of people waiting to cross each leg (Nov 29 2022)

The Kent / King intersection is not expected to be a major issue due to the new development. The only notable consideration for the City of Sydney is the placement of the lamp post/traffic signals on the south-east corner (see Figure 23). This is not expected to be an issue for the development as people will have likely crossed to the west side of the street prior to this intersection. However, it was observed to be a pinch-point. It is likely to be known to the City and created and an accepted constraint given the inclusion of the cycle lane.



Figure 23: Kent / King St intersection – south-east corner, showing pinch point of the lamp/traffic signal pole.

For the busier Kent/Market St intersection, the key legs that will be impacted by an increase in the development for 383 Kent Street are:

- AM legs G, and D (i.e. northbound movements)
- AM legs F & A (i.e. west bound movement from Town Hall/George Street)
- PM leg H southbound
- PM leg E eastbound

The busiest of these is leg A (which impacts the south-east reservoir space of the intersection). This has an average waiting volume of 27 people.

| | Time Peri | od | South Leg d (Kent St) | | | | East Leg (Market St |) | | North Leg (Kent St) | | | West Leg (Market St) | | |
|-------|-----------|-------|--------------------------|----|-------|---|------------------------|-------|----|------------------------|-------|----|-------------------------|-------|--|
| | | | Α | В | Total | С | D | Total | E | F | Total | G | н | Total | |
| 8:10 | to | 9:10 | 27 | 12 | 39 | 5 | 6 | 11 | 6 | 11 | 17 | 12 | 4 | 16 | |
| 17:00 | to | 18:00 | 19 | 29 | 48 | 7 | 4 | 11 | 11 | 6 | 17 | 4 | 8 | 12 | |

Table 11: Kent St / Market St average number of people waiting to cross each leg (Nov 29 2022)

For **Scenario 3** (future development with a similar profile of arrival/occupancy), then the estimated *additional* (average) people crossing for the primary north movements are as follows:

- Leg D: 9 people
- Leg G: 17 people

The existing reservoir spaces can easily cater for these additional people.

For **Scenario 4** (future development but with a greater return to 2019 behaviours) then the estimated extra (average) people crossing for the primary north movements are as follows:

- Leg D: 15 people

- Leg G: 29 people

Again, the existing reservoir spaces are large and can cater for these additional people. However, in a future context where a zebra crossing might be in place, the demand would be expected to be shared more equally between Legs D and G. Note that once Pyrmont Station is open, a higher proportion of the estimated 29 people will be arriving from the west and hence not all of these people will impact the SE corner reservoir (i.e. they will not all be adding to the 'A' leg).

Summary Point #5 Intersection / Reservoir Analysis

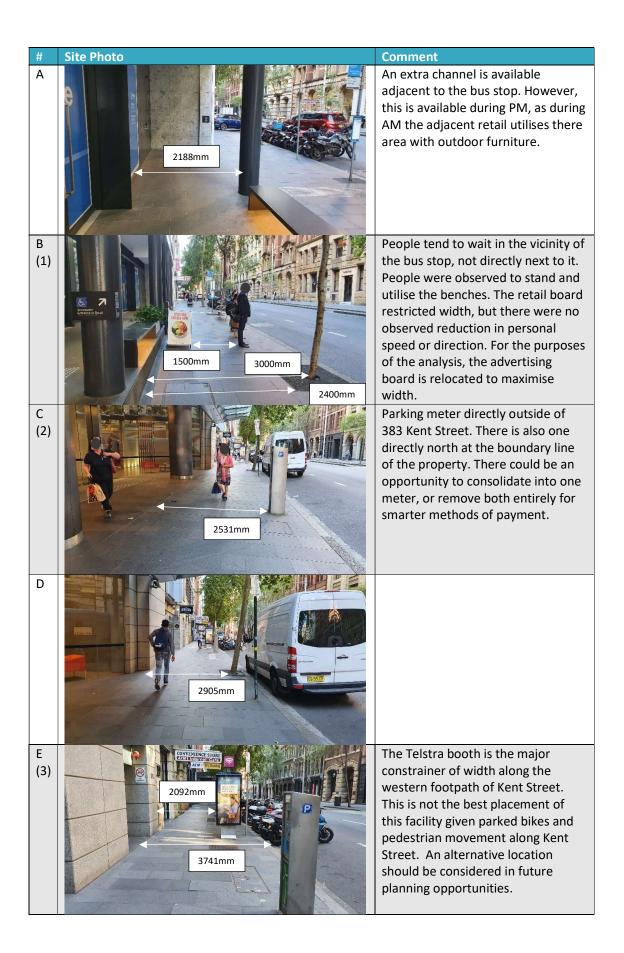
In summary, the two intersections (Market/Kent and King/Kent) are not estimated to become congestion issues because of the development. The Kent/Market Street reservoir spaces present large spaces for people to wait and circulate— even with the increase in demand from the development.

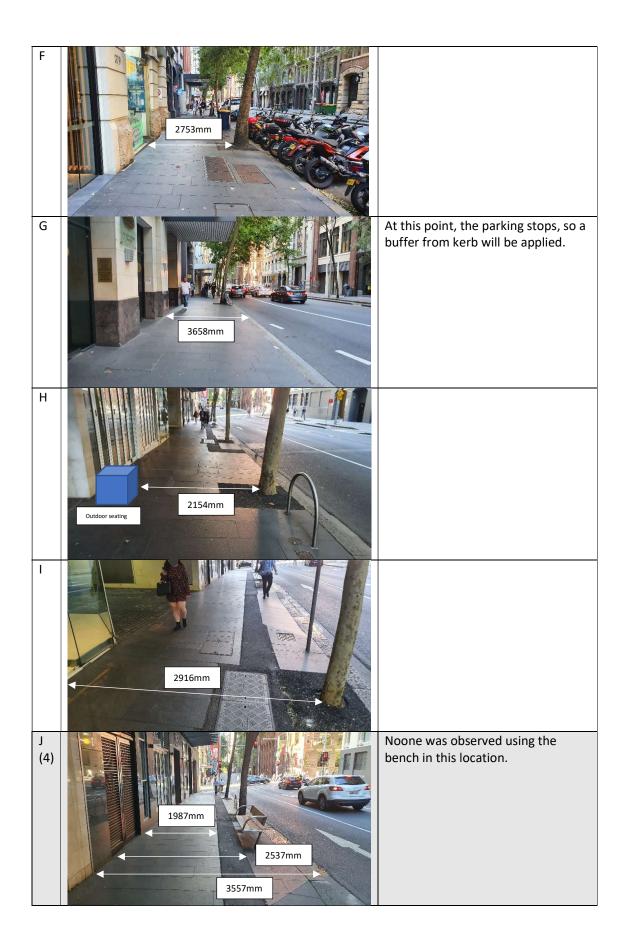
Appendix

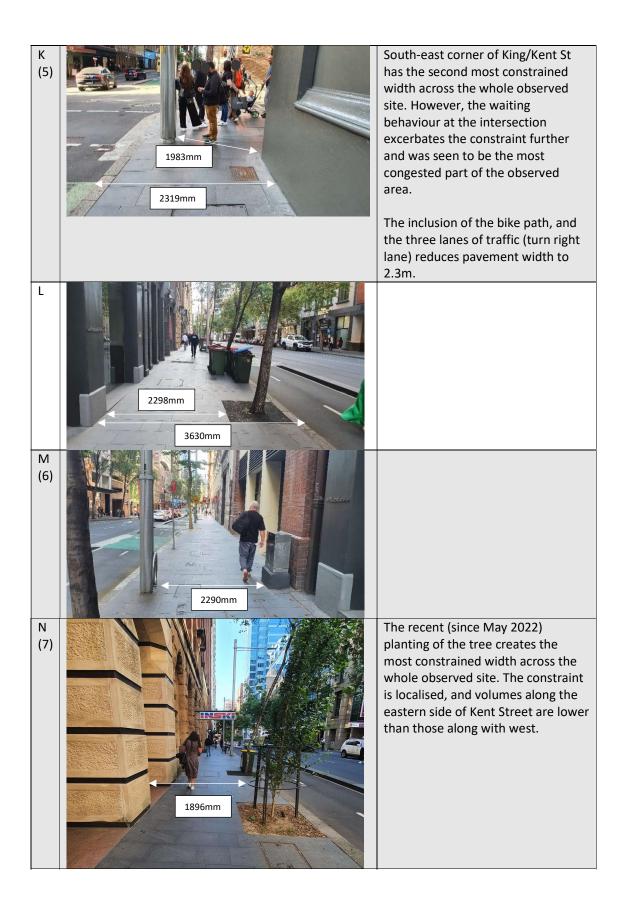
A Footpath Measurements

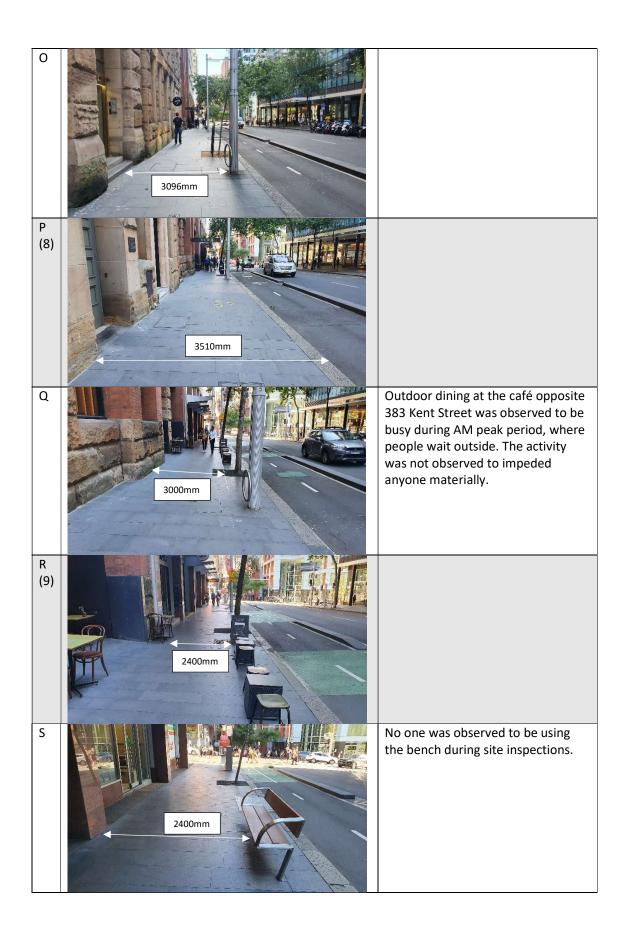
B Pedestrian Counts

Appendix A - Footpath Measurements









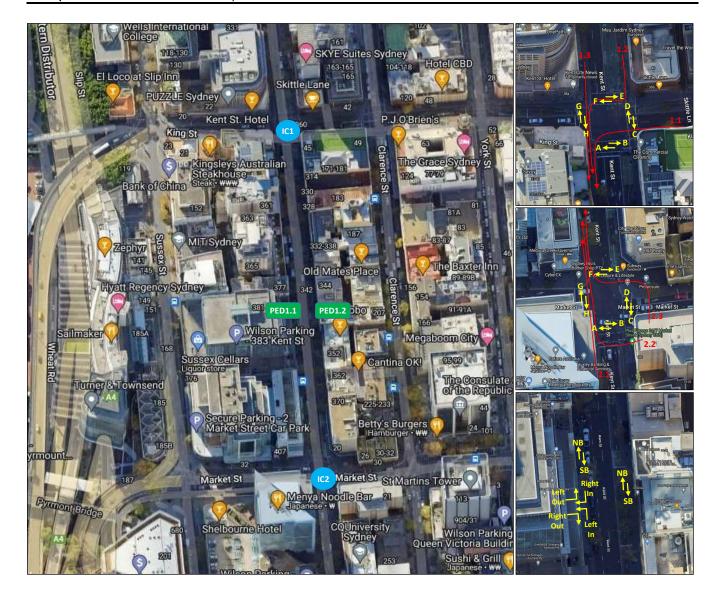


Appendix B - Pedestrian Counts

Date Tue, 29th November 2022

Survey Time 07:30-09:30 & 16:00-18:00 (4 hours)

Description Kent St Pedestrians surveys



Location PED1.1. Outside 383 Kent St, Westside footpath bi-directional movements, IN/OUT of 383 Kent St

Date Tue, 29th November 2022
Survey Time 07:30-09:30 & 16:00-18:00 (4 hours)
Description Kent St Pedestrians surveys

| [Peak Hour Sum | mary] | | | | | | | | |
|----------------|-------|------|-------|-------|-------|------|-----|-------|----------|
| Time Period | | | | PED | 1.1 | | | | _ |
| Time Periou | Left | Left | Right | Right | Total | NB | SB | Total | rand |
| | IN | OUT | IN | OUT | Total | IND | 30 | Total | Gr To |
| 8:10 to 9:10 | 284 | 59 | 97 | 49 | 489 | 415 | 229 | 644 | 1,133 |
| 17:00 to 18:00 | 10 | 70 | 2 | 211 | 303 | 2/10 | 220 | 597 | 990 |

| [Peak 5mins / re | st 10min | interval |] | | | | | | |
|------------------|------------|-------------|-------------|--------------|-------|-----|-----|-------|----------------|
| Time Period | | | | PEC | 1.1 | | | | |
| Time Period | Left IN | Left OUT | Right IN | Right OUT | Total | NB | SB | Total | Grand Total |
| 7:30 to 7:40 | 11 | 2 | 3 | 0 | 16 | 25 | 14 | 39 | 55 |
| 7:40 to 7:50 | 21 | 2 | 10 | 1 | 34 | 29 | 22 | 51 | 85 |
| 7:50 to 8:00 | 42 | 6 | 10 | 3 | 61 | 44 | 23 | 67 | 128 |
| 8:00 to 8:10 | 40 | 6 | 14 | 2 | 62 | 50 | 35 | 85 | 147 |
| 8:10 to 8:15 | 18 | 5 | 6 | 1 | 30 | 35 | 11 | 46 | 76 |
| 8:15 to 8:20 | 24 | 6 | 4 | 2 | 36 | 38 | 15 | 53 | 89 |
| 8:20 to 8:25 | 27 | 1 | 8 | 0 | 36 | 28 | 28 | 56 | 92 |
| 8:25 to 8:30 | 26 | 6 | 11 | 8 | 51 | 37 | 19 | 56 | 107 |
| 8:30 to 8:35 | 23 | 4 | 6 | 3 | 36 | 32 | 14 | 46 | 82 |
| 8:35 to 8:40 | 26 | 2 | 9 | 4 | 41 | 22 | 29 | 51 | 92 |
| 8:40 to 8:45 | 27 | 4 | 15 | 7 | 53 | 30 | 22 | 52 | 105 |
| 8:45 to 8:50 | 23 | 6 | 8 | 5 | 42 | 38 | 15 | 53 | 95 |
| 8:50 to 8:55 | 25 | 7 | 8 | 2 | 42 | 40 | 25 | 65 | 107 |
| 8:55 to 9:00 | 26 | 5 | 9 | 1 | 41 | 58 | 16 | 74 | 115 |
| 9:00 to 9:05 | 18 | 8 | 9 | 3 | 38 | 26 | 17 | 43 | 81 |
| 9:05 to 9:10 | 21 | 5 | 4 | 13 | 43 | 31 | 18 | 49 | 92 |
| 9:10 to 9:20 | 50 | 12 | 10 | 8 | 80 | 53 | 22 | 75 | 155 |
| 9:20 to 9:30 | 14 | 12 | 7 | 24 | 57 | 52 | 21 | 73 | 130 |
| AM Total | 462 | 99 | 151 | 87 | 799 | 668 | 366 | 1,034 | 1,833 |
| 16:00 to 16:10 | 3 | 7 | 1 | 16 | 27 | 17 | 36 | 53 | 80 |
| 16:10 to 16:20 | 2 | 3 | 1 | 11 | 17 | 35 | 36 | 71 | 88 |
| 16:20 to 16:30 | 2 | 6 | 1 | 15 | 24 | 25 | 32 | 57 | 81 |
| 16:30 to 16:40 | 3 | 6 | 0 | 24 | 33 | 31 | 47 | 78 | 111 |
| 16:40 to 16:50 | 0 | 8 | 3 | 20 | 31 | 30 | 68 | 98 | 129 |
| 16:50 to 17:00 | 1 | 7 | 0 | 29 | 37 | 35 | 42 | 77 | 114 |
| 17:00 to 17:05 | 3 | 9 | 0 | 18 | 30 | 26 | 27 | 53 | 83 |
| 17:05 to 17:10 | 3 | 11 | 0 | 24 | 38 | 23 | 19 | 42 | 80 |
| 17:10 to 17:15 | 3 | 7 | 1 | 29 | 40 | 19 | 27 | 46 | 86 |
| 17:15 to 17:20 | 4 | 9 | 0 | 17 | 30 | 23 | 34 | 57 | 87 |
| 17:20 to 17:25 | 2 | 4 | 0 | 21 | 27 | 24 | 43 | 67 | 94 |
| 17:25 to 17:30 | 0 | 6 | 1 | 12 | 19 | 17 | 34 | 51 | 70 |
| 17:30 to 17:35 | 2 | 1 | 0 | 21 | 24 | 10 | 27 | 37 | 61 |
| 17:35 to 17:40 | 0 | 8 | 1 | 21 | 30 | 21 | 18 | 39 | 69 |
| 17:40 to 17:45 | 1 | 4 | 0 | 13 | 18 | 17 | 28 | 45 | 63 |
| 17:45 to 17:50 | 0 | 3 | 0 | 6 | 9 | 17 | 27 | 44 | 53 |
| 17:50 to 17:55 | 0 | 4 | 0 | 21 | 25 | 25 | 31 | 56 | 81 |
| 17:55 to 18:00 | 0 | 4 | 0 | 8 | 12 | 27 | 23 | 50 | 62 |
| PM Total | 29 | 107 | 9 | 326 | 471 | 422 | 599 | 1,021 | 1,492 |

| [Hourly Summary] | | | | | | | | | |
|------------------|------------|-------------|-------------|--------------|-------|-----|-----|-------|----------------|
| Time Devied | | | | PED | 1.1 | | | | |
| Time Period | Left IN | Left OUT | Right IN | Right OUT | Total | NB | SB | Total | Grand Total |
| 7:30 to 8:30 | 209 | 34 | 66 | 17 | 326 | 286 | 167 | 453 | 779 |
| 7:40 to 8:40 | 247 | 38 | 78 | 24 | 387 | 315 | 196 | 511 | 898 |
| 7:50 to 8:50 | 276 | 46 | 91 | 35 | 448 | 354 | 211 | 565 | 1,013 |
| 8:00 to 9:00 | 285 | 52 | 98 | 35 | 470 | 408 | 229 | 637 | 1,107 |
| 8:10 to 9:10 | 284 | 59 | 97 | 49 | 489 | 415 | 229 | 644 | 1,133 |
| 8:20 to 9:20 | 292 | 60 | 97 | 54 | 503 | 395 | 225 | 620 | 1,123 |
| 8:30 to 9:30 | 253 | 65 | 85 | 70 | 473 | 382 | 199 | 581 | 1,054 |
| AM Total | 462 | 99 | 151 | 87 | 799 | 668 | 366 | 1,034 | 1,833 |
| 16:00 to 17:00 | 11 | 37 | 6 | 115 | 169 | 173 | 261 | 434 | 603 |
| 16:10 to 17:10 | 14 | 50 | 5 | 141 | 210 | 205 | 271 | 476 | 686 |
| 16:20 to 17:20 | 19 | 63 | 5 | 176 | 263 | 212 | 296 | 508 | 771 |
| 16:30 to 17:30 | 19 | 67 | 5 | 194 | 285 | 228 | 341 | 569 | 854 |
| 16:40 to 17:40 | 18 | 70 | 6 | 212 | 306 | 228 | 339 | 567 | 873 |
| 16:50 to 17:50 | 19 | 69 | 3 | 211 | 302 | 232 | 326 | 558 | 860 |
| 17:00 to 18:00 | 18 | 70 | 3 | 211 | 302 | 249 | 338 | 587 | 889 |
| PM Total | 29 | 107 | 9 | 326 | 471 | 422 | 599 | 1.021 | 1.492 |

Location PED1.2. Kent St East Side footpath

Date Tue, 29th November 2022

Survey Time 07:30-09:30 & 16:00-18:00 (4 hours)

Description Kent St Pedestrians surveys

[Peak Hour Summary] PED 1.2 **Time Period** Total NB SB 8:00 to 9:00 209 115 324 324 17:00 to 18:00 187 170 357 357

| | | st 10mins | | | |
|---|--|--|--|--|--|
| Time Pe | riod | | PED 1.2 | | pu Is |
| | | NB | SB | Total | Granc Total |
| 7:30 to | 7:40 | 16 | 9 | 25 | 25 |
| 7:40 to | 7:50 | 18 | 9 | 27 | 27 |
| 7:50 to | 8:00 | 20 | 14 | 34 | 34 |
| 8:00 to | 8:05 | 10 | 5 | 15 | 15 |
| 8:05 to | 8:10 | 22 | 11 | 33 | 33 |
| 8:10 to | 8:15 | 24 | 7 | 31 | 31 |
| 8:15 to | 8:20 | 18 | 6 | 24 | 24 |
| 8:20 to | 8:25 | 15 | 8 | 23 | 23 |
| 8:25 to | 8:30 | 16 | 10 | 26 | 26 |
| 8:30 to | 8:35 | 21 | 6 | 27 | 27 |
| 8:35 to | 8:40 | 20 | 9 | 29 | 29 |
| 8:40 to | 8:45 | 14 | 15 | 29 | 29 |
| 8:45 to | 8:50 | 18 | 11 | 29 | 29 |
| 8:50 to | 8:55 | 13 | 16 | 29 | 29 |
| 8:55 to | 9:00 | 18 | 11 | 29 | 29 |
| 9:00 to | 9:10 | 20 | 14 | 34 | 34 |
| 9:10 to | 9:20 | 26 | 13 | 39 | 39 |
| 9:20 to | 9:30 | 19 | 21 | 40 | 40 |
| AM To | tal | 328 | 195 | 523 | 523 |
| | | | | | |
| 16:00 to | 16:10 | 13 | 27 | 40 | 40 |
| 16:00 to 16:10 to | 16:10 16:20 | 13 21 | 27 12 | 40 33 | 40 33 |
| | | | | | |
| 16:10 to | 16:20 | 21 | 12 | 33 | 33 |
| 16:10 to 16:20 to | 16:20 16:30 | 21 14 | 12 30 | 33 44 | 33 44 |
| 16:10 to 16:20 to 16:30 to | 16:20 16:30 16:40 | 21 14 18 | 12 30 14 | 33 44 32 | 33 44 32 |
| 16:10 to 16:20 to 16:30 to 16:40 to | 16:20 16:30 16:40 16:50 | 21 14 18 19 | 12 30 14 17 | 33 44 32 36 | 33 44 32 36 |
| 16:10 to 16:20 to 16:30 to 16:40 to 16:50 to | 16:20 16:30 16:40 16:50 17:00 | 21 14 18 19 21 | 12 30 14 17 14 | 33 44 32 36 35 | 33 44 32 36 35 |
| 16:10 to 16:20 to 16:30 to 16:40 to 16:50 to 17:00 to | 16:20 16:30 16:40 16:50 17:00 | 21 14 18 19 21 15 | 12 30 14 17 14 9 | 33 44 32 36 35 24 | 33 44 32 36 35 24 |
| 16:10 to 16:20 to 16:30 to 16:40 to 16:50 to 17:00 to | 16:20 16:30 16:40 16:50 17:00 17:05 17:10 | 21 14 18 19 21 15 32 | 12 30 14 17 14 9 | 33 44 32 36 35 24 56 | 33 44 32 36 35 24 56 |
| 16:10 to 16:20 to 16:30 to 16:40 to 16:50 to 17:00 to 17:05 to 17:10 to | 16:20 16:30 16:40 16:50 17:00 17:05 17:10 17:15 | 21 14 18 19 21 15 32 15 | 12 30 14 17 14 9 24 | 33 44 32 36 35 24 56 30 | 33 44 32 36 35 24 56 30 |
| 16:10 to 16:20 to 16:30 to 16:40 to 16:50 to 17:00 to 17:05 to 17:10 to | 16:20 16:30 16:40 16:50 17:00 17:05 17:10 17:15 17:20 | 21 14 18 19 21 15 32 15 | 12 30 14 17 14 9 24 15 | 33 44 32 36 35 24 56 30 32 | 33 44 32 36 35 24 56 30 |
| 16:10 to 16:20 to 16:30 to 16:40 to 16:50 to 17:00 to 17:05 to 17:15 to 17:20 to | 16:20 16:30 16:40 16:50 17:00 17:05 17:10 17:15 17:20 17:25 | 21 14 18 19 21 15 32 15 20 6 | 12 30 14 17 14 9 24 15 12 | 33 44 32 36 35 24 56 30 32 20 | 33 44 32 36 35 24 56 30 32 20 |
| 16:10 to 16:20 to 16:30 to 16:40 to 17:00 to 17:05 to 17:10 to 17:15 to 17:20 to 17:25 to | 16:20 16:30 16:40 16:50 17:00 17:05 17:10 17:15 17:20 17:25 17:30 | 21 14 18 19 21 15 32 15 20 6 | 12 30 14 17 14 9 24 15 12 14 | 33 44 32 36 35 24 56 30 32 20 33 | 33 44 32 36 35 24 56 30 32 20 33 |
| 16:10 to 16:20 to 16:30 to 16:40 to 17:00 to 17:05 to 17:10 to 17:15 to 17:20 to 17:25 to 17:30 to | 16:20 16:30 16:40 16:50 17:05 17:15 17:15 17:20 17:25 17:30 17:35 | 21 14 18 19 21 15 32 15 20 6 18 | 12 30 14 17 14 9 24 15 12 14 15 | 33 44 32 36 35 24 56 30 32 20 33 29 | 33 44 32 36 35 24 56 30 32 20 33 29 |
| 16:10 to 16:20 to 16:30 to 16:40 to 17:00 to 17:05 to 17:10 to 17:15 to 17:20 to 17:25 to 17:30 to 17:35 to | 16:20 16:30 16:40 16:50 17:00 17:05 17:10 17:15 17:20 17:25 17:30 17:35 | 21 14 18 19 21 15 32 15 20 6 18 15 | 12 30 14 17 14 9 24 15 12 14 15 14 | 33 44 32 36 35 24 56 30 32 20 33 29 16 | 33 44 32 36 35 24 56 30 32 20 33 29 16 |
| 16:10 to 16:20 to 16:30 to 16:40 to 17:00 to 17:05 to 17:10 to 17:15 to 17:20 to 17:25 to 17:30 to 17:35 to 17:40 to 17:40 to | 16:20 16:30 16:40 16:50 17:00 17:05 17:10 17:15 17:20 17:25 17:30 17:35 17:40 | 21 14 18 19 21 15 32 15 20 6 18 15 8 | 12 30 14 17 14 9 24 15 12 14 15 14 8 | 33 44 32 36 35 24 56 30 32 20 33 29 16 28 | 33 44 32 36 35 24 56 30 32 20 33 29 16 28 |
| 16:10 to 16:20 to 16:30 to 16:40 to 17:00 to 17:05 to 17:10 to 17:15 to 17:20 to 17:25 to 17:30 to 17:35 to 17:40 to 17:40 to | 16:20 16:30 16:40 16:50 17:00 17:05 17:15 17:20 17:25 17:30 17:35 17:40 17:45 17:50 | 21 14 18 19 21 15 32 15 20 6 18 15 8 14 | 12 30 14 17 14 9 24 15 12 14 15 14 8 14 | 33 44 32 36 35 24 56 30 32 20 33 29 16 28 25 | 33 44 32 36 35 24 56 30 32 20 33 29 16 28 25 |

| [Hourly | Sur | nmary] | | | | |
|---------|------|--------|-----|---------|-------|----------------|
| Time | e Pe | riod | | PED 1.2 | | nd le |
| | | | NB | SB | Total | Grand Total |
| 7:30 | to | 8:30 | 159 | 79 | 238 | 238 |
| 7:40 | to | 8:40 | 184 | 85 | 269 | 269 |
| 7:50 | to | 8:50 | 198 | 102 | 300 | 300 |
| 8:00 | to | 9:00 | 209 | 115 | 324 | 324 |
| 8:10 | to | 9:10 | 197 | 113 | 310 | 310 |
| 8:20 | to | 9:20 | 181 | 113 | 294 | 294 |
| 8:30 | to | 9:30 | 169 | 116 | 285 | 285 |
| AM | l To | tal | 293 | 195 | 523 | 523 |
| 16:00 | to | 17:00 | 106 | 114 | 220 | 220 |
| 16:10 | to | 17:10 | 140 | 120 | 260 | 260 |
| 16:20 | to | 17:20 | 154 | 135 | 289 | 289 |
| 16:30 | to | 17:30 | 164 | 134 | 298 | 298 |
| 16:40 | to | 17:40 | 169 | 142 | 311 | 311 |
| 16:50 | to | 17:50 | 175 | 153 | 328 | 328 |
| 17:00 | to | 18:00 | 187 | 170 | 357 | 357 |
| PM | То | tal | 293 | 284 | 577 | 577 |

 Location
 IC1. Kent St / King St

 Date
 Tue, 29th November 2022

 Survey Time
 07:30-09:30 & 16:00-18:00 (4 hours)

Description Kent St Pedestrians surveys

| [Peak Hour Sum | mary] | | | | | | | | | | | | |
|----------------|-------|-----------|-------|-----|------------------------|-------|-----|------------------------|-------|-----|-----------------------|-------|--------------|
| Time Period | | South Leg | | | East Leg (King St) | | | North Leg (Kent St) | | | West Leg (King St) | | ਰ _ |
| Time Feriou | Α | В | Total | С | D | Total | E | F | Total | G | Н | Total | Gran Tota |
| 8:10 to 9:10 | 335 | 207 | 542 | 373 | 117 | 490 | 133 | 180 | 313 | 135 | 127 | 262 | 1,607 |
| 17:00 to 18:00 | 242 | 397 | 639 | 136 | 241 | 377 | 221 | 223 | 444 | 112 | 101 | 213 | 1 673 |

| [10mins interval] | | | | | | | | | | | | | |
|-------------------|-----|-----------|-------|-----|------------|-------|-----|-----------|-------|-----|-----------|-------|----------------|
| | | South Leg | ; | | East Leg | | | North Leg | ; | | West Leg | | |
| Time Period | | (Kent St) | | | (King St) | | | (Kent St) | | | (King St) | | Grand Total |
| | Α | В | Total | С | D | Total | E | F | Total | G | Н | Total | |
| 7:30 to 7:40 | 42 | 12 | 54 | 22 | 15 | 37 | 6 | 19 | 25 | 7 | 9 | 16 | 132 |
| 7:40 to 7:50 | 35 | 13 | 48 | 27 | 10 | 37 | 14 | 13 | 27 | 10 | 7 | 17 | 129 |
| 7:50 to 8:00 | 30 | 13 | 43 | 31 | 19 | 50 | 15 | 33 | 48 | 15 | 5 | 20 | 161 |
| 8:00 to 8:10 | 38 | 18 | 56 | 35 | 14 | 49 | 20 | 37 | 57 | 16 | 12 | 28 | 190 |
| 8:10 to 8:20 | 60 | 20 | 80 | 68 | 10 | 78 | 21 | 35 | 56 | 24 | 28 | 52 | 266 |
| 8:20 to 8:30 | 57 | 41 | 98 | 58 | 25 | 83 | 19 | 24 | 43 | 17 | 26 | 43 | 267 |
| 8:30 to 8:40 | 46 | 46 | 92 | 63 | 19 | 82 | 29 | 29 | 58 | 26 | 22 | 48 | 280 |
| 8:40 to 8:50 | 59 | 31 | 90 | 59 | 15 | 74 | 22 | 32 | 54 | 29 | 20 | 49 | 267 |
| 8:50 to 9:00 | 64 | 32 | 96 | 73 | 19 | 92 | 24 | 29 | 53 | 24 | 21 | 45 | 286 |
| 9:00 to 9:10 | 49 | 37 | 86 | 52 | 29 | 81 | 18 | 31 | 49 | 15 | 10 | 25 | 241 |
| 9:10 to 9:20 | 45 | 24 | 69 | 45 | 21 | 66 | 24 | 36 | 60 | 22 | 10 | 32 | 227 |
| 9:20 to 9:30 | 23 | 8 | 31 | 31 | 10 | 41 | 12 | 38 | 50 | 22 | 19 | 41 | 163 |
| AM Total | 548 | 295 | 843 | 564 | 206 | 770 | 224 | 356 | 580 | 227 | 189 | 416 | 2,609 |
| 16:00 to 16:10 | 34 | 27 | 61 | 4 | 28 | 32 | 22 | 22 | 44 | 12 | 2 | 14 | 151 |
| 16:10 to 16:20 | 52 | 20 | 72 | 16 | 27 | 43 | 27 | 24 | 51 | 14 | 9 | 23 | 189 |
| 16:20 to 16:30 | 33 | 21 | 54 | 20 | 30 | 50 | 31 | 24 | 55 | 21 | 7 | 28 | 187 |
| 16:30 to 16:40 | 55 | 111 | 166 | 17 | 23 | 40 | 20 | 19 | 39 | 9 | 13 | 22 | 267 |
| 16:40 to 16:50 | 32 | 45 | 77 | 28 | 31 | 59 | 24 | 8 | 32 | 6 | 16 | 22 | 190 |
| 16:50 to 17:00 | 30 | 53 | 83 | 11 | 28 | 39 | 27 | 20 | 47 | 12 | 9 | 21 | 190 |
| 17:00 to 17:10 | 46 | 47 | 93 | 25 | 31 | 56 | 24 | 49 | 73 | 17 | 11 | 28 | 250 |
| 17:10 to 17:20 | 55 | 42 | 97 | 24 | 55 | 79 | 34 | 25 | 59 | 19 | 18 | 37 | 272 |
| 17:20 to 17:30 | 38 | 77 | 115 | 21 | 47 | 68 | 34 | 38 | 72 | 21 | 15 | 36 | 291 |
| 17:30 to 17:40 | 30 | 84 | 114 | 23 | 39 | 62 | 56 | 45 | 101 | 17 | 13 | 30 | 307 |
| 17:40 to 17:50 | 41 | 99 | 140 | 18 | 33 | 51 | 41 | 27 | 68 | 18 | 24 | 42 | 301 |
| 17:50 to 18:00 | 32 | 48 | 80 | 25 | 36 | 61 | 32 | 39 | 71 | 20 | 20 | 40 | 252 |
| PM Total | 478 | 674 | 1,152 | 232 | 408 | 640 | 372 | 340 | 712 | 186 | 157 | 343 | 2,847 |

| Hourly Summary | | | | | | | | | | | | | |
|----------------|------------------------|-----|-------|-----|------------------------|-------|-----|------------------------|-------|-----|-----------------------|-------|----------------|
| Time Period | South Leg (Kent St) | | | | East Leg (King St) | | | North Leg (Kent St) | | | West Leg (King St) | | |
| | Α | В | Total | С | D | Total | E | F | Total | G | Н | Total | Grand Total |
| 7:30 to 8:30 | 262 | 117 | 379 | 241 | 93 | 334 | 95 | 161 | 256 | 89 | 87 | 176 | 1,145 |
| 7:40 to 8:40 | 266 | 151 | 417 | 282 | 97 | 379 | 118 | 171 | 289 | 108 | 100 | 208 | 1,293 |
| 7:50 to 8:50 | 290 | 169 | 459 | 314 | 102 | 416 | 126 | 190 | 316 | 127 | 113 | 240 | 1,431 |
| 8:00 to 9:00 | 324 | 188 | 512 | 356 | 102 | 458 | 135 | 186 | 321 | 136 | 129 | 265 | 1,556 |
| 8:10 to 9:10 | 335 | 207 | 542 | 373 | 117 | 490 | 133 | 180 | 313 | 135 | 127 | 262 | 1,607 |
| 8:20 to 9:20 | 320 | 211 | 531 | 350 | 128 | 478 | 136 | 181 | 317 | 133 | 109 | 242 | 1,568 |
| 8:30 to 9:30 | 286 | 178 | 464 | 323 | 113 | 436 | 129 | 195 | 324 | 138 | 102 | 240 | 1,464 |
| AM Total | 548 | 295 | 843 | 564 | 206 | 770 | 224 | 356 | 580 | 227 | 189 | 416 | 2,609 |
| 16:00 to 17:00 | 236 | 277 | 513 | 96 | 167 | 263 | 151 | 117 | 268 | 74 | 56 | 130 | 1,174 |
| 16:10 to 17:10 | 248 | 297 | 545 | 117 | 170 | 287 | 153 | 144 | 297 | 79 | 65 | 144 | 1,273 |
| 16:20 to 17:20 | 251 | 319 | 570 | 125 | 198 | 323 | 160 | 145 | 305 | 84 | 74 | 158 | 1,356 |
| 16:30 to 17:30 | 256 | 375 | 631 | 126 | 215 | 341 | 163 | 159 | 322 | 84 | 82 | 166 | 1,460 |
| 16:40 to 17:40 | 231 | 348 | 579 | 132 | 231 | 363 | 199 | 185 | 384 | 92 | 82 | 174 | 1,500 |
| 16:50 to 17:50 | 240 | 402 | 642 | 122 | 233 | 355 | 216 | 204 | 420 | 104 | 90 | 194 | 1,611 |
| 17:00 to 18:00 | 242 | 397 | 639 | 136 | 241 | 377 | 221 | 223 | 444 | 112 | 101 | 213 | 1,673 |
| PM Total | 478 | 674 | 1,152 | 232 | 408 | 640 | 372 | 340 | 712 | 186 | 157 | 343 | 2,847 |

| [Red Line] | | | | | | | | | | | |
|----------------|-----|---------------|-----|-------|--|--|--|--|--|--|--|
| Time Period | | IC 1 Red Line | | | | | | | | | |
| | 1.1 | 1.2 | 1.3 | Total | | | | | | | |
| 7:30 to 7:45 | 2 | 0 | 5 | 7 | | | | | | | |
| 8:30 to 8:45 | 9 | 0 | 11 | 20 | | | | | | | |
| AM Total | 11 | 0 | 16 | 27 | | | | | | | |
| 16:30 to 16:45 | 2 | 1 | 5 | 8 | | | | | | | |
| 17:30 to 17:45 | 4 | 0 | 13 | 17 | | | | | | | |
| PM Total | 6 | 1 | 18 | 25 | | | | | | | |

Location IC2. Kent St / Market St Date Tue, 29th November 2022 **Survey Time** 07:30-09:30 & 16:00-18:00 (4 hours)

Description Kent St Pedestrians surveys

| [Peak | Hour | Sumi | nary] | |
|-------|------|------|-------|--|
| | | | | |

| | L. carrioan oann | | | | | | | | | | | | | |
|-------------|------------------|------------------------|-----------|-------|-------------------------|-------------|------------------------|-----|-----------|-------------------------|-----|-------------|-------|-------------|
| Time Period | | South Leg (Kent St) | | | East Leg (Market St) | | North Leg (Kent St) | | | West Leg (Market St) | | | _ | |
| | Time Period | | (Kent 3t) | | | IVIai Ket 3 | ., | | (Kent 3t) | | | IVIai Ket 3 | ., | l ङ ≂ l |
| | | Α | В | Total | С | D | Total | E | F | Total | G | н | Total | Gra Tota |
| | 8:10 to 9:10 | 1,097 | 481 | 1,578 | 204 | 252 | 456 | 230 | 438 | 668 | 486 | 154 | 640 | 3,342 |
| | 17:00 to 18:00 | 763 | 1,156 | 1,919 | 299 | 144 | 443 | 439 | 254 | 693 | 172 | 325 | 497 | 3,552 |

| Į1 | υm | ıns | ını | :er | vai |
|----|----|-----|-----|-----|-----|
| _ | | | | | |

| [10mins interval] | | | | | | | | | | | | | |
|-------------------|-------|------------------------|-------|-----|-------------------------|-------|-----|------------------------|-------|-----|-------------------------|-------|----------------|
| Time Period | | South Leg (Kent St) | | (| East Leg (Market St) | | | North Leg (Kent St) | | | West Leg (Market St) | | |
| | Α | В | Total | С | D | Total | E | F | Total | G | н | Total | Grand Total |
| 7:30 to 7:40 | 76 | 34 | 110 | 9 | 20 | 29 | 17 | 17 | 34 | 24 | 13 | 37 | 210 |
| 7:40 to 7:50 | 91 | 57 | 148 | 16 | 22 | 38 | 17 | 30 | 47 | 43 | 14 | 57 | 290 |
| 7:50 to 8:00 | 107 | 53 | 160 | 21 | 26 | 47 | 23 | 44 | 67 | 47 | 12 | 59 | 333 |
| 8:00 to 8:10 | 123 | 79 | 202 | 25 | 35 | 60 | 32 | 42 | 74 | 57 | 22 | 79 | 415 |
| 8:10 to 8:20 | 163 | 89 | 252 | 36 | 31 | 67 | 35 | 42 | 77 | 83 | 20 | 103 | 499 |
| 8:20 to 8:30 | 183 | 118 | 301 | 29 | 34 | 63 | 40 | 73 | 113 | 69 | 24 | 93 | 570 |
| 8:30 to 8:40 | 174 | 78 | 252 | 30 | 45 | 75 | 38 | 63 | 101 | 90 | 39 | 129 | 557 |
| 8:40 to 8:50 | 244 | 43 | 287 | 41 | 48 | 89 | 41 | 88 | 129 | 94 | 21 | 115 | 620 |
| 8:50 to 9:00 | 203 | 78 | 281 | 34 | 42 | 76 | 38 | 94 | 132 | 91 | 29 | 120 | 609 |
| 9:00 to 9:10 | 130 | 75 | 205 | 34 | 52 | 86 | 38 | 78 | 116 | 59 | 21 | 80 | 487 |
| 9:10 to 9:20 | 127 | 76 | 203 | 24 | 27 | 51 | 40 | 41 | 81 | 44 | 18 | 62 | 397 |
| 9:20 to 9:30 | 122 | 49 | 171 | 34 | 27 | 61 | 45 | 43 | 88 | 48 | 19 | 67 | 387 |
| AM Total | 1,743 | 829 | 2,572 | 333 | 409 | 742 | 404 | 655 | 1,059 | 749 | 252 | 1,001 | 5,374 |
| 16:00 to 16:10 | 66 | 111 | 177 | 49 | 15 | 64 | 28 | 19 | 47 | 16 | 29 | 45 | 333 |
| 16:10 to 16:20 | 111 | 158 | 269 | 26 | 17 | 43 | 28 | 32 | 60 | 31 | 28 | 59 | 431 |
| 16:20 to 16:30 | 87 | 109 | 196 | 38 | 16 | 54 | 45 | 43 | 88 | 16 | 40 | 56 | 394 |
| 16:30 to 16:40 | 88 | 121 | 209 | 32 | 20 | 52 | 52 | 36 | 88 | 31 | 29 | 60 | 409 |
| 16:40 to 16:50 | 124 | 114 | 238 | 39 | 18 | 57 | 44 | 53 | 97 | 25 | 36 | 61 | 453 |
| 16:50 to 17:00 | 98 | 164 | 262 | 37 | 24 | 61 | 49 | 49 | 98 | 22 | 37 | 59 | 480 |
| 17:00 to 17:10 | 134 | 176 | 310 | 49 | 23 | 72 | 78 | 41 | 119 | 24 | 53 | 77 | 578 |
| 17:10 to 17:20 | 119 | 181 | 300 | 66 | 26 | 92 | 80 | 40 | 120 | 31 | 48 | 79 | 591 |
| 17:20 to 17:30 | 115 | 208 | 323 | 44 | 16 | 60 | 61 | 45 | 106 | 26 | 67 | 93 | 582 |
| 17:30 to 17:40 | 122 | 188 | 310 | 50 | 20 | 70 | 81 | 36 | 117 | 38 | 70 | 108 | 605 |
| 17:40 to 17:50 | 141 | 191 | 332 | 41 | 24 | 65 | 68 | 48 | 116 | 22 | 40 | 62 | 575 |
| 17:50 to 18:00 | 132 | 212 | 344 | 49 | 35 | 84 | 71 | 44 | 115 | 31 | 47 | 78 | 621 |
| PM Total | 1,337 | 1,933 | 3,270 | 520 | 254 | 774 | 685 | 486 | 1,171 | 313 | 524 | 837 | 6,052 |

| [Kea Line] | | | | |
|----------------|-----|---------|---------|-------|
| Time Period | | IC 2 Re | ed Line | |
| | 2.1 | 2.2 | 2.3 | Total |
| 8:30 to 8:45 | 77 | 6 | 2 | 85 |
| 9:15 to 9:30 | 20 | 1 | 1 | 22 |
| AM Total | 97 | 7 | 3 | 107 |
| 16:15 to 16:30 | 5 | 0 | 3 | 8 |
| 17:45 to 18:00 | 5 | 5 | 2 | 12 |
| PM Total | 10 | 5 | 5 | 20 |

| Hourly Summary | | | | | | | | | | | | | |
|-----------------------|------------------------|-------|-------|-------------------------|-----|-------|------------------------|-----|-------|-------------------------|-----|-------|----------------|
| Time Period | South Leg (Kent St) | | | East Leg (Market St) | | | North Leg (Kent St) | | | West Leg (Market St) | | | Grand Total |
| | Α | В | Total | С | D | Total | E | F | Total | G | Н | Total | Grand Total |
| 7:30 to 8:30 | 743 | 430 | 1,173 | 136 | 168 | 304 | 164 | 248 | 412 | 323 | 105 | 428 | 2,317 |
| 7:40 to 8:40 | 841 | 474 | 1,315 | 157 | 193 | 350 | 185 | 294 | 479 | 389 | 131 | 520 | 2,664 |
| 7:50 to 8:50 | 994 | 460 | 1,454 | 182 | 219 | 401 | 209 | 352 | 561 | 440 | 138 | 578 | 2,994 |
| 8:00 to 9:00 | 1,090 | 485 | 1,575 | 195 | 235 | 430 | 224 | 402 | 626 | 484 | 155 | 639 | 3,270 |
| 8:10 to 9:10 | 1,097 | 481 | 1,578 | 204 | 252 | 456 | 230 | 438 | 668 | 486 | 154 | 640 | 3,342 |
| 8:20 to 9:20 | 1,061 | 468 | 1,529 | 192 | 248 | 440 | 235 | 437 | 672 | 447 | 152 | 599 | 3,240 |
| 8:30 to 9:30 | 1,000 | 399 | 1,399 | 197 | 241 | 438 | 240 | 407 | 647 | 426 | 147 | 573 | 3,057 |
| AM Total | 1,743 | 829 | 2,572 | 333 | 409 | 742 | 404 | 655 | 1,059 | 749 | 252 | 1,001 | 5,374 |
| 16:00 to 17:00 | 574 | 777 | 1,351 | 221 | 110 | 331 | 246 | 232 | 478 | 141 | 199 | 340 | 2,500 |
| 16:10 to 17:10 | 642 | 842 | 1,484 | 221 | 118 | 339 | 296 | 254 | 550 | 149 | 223 | 372 | 2,745 |
| 16:20 to 17:20 | 650 | 865 | 1,515 | 261 | 127 | 388 | 348 | 262 | 610 | 149 | 243 | 392 | 2,905 |
| 16:30 to 17:30 | 678 | 964 | 1,642 | 267 | 127 | 394 | 364 | 264 | 628 | 159 | 270 | 429 | 3,093 |
| 16:40 to 17:40 | 712 | 1,031 | 1,743 | 285 | 127 | 412 | 393 | 264 | 657 | 166 | 311 | 477 | 3,289 |
| 16:50 to 17:50 | 729 | 1,108 | 1,837 | 287 | 133 | 420 | 417 | 259 | 676 | 163 | 315 | 478 | 3,411 |
| 17:00 to 18:00 | 763 | 1,156 | 1,919 | 299 | 144 | 443 | 439 | 254 | 693 | 172 | 325 | 497 | 3,552 |
| PM Total | 1,337 | 1,933 | 3,270 | 520 | 254 | 774 | 685 | 486 | 1,171 | 313 | 524 | 837 | 6,052 |

