ratio:

**Prepared for**
Astrodome Hire Pty Ltd

**Our reference: 13373-REP03-F01**

# traffic impact

**Proposed Mixed Use Rezoning**

81-95 Burnley Street, Richmond &
26-34 Doonside Street, Richmond

19 December 2018

r:

**ratio:**consutants

8 Gwynne Street
Cremorne VIC 3121
ABN 93 983 380 225

**Prepared for:**

Astrodome Hire Pty Ltd

Our reference 13373-REP03-F01

# Table of contents:

# 1 Introduction:

Ratio Consultants Pty Ltd was commissioned by Astrodome Hire Pty Ltd to review at a strategic level the transport and parking aspects of the proposed rezoning of the site at 81-95 Burnley Street & 26-34 Doonside Street in Richmond from Industrial 3 Zone to Mixed Use Zone. The report also includes recommendations for encouraging the adoption of sustainable transport.

The preliminary concept plans prepared for the proposed rezoning show six new buildings across three lots and varying between 7-12 storeys in height. Car parking is proposed within basement and podium levels, with access provided to Doonside Street and Appleton Street. Preliminary yield analysis indicates the development will comprise in the order of:

— 557 dwellings;
— 15,410 square metres[1] of net commercial floor area; and
— 519 square metres[1] of leasable retail floor area;

This report has been prepared to address the traffic impacts and car parking needs of the proposed rezoning. It is based on surveys and observations in the vicinity of the site and on previous studies of similar developments elsewhere in Melbourne.

Further detailed transport and parking analysis will be undertaken at the planning permit stage.

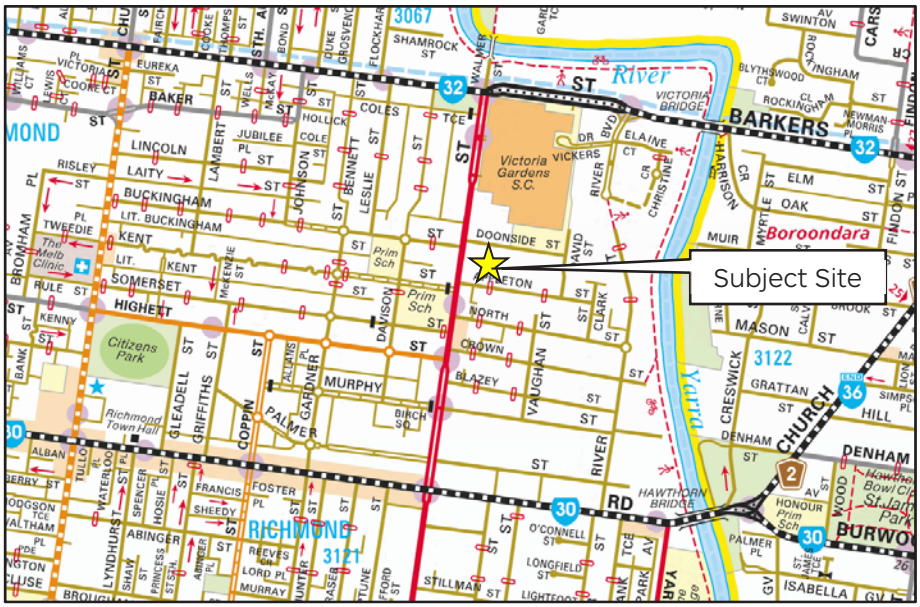
[1] Measured as 85% of the Gross Floor Area (GFA)

## 2.1 Location and Environment

The subject site is located on the east side of Burnley Street, between Doonside Street and Appleton Street in Richmond. The site's location relative to the surrounding road network is shown in Figure 2.1, whilst an aerial view of the subject site and surrounds is provided in Figure 2.2.

The site is irregular in shape, with frontages of approximately 80 metres, 170 metres and 130 metres to Burnley Street, Doonside Street and Appleton Street respectively and an area of approximately 1.3 hectares.

**Figure 2.1: Site Location**




*Source: Melways Edition 39*

**Figure 2.2: Aerial View of the Site and Surrounds**


*Source: www.nearmap.com*

The subject site is currently occupied by the 'Harry the Hirer' party and marquee hire company.

A concrete hardstand area located at the eastern end of the site and accessed from Doonside Street provides for the parking and loading needs. Additional parking is located on a raised deck car park in the southeast corner of the site (accessed via the concrete hardstand) and within a recessed area in the northeast corner of the site (accessed directly from Doonside Street). Across the site, there is an estimated 85 car spaces.

The site also includes a one-way drive-through arrangement, allowing for customers to enter the building via a crossover to Doonside Street to rent or return equipment and subsequently exit via the abovementioned concrete hardstand area.

There are eight existing crossovers to the site, a number of which are redundant. The existing crossovers are summarised as follows:

— Six crossovers to Doonside Street, including one crossover servicing the customer entry, one crossover to the concrete hardstand, one crossover to the parking within the recessed area in the northeast corner of the site and three redundant crossovers.
— One crossover to Appleton Street servicing a roller door.
— One crossover to Burnley Street servicing a roller door.

Surrounding land use is mixed in nature. To the east, land use comprises a mix of ongoing industrial and also industrial uses being converted to residential, whilst to the south and west, land use is primarily established residential. To the north is Victoria Gardens Shopping Centre which comprises a wide variety of retail uses, including a full line supermarket, while further north are a number of higher density residential developments.

A number of mixed-use developments have been proposed and/or approved in the vicinity of the site, as discussed further in Section 2.4.

## 2.2 Existing Operation

'Harry the Hirer' currently operates on the site during the following hours:

— 8:00am-5:30pm weekdays.
— 9:00am-12:00 noon Saturdays.
— Closed Sundays.

There is typically up to 115 staff on-site at any one time. Loading generally occurs within the abovementioned concrete hardstand area.

## 2.3 Victoria Street East Precinct, Richmond Urban Design Framework

The Victoria Street East Precinct, Richmond Urban Design Framework (UDF) was prepared as a guide for change in the area after the State Government identified the precinct as a new activity centre. The UDF was linked to the Yarra Planning Scheme through references to the approved version dated 16 November 2005.

The subject site is located within the Victoria Street East Precinct, as shown in Figure 2.3, and is identified as an opportunity for a mixed-use rezoning to enable a mix of commercial and higher density residential uses.

**Figure 2.3: Victoria Street East Precinct**


The UDF identifies a major objective to minimise the use of private motor vehicles, stating the following:

> "*Encourage the use of public transport, cycling and walking for access between the precinct and other parts of Melbourne, in preference to use of private motor vehicles.*"

In addition to the above, the UDF makes the following recommendations which are of relevance to this report:

— Create a new north-south pedestrian link past 26 Doonside Street (i.e. through the eastern end of the subject site); and
— Improve Doonside Street as a major vehicular entry to Victoria Gardens and the area to its south, to keep traffic away from Victoria Street and housing south of Appleton Street. Doonside Street should be widened (on the north side, to create an overall road reserve width of 18 to 20m) and extended north into Victoria Gardens via David Street.

GTA Consultants prepared a traffic report titled "*Victoria Street East Precinct – Priority Development Panel Traffic and Car Parking Report*". The Transport Impact Assessment notes that this report considered the future transport needs of the overall Victoria Street Precinct and detailed a number of required mitigating works to cater for the precinct, including the following:

— Creation of road link between River Boulevard and David Street;
— Signalisation of intersection of Doonside Street/Burnley Street;
— Creation of pedestrian and cycle links to Doonside Street;

## 2.4 Adjacent Development

A number of mixed-use development proposals have been proposed and/or approved in the vicinity of the site. These are discussed below:

**36-44 Doonside Street and 27-41 Appleton Street, Richmond**

The proposed development at 36-44 Doonside Street and 27-41 Appleton Street, Richmond (currently under construction) comprises 303 dwellings, 337 square metres of retail and 320 car spaces.

**9-15 David Street, Richmond**

The proposed development at 9-15 David Street, Richmond (currently nearing completion) comprises 140 dwellings and 183 car spaces.

**171 Buckingham Street, Richmond**

The approved development at 171 Buckingham Street, Richmond (construction to commence in 2019) includes 176 apartments and three townhouses.

## 2.5 Road Network

**Burnley Street** is a declared Main Road which generally extends in a north-south direction from Victoria Street to Barkly Avenue.

In the vicinity of the site, Burnley Street operates with a single traffic lane and a single bicycle lane in each direction, with parallel parking permitted along both kerbs clear of traffic, as shown in Figure 2.4. Constructed footpaths are provided along both sides of Burnley Street.

Along the site frontage, a posted speed limit of 40 kilometres per hour applies between 8:00am-9:30am and 2:30pm-4:00pm on school days. Outside of these times, a posted speed limit of 60 kilometres per hour applies.

**Figure 2.4: View of Burnley Street in the Vicinity of the Site**

**Doonside Street** is a local road which generally extends in an east-west direction from David Street to Burnley Street.

Doonside Street has a carriageway width of approximately 9.7 metres, allowing for a single lane of traffic in each direction, with parallel parking permitted along both kerbs clear of traffic. Constructed footpaths are provided along both sides of Doonside Street.

A posted speed limit of 40 kilometres per hour applies along the length of Doonside Street.

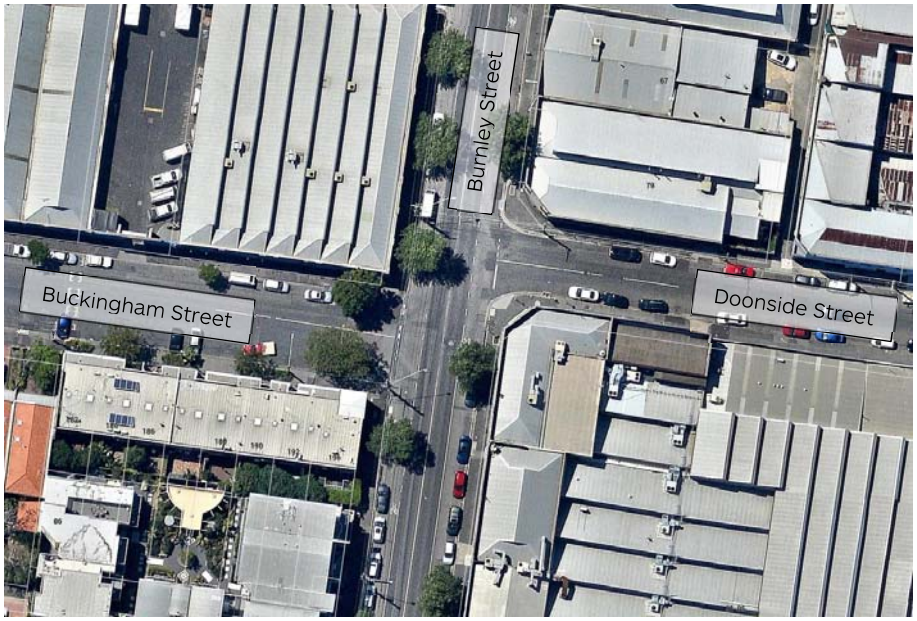
A view of Doonside Street in the vicinity of the site is provided in Figure 2.5.

The Doonside Street/Burnley Street intersection is a 'Stop' controlled t-intersection, with priority given to Burnley Street.

Approximately 15 metres to the south of the Doonside Street/Burnley Street intersection (centre to centre) is the Buckingham Street/Burnley Street t-intersection, forming a staggered t-intersection arrangement, as shown in Figure 2.6. The Buckingham Street/Burnley Street intersection is 'Give Way' controlled, with priority given to Burnley Street.

**Figure 2.5: View of Doonside Street in the Vicinity of the Site**


**Figure 2.6: Aerial of the Doonside Street/Burnley Street and Buckingham Street/Burnley Street Staggered t-intersection Arrangement**




**Appleton Street** is a local road which extends generally in an east-west direction from Clark Street to Burnley Street.

Appleton Street has a carriageway width of approximately 7.9 metres, which allows for two directions of travel, with parallel parking permitted along both kerbs. Where vehicles are parked on both sides, the effective width for through vehicles is reduced to a single lane, allowing for a single direction of travel at any one time in between passing opportunities. Constructed footpaths are provided along both sides of Appleton Street.

A posted speed limit of 40 kilometres per hour applies along the length of Appleton Street.

The Appleton Street/Burnley Street intersection is a 'Stop' controlled t-intersection, with priority given to Burnley Street. Movements in and out of Appleton Street are restricted to left in/left out only.

A view of Appleton Street in the vicinity of the site is provided in Figure 2.7.

**Figure 2.7: View of Appleton Street in the Vicinity of the Site**

## 2.6 Traffic Conditions

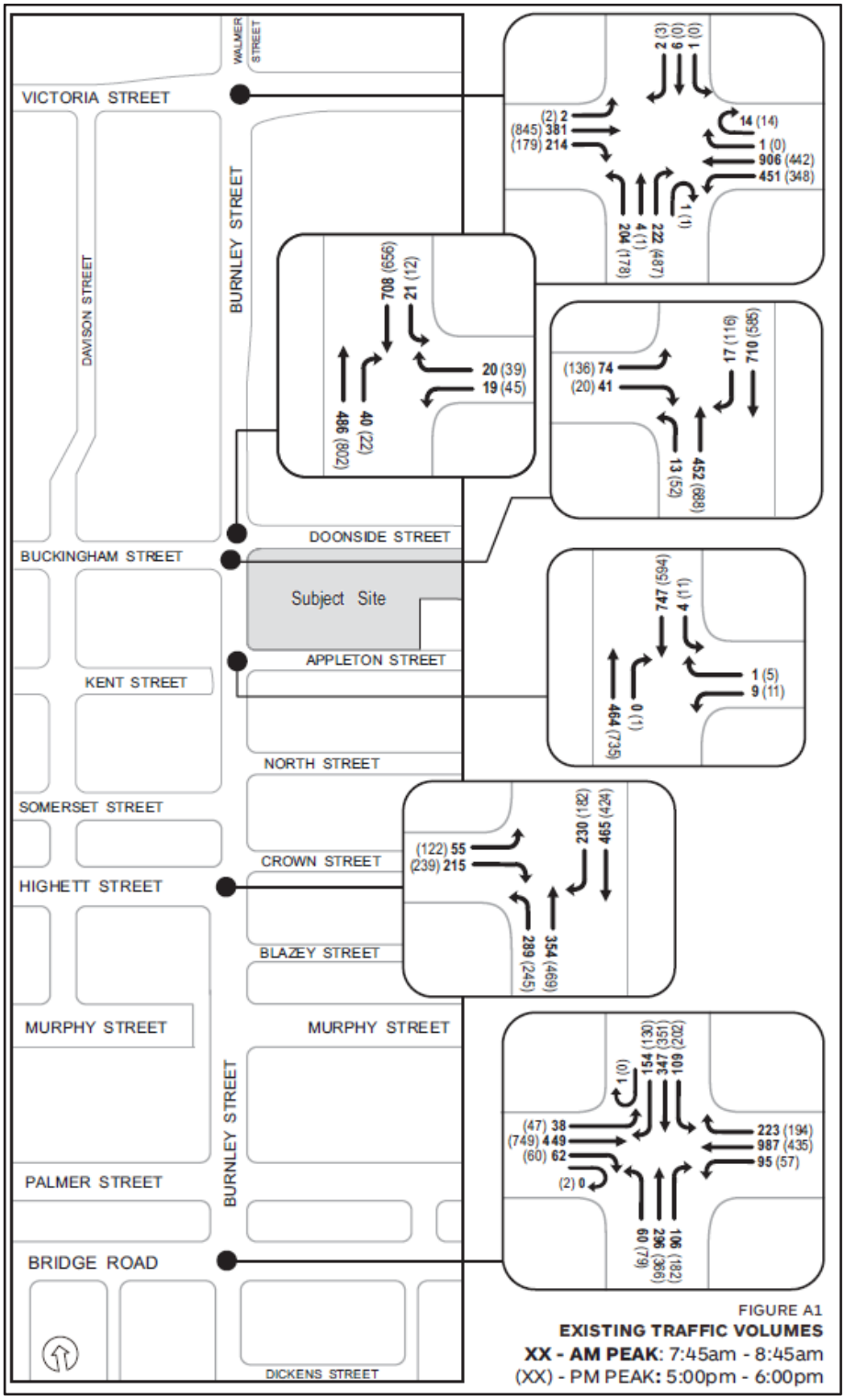
### Existing Peak Hour Turning Movements

The existing peak hour turning movements in the vicinity of the site were surveyed on Thursday 14 April 2016 between 7:30am-9:30am and 4:30pm-6:30pm at the following intersections:

- Burnley Street/Victoria Street/Walmer Street;
- Burnley Street/Doonside Street;
- Burnley Street/Buckingham Street;
- Burnley Street/Appleton Street;
- Burnley Street/Highett Street; and
- Burnley Street/Bridge Road.

The overall network peaks occurred between 7:45am-8:45am in the AM peak and between 5:00pm-6:00pm in the PM peak. The peak hour results are provided in Figure 2.8 and Appendix A. It is noted that some right turn movements were recorded at the Burnley Street/Appleton Street intersection, despite the left in/left out restriction. Review of these volumes against previously collected volumes indicates that traffic growth along Burnley Street is minimal.

**Figure 2.8: Existing Peak Hour Turning Movements**



To determine if the volume of traffic has increased on the road network since the traffic movement counts were undertaken in April 2016, a comparison of traffic volumes has been undertaken using VicRoads Traffic Signal Volume Data at the intersection of Victoria Street and Burnley Street. The last three Thursdays of available data (Thursday 22 November 2018, 29 November 2018, 6 December 2018) were compared to the traffic volumes recorded on Thursday 14 April 2016. The peak hour volumes are compared in Table 2.1.

**Table 2.1: Comparison of Traffic**

| Date | AM Peak Hour Volumes | PM Peak Hour Volumes |
|---|---|---|
| **Thursday 14 April 2016 (surveyed date)** | **2,432 movements** | **2,469 movements** |
| Thursday 22 November 2018 | 2,193 movements (- 9.8%) | 2,477 movements (- 0.32%) |
| Thursday 29 November 2018 | 2, 345 movements (- 3.58%) | 2,488 movements (+ 0.77%) |
| Thursday 6 December 2018 | 2,475 movements (+ 1.77%) | 2,413 movements (- 2.27%) |
| Average | 2,337 movements (- 3.9%) | 2,459 movements (-0.39%) |

The above table demonstrates that the level of traffic recorded at the intersection of Victoria Street and Burnley Street has not increased since the surveys were undertaken in April 2016 (actually showing a slight decrease in both the AM and PM peak hour) and accordingly it is considered appropriate to use the traffic survey data from April 2016 for the purposes of the traffic analysis in this report.

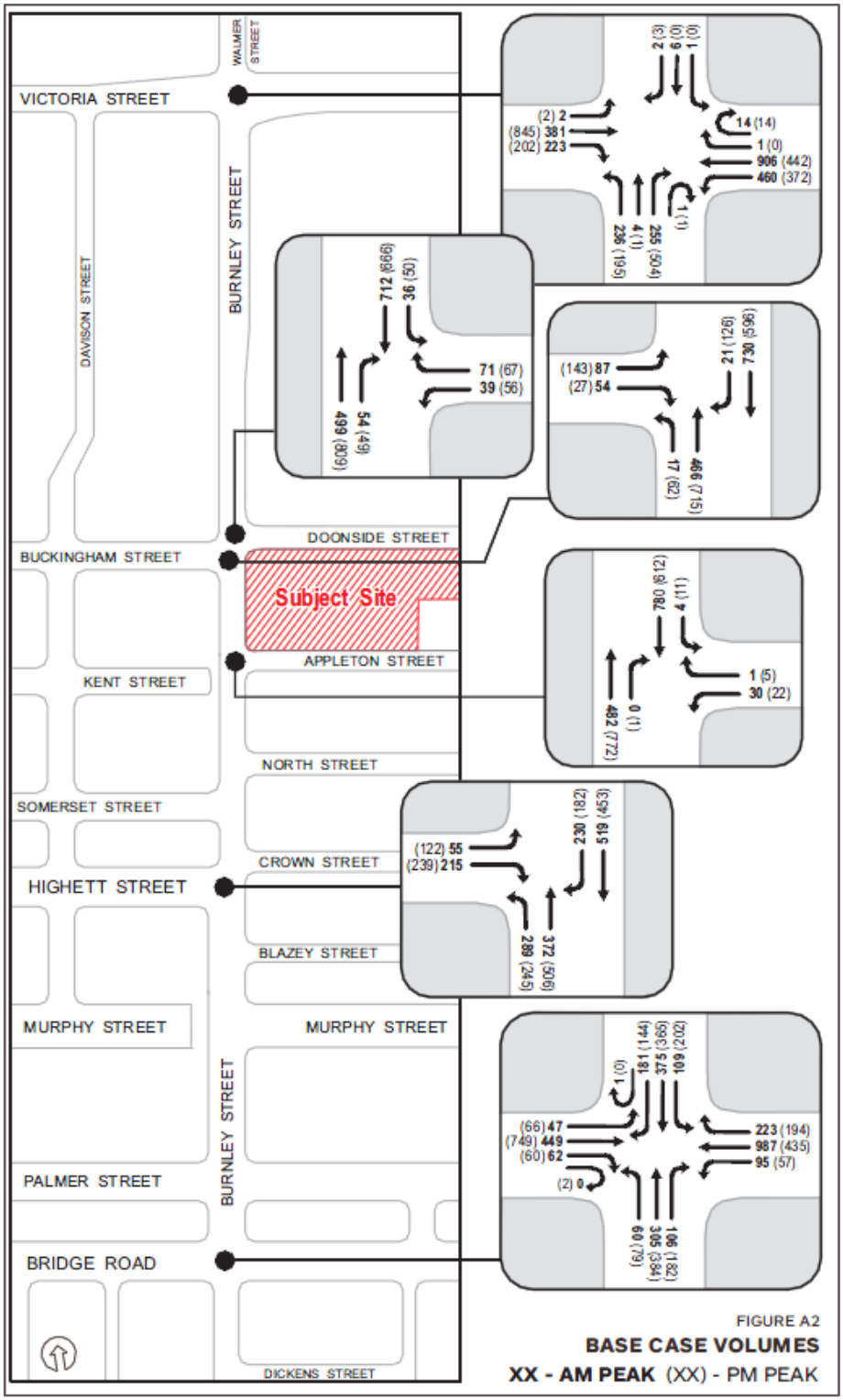
### Base Case Peak Hour Turning Movements

Based on the existing peak hour turning movements and the anticipated traffic generation associated with the nearby developments discussed in Section 2.4, base case peak hour turning movements have been developed and are provided in Figure 2.9 and Appendix A.

The anticipated traffic generation and distribution has been taken from the respective traffic reports discussed in Section 2.4. Where the distribution detailed in the respective traffic reports does not extend as far as the surveyed intersections, the distribution adopted in Section 7.2 for the proposed development was applied.

It is also noted that due to movements into and out of Appleton Street now being restricted to left in/left out only, movements previously assumed to be right turns in or out of Appleton Street have been relocated to Doonside Street.

**Figure 2.9: Base Case Peak Hour Turning Movements**




(Includes existing traffic plus anticipated traffic generation of 36-44 Doonside Street and 27-41 Appleton Street, 9-15 David Street and 171 Buckingham Street developments).

### Existing Two-Way Traffic Volumes – Burnley Street

In order to determine the existing daily traffic volumes along Burnley Street, an automatic tube count was undertaken from Thursday 14 – Thursday 21 April 2016. The tube count was located on Burnley Street, between Buckingham Street and Appleton Street.

A summary of the results is provided in Table 2.2.

**Table 2.2: Summary of Automatic Tube Count Results – Burnley Street**

| Type | Northbound | Southbound | Combined |
|---|---|---|---|
| AM Peak Average (veh/h) 8:00am-9:00am | 470 | 704 | 1,174 |
| PM Peak Average (veh/h) 5:00pm-6:00pm | 738 | 622 | 1,360 |
| **Weekday Daily Average (veh/d)** | **8,185** | **8,136** | **16,321** |

### Existing and Base Case Intersection Operation

The existing operation and the anticipated base case operation of the surveyed intersections was analysed using SIDRA Intersection. The parameters used to assess the intersections are summarised below.

**Degree of Saturation (D.O.S.)** is a ratio of arrival (or demand) flow to capacity. Degrees of saturation above 1.00 represent oversaturated conditions and degrees of saturation below 1.00 represent under saturated conditions. The D.O.S. ratings are detailed in Table 2.3.

Although operating conditions with a degree of saturation of close to 1.00 are undesirable, it is acknowledged that this level of congestion is typical of many metropolitan intersections during the AM and PM peak hours.

**Table 2.3: Degree of Saturation Ratings**

| Degree of Saturation (D.O.S.) | Rating |
|---|---|
| Up to 0.6 | Excellent |
| 0.61 – 0.70 | Very Good |
| 0.71 – 0.80 | Good |
| 0.81 – 0.90 | Fair |
| 0.91 – 1.00 | Poor |
| Greater than 1.00 | Very poor |

The **95th percentile queue length (95%ile queue)** is the value below which 95 percent of all observed cycle queue lengths fall, or 5 percent of all observed queue lengths exceed.

**Average Delay** is the average time, in seconds, that vehicles can be expected to wait at an intersection.

The results for the AM and PM peaks are provided in Table 2.4 and Table 2.5 respectively, whilst detailed results are attached in Appendix B. Review of the results indicates the following:

— Burnley Street/Victoria Street/Walmer Street is currently operating within the 'Fair' category during both the AM and PM peak periods. This is expected to continue for the base case conditions;
— The Burnley Street/Doonside Street, Burnley Street/Buckingham Street and Burnley Street/Appleton Street intersections are all currently operating within the 'Excellent' category during both the AM and PM peak periods. This is expected to continue for the base case conditions;
— The Burnley Street/Highett Street intersection is currently operating within the 'Very Good' category during the AM peak and within the 'Good' category during the PM peak. The intersection is expected to operate with the 'Good' category during the AM peak and 'Fair' category during the PM for the base case conditions.
— The Burnley Street/Bridge Road intersection is currently saturated during the PM peak, with a Degree of Saturation of approximately 1.00. This is expected to continue for the base case conditions. The intersection is operating under the 'Poor' category during the AM peak and this is not expected to change for the base case conditions.

**Table 2.4: SIDRA Results - Existing and Base Case Operation - AM Peak**

| Intersection | Existing Conditions | | | Base Case Conditions* | | |
|---|---|---|---|---|---|---|
| | D.O.S. | 95%ile Queue (m) | Avg Delay (s) | D.O.S. | 95%ile Queue (m) | Avg Delay (s) |
| Burnley St/Victoria St | 0.846 | 251 | 33 | 0.866 | 253 | 34 |
| Burnley St/Doonside St | 0.395 | 7 | 1 | 0.397 | 10 | 3 |
| Burnley St/Buckingham St | 0.412 | 4 | 1 | 0.428 | 6 | 2 |
| Burnley St/Appleton St | 0.419 | 1 | 0 | 0.437 | 2 | 1 |
| Burnley St/Highett St | 0.676 | 111 | 21 | 0.716 | 117 | 21 |
| Burnley St/Bridge Rd | 0.946 | 360 | 53 | 0.946 | 361 | 51 |

*(Includes existing traffic plus anticipated traffic generation of 36-44 Doonside Street and 27-41 Appleton Street, 9-15 David Street and 171 Buckingham Street developments).

**Table 2.5: SIDRA Results - Existing and Base Case Operation – PM Peak**

| Intersection | Existing Conditions | | | Base Case Conditions* | | |
|---|---|---|---|---|---|---|
| | D.O.S. | 95%ile Queue (m) | Avg Delay (s) | D.O.S. | 95%ile Queue (m) | Avg Delay (s) |
| Burnley St/Victoria St | 0.842 | 161 | 32 | 0.877 | 172 | 35 |
| Burnley St/Doonside St | 0.475 | 7 | 2 | 0.534 | 15 | 3 |
| Burnley St/Buckingham St | 0.483 | 25 | 3 | 0.511 | 29 | 4 |
| Burnley St/Appleton St | 0.411 | 1 | 0 | 0.432 | 2 | 0 |
| Burnley St/Highett St | 0.779 | 158 | 25 | 0.802 | 174 | 25 |
| Burnley St/Bridge Rd | 0.999 | 283 | 57 | 1.030 | 345 | 67 |

*(Includes existing traffic plus anticipated traffic generation of 36-44 Doonside Street and 27-41 Appleton Street, 9-15 David Street and 171 Buckingham Street developments).

### Gap Analysis – Burnley Street/Doonside Street

In order to provide further assessment of the Burnley Street/Doonside Street intersection, a gap analysis was undertaken of the number of available gaps in the Burnley Street traffic flow for vehicles to utilise when turning in and out of Doonside Street.

The gap analysis was undertaken for the AM peak period (7:45am-8:45am) and the PM peak period (5:00pm-6:00pm) on Thursday 14 April 2016. The analysis assumed critical acceptance gap and follow up headway in accordance with Table 3.4 of the Austroads Guide to Road Design – Part 4A: Unsignalised and Signalised Intersections as follows:

— 5 second critical gap and 3 second follow up headway for left and right turns out of Doonside Street; and
— 4 second critical gap and 2 second follow up headway for right turns into Doonside Street.

The analysis indicated sufficient capacity for the following number of movements into and out of Burnley Street:

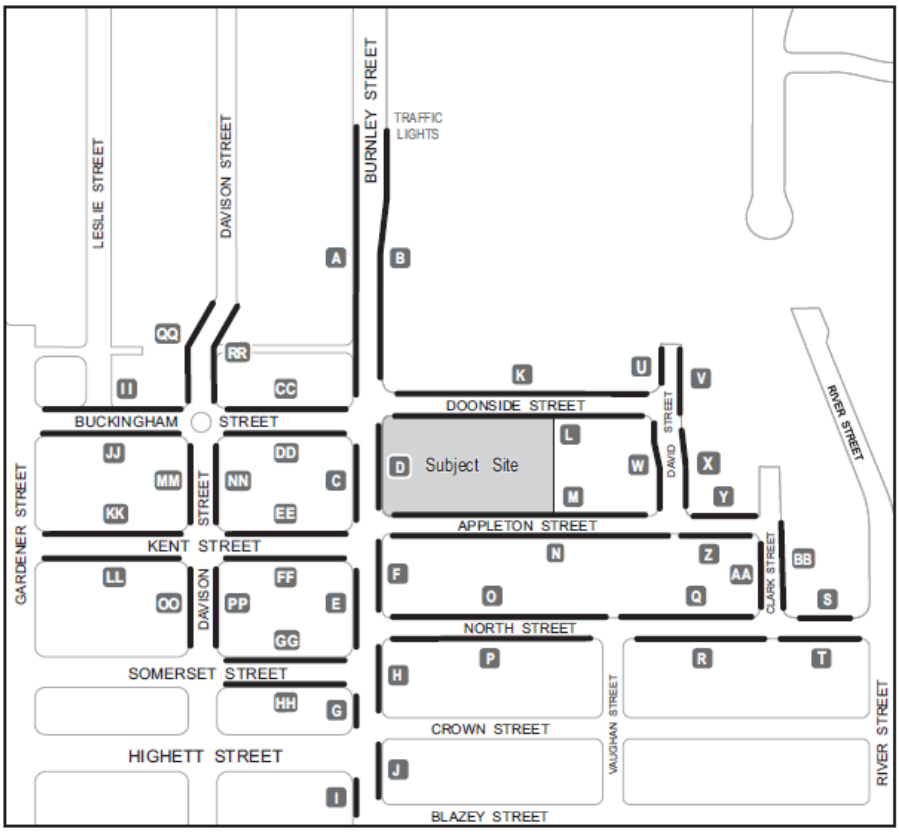
— During the AM Peak (7:45am-8:45am)
  - 393 right turns out of Doonside Street onto Burnley Street
  - 545 left turns out of Doonside Street onto Burnley Street
  - 933 right turns into Doonside Street from Burnley Street

— PM Peak (5:00pm-6:00pm)
  - 321 right turns out of Doonside Street onto Burnley Street
  - 660 left turns out of Doonside Street onto Burnley Street
  - 1,077 right turns into Doonside Street from Burnley Street

## 2.7 Parking Conditions

Ratio Consultants commissioned car park occupancy surveys on Thursday 14 April 2016 between 11:00am-8:00pm and Saturday 16 April 2016 between 11:00am-8:00pm. The surveys were undertaken in hourly intervals and on-street parking within an approximate 300 metre walk of the subject site was included in the survey. The extent of the survey area is shown in Figure 2.10 and detailed survey results are presented in Appendix C.

**Figure 2.10: Car Parking Survey Area**




During the day, parking in the survey area is generally a mixture of unrestricted and time restricted (generally 1P and 2P) parking. At night, parking in the survey area is generally unrestricted. For the purposes of this assessment, parking with a restriction of less than 1 hour has not been considered suitable for use by visitors to the site and as such, has been excluded from the results.

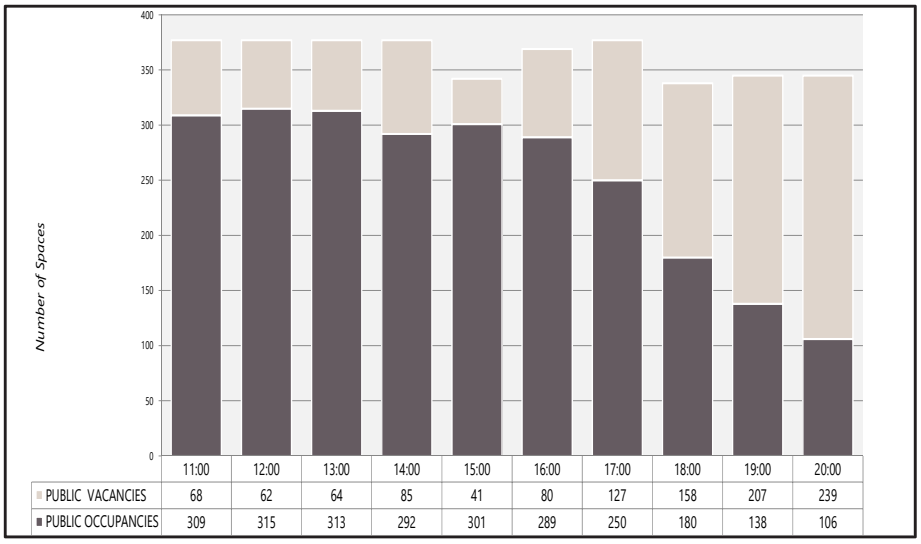
In summary, the survey results showed:

**Thursday 14 April 2016**

— There was a supply of 338-377 car spaces within the survey area, with the variation in supply generally a result of permit zones, loading zones, no stopping restrictions and short term time restrictions (i.e. less than 1 hour) which are only in effect during certain times.
— The peak occupancy occurred at 3:00pm when 301 out of 342 spaces were occupied (88% occupancy). At this time, 41 spaces remained vacant. It is noted that the peak occurred around typical school pick up time, with Yarra Primary School and Trinity Catholic School both located within the survey area.
— During the evening (i.e. 6:00pm and later), there was no less than 158 spaces available within the survey area.
— Along the site frontages (zones D, L and M), there was a total supply of 60 spaces. During the survey period, parking within zones D, L and M was 100% occupied between 11:00am-1:00pm and at 3:00pm.
— During the evening (i.e. 6:00pm and later), there was no less than 23 spaces available within zones D, L and M.

Figure 2.11 provides a graphical representation of the Thursday parking demands.

**Figure 2.11: Car Parking Profile – Thursday 14 April 2016**




| | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|
| PUBLIC VACANCIES | 68 | 62 | 64 | 85 | 41 | 80 | 127 | 158 | 207 | 239 |
| PUBLIC OCCUPANCIES | 309 | 315 | 313 | 292 | 301 | 289 | 250 | 180 | 138 | 106 |

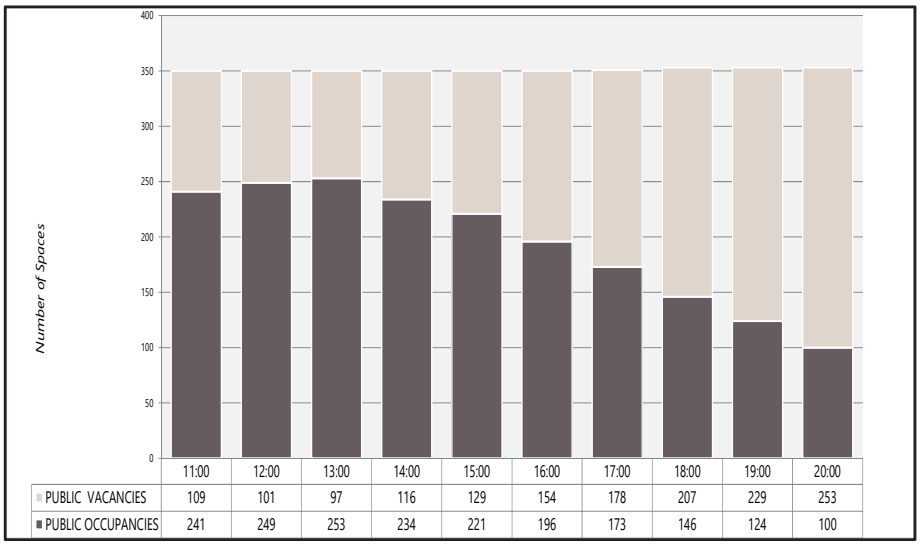
**Saturday 16 April 2016**

— There was a supply of 350-353 car spaces within the survey area, with the variation in supply a result of short term time restrictions (i.e. less than 1 hour) which are only in effect during certain times.
— The peak occupancy occurred at 1:00pm when 253 out of 350 spaces were occupied (72% occupancy). At this time, 97 spaces remained vacant.
— During the evening (i.e. 6:00pm and later), there was no less than 207 spaces available within the survey area.
— Along the site frontages (zones D, L and M), there was a total supply of 60 spaces. During the survey period, the peak occupancy of zones D, L and M occurred at 12:00pm and 1:00pm when 44 out of 60 spaces were occupied (73% occupancy). At this time, 16 spaces remained vacant.

— During the evening (i.e. 6:00pm and later), there was no less than 36 spaces available within zones D, L and M.

Figure 2.12 provides a graphical representation of the Saturday parking demands.

**Figure 2.12: Car Parking Profile – Saturday 16 April 2016**




| | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|
| PUBLIC VACANCIES | 109 | 101 | 97 | 116 | 129 | 154 | 178 | 207 | 229 | 253 |
| PUBLIC OCCUPANCIES | 241 | 249 | 253 | 234 | 221 | 196 | 173 | 146 | 124 | 100 |

Recent site observations in December 2018 indicate that car parking conditions in the area surrounding the subject site have not markedly changed since the detailed observations undertake in 2016. Accordingly, the 2016 counts are considered fit-for-purpose in providing an understanding the surrounding car parking context.

## 2.8 Sustainable Transport

### Public Transport

The subject site has very good access to public transport, with numerous tram routes operating within close proximity of the site.

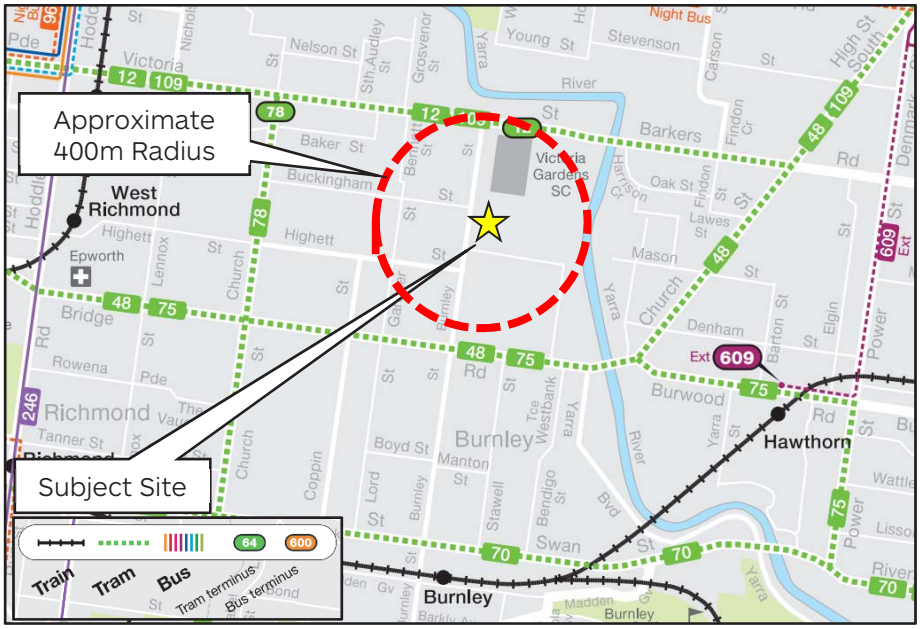
The nearest train station is Burnley Station, located an approximate 1.4 kilometre walk from the subject site, whilst North Richmond Station is readily accessible via Tram Routes 12 and 109 and Hawthorn Station is readily accessible via Tram Routes 48 and 75.

The public transport services available in the vicinity of the site are detailed in Table 2.6 and are illustrated in Figure 2.13.

**Table 2.6: Public Transport Provision**

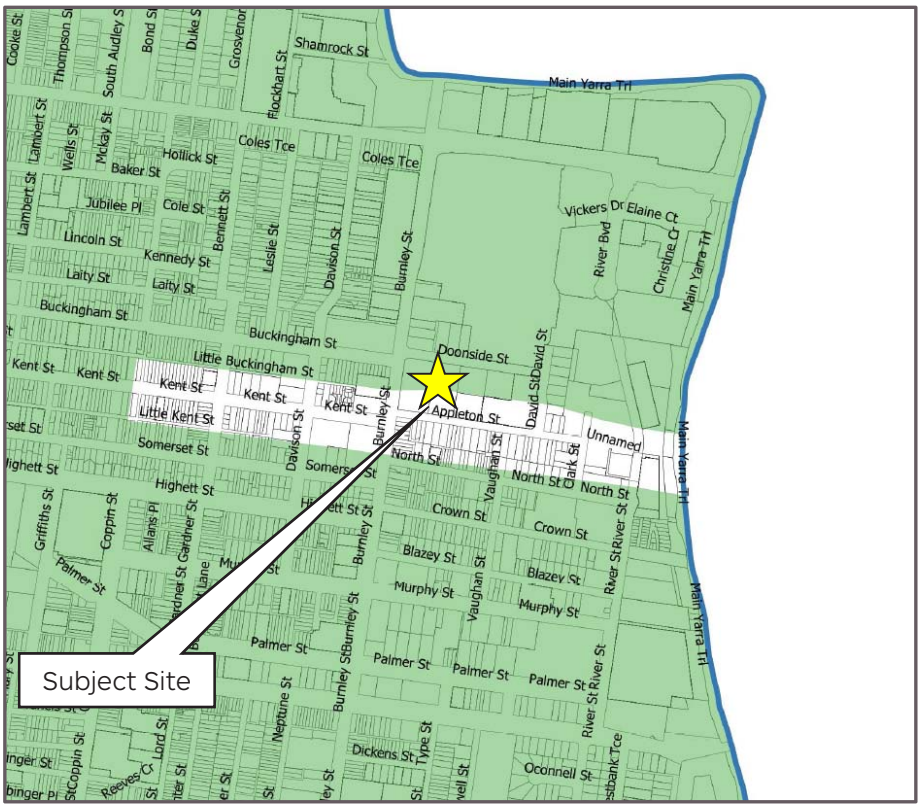
| Service | Route No's | Route | Nearest Stop | Approximate Walking Distance |
|---|---|---|---|---|
| Tram | 12 | Victoria Gardens – St Kilda | Burnley St / Victoria St | 350m |
| | 109 | Box Hill – Port Melbourne | | |
| | 48 | North Balwyn – Victoria Harbour Docklands | Burnley St / Bridge Rd | 450m |
| | 75 | Etihad Stadium Docklands – Vermont South | | |
| | 78 | North Richmond – Balaclava via Prahran | Kent St / Church St | 850m |
| Train | Glen Waverley, Alamein, Belgrave and Lilydale Lines | | Burnley Station | 1.4km |
| | Hurstbridge and South Morang Lines | | North Richmond Station | 1.8km (accessible via tram routes 12 and 109) |
| | Alamein, Belgrave and Lilydale Lines | | Hawthorn Station | 2km (accessible via tram routes 48 and 75) |

**Figure 2.13: Public Transport Map**




The subject site is also partially located within the Principal Public Transport Network Area (State Government of Victoria, 2018) as shown graphically in Figure 2.14. This is reflective of the site's very good access to public transport services.

**Figure 2.14: City of Yarra Principal Public Transport (PPTN) Area**



**Bicycle Network**

The subject site has good access to Melbourne's bicycle network. Specifically:

— On-street bicycle lanes along the site frontage on Burnley Street provide access to the north towards Abbotsford and to the south towards Burnley.
— On-street bicycle lanes on Church Street are accessible via Burnley Street and Highett Street and provide access to the north towards Abbotsford and Collingwood and to the south towards Cremorne and South Yarra.
— The Capital City Trail is accessible via the northern end of Burnley Street, whilst the Main Yarra Trail is accessible via the southern end of Burnley Street.

## Car Share

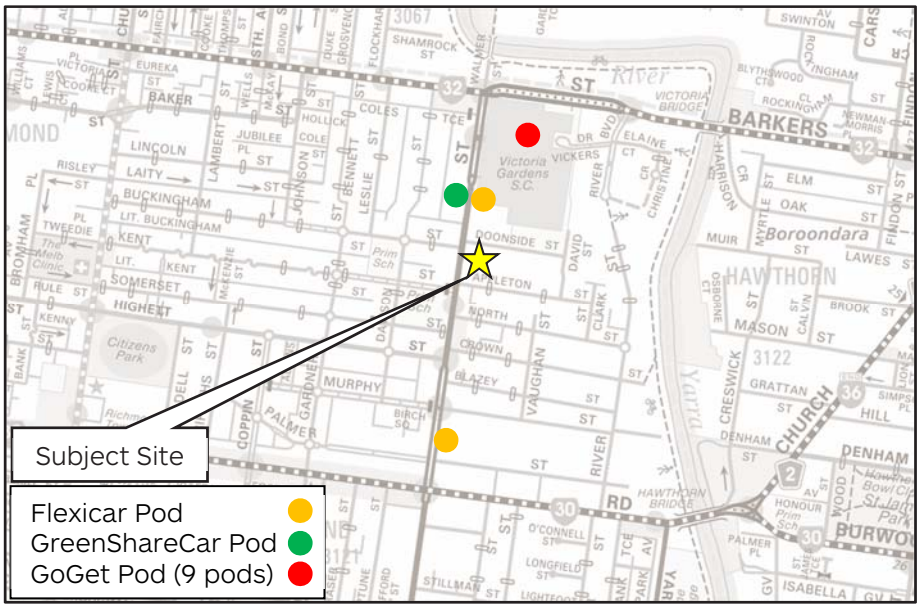
The subject site is located within close proximity to a large number of share car pods operated by Flexicar, GreenShareCar and GoGet. The nearest pods are operated by Flexicar and GreenShareCar (1 car each), located on Burnley Street outside of the Victoria Gardens Shopping Centre, approximately 100 metres to the north of the site. A larger pod operated by GoGet (9 cars) is located on Level 3 of the IKEA car park at the Victoria Gardens Shopping Centre, an approximate 400 metre walk from the site.

A summary of the nearest share car pods is detailed in Table 2.7 and is illustrated in Figure 2.15.

**Table 2.7: Nearest Share Car Pod Locations**

| Operator | Share Car Pod Location | Number of cars | Approximate Walking Distance |
|---|---|---|---|
| Flexicar | Burnley St, outside Victoria Gardens Shopping Centre | 1 car | 100m |
| | Burnley St, near corner of Palmer St | 1 car | 400m |
| GreenShareCar | Burnley St, outside Victoria Gardens Shopping Centre | 1 car | 100m |
| GoGet | Level 3 of IKEA car park at Victoria Gardens Shopping Centre | 9 cars | 400m |

**Figure 2.15: Car Share Map**



## 3.1 General

It is proposed to rezone the land to Mixed Use Zone (MUZ).

The preliminary concept plans prepared for the proposed rezoning show six new buildings across three lots and varying between 7-12 storeys.

## 3.2 Yield Analysis

Preliminary yield analysis indicates the development will comprise in the order of:

— 557 dwellings;
— 15,410 square metres of net commercial floor area; and
— 519 square metres of leasable retail floor area.

The preliminary development analysis is summarised in Table 3.1.

**Table 3.1: Preliminary Development Analysis**

| Lot | Component | Dwellings | Commercial | Retail |
|---|---|---|---|---|
| 1 | Building A (12 storeys) | 110 dwellings | - | - |
| | Building B (7 storeys) | 48 dwellings | - | - |
| | Podium | - | 6,406 sqm | - |
| | Basement | - | - | - |
| 2 | Building C (12 storeys) | 108 dwellings | - | - |
| | Building D (7 storeys) | 56 dwellings | - | - |
| | Building E (12 storeys) | 99 dwellings | - | - |
| | Podium | 23 dwellings | 8,877 sqm | - |
| | Basement | - | - | - |
| 3 | Building F (11 storeys) | 57 dwellings | - | - |
| | Podium | 56 dwellings | - | - |
| | Heritage Building | - | 128 sqm | 519 sqm |
| | Basement | - | - | - |
| **Total** | | **557 dwellings** | **15,410 sqm[2]** | **519 sqm[2]** |

[2] Measured as 85% of the Gross Floor Area (GFA)

## 3.3 Vehicle Access

Vehicle access to the basement and podium parking within each building is proposed as follows:

**Table 3.2: Vehicular Access Points**

| Building | Access Arrangements |
|---|---|
| Building A | 1) Via the access point (accommodating ingress and egress movements) connecting to/from Doonside Street proximate to the boundary of Lot 1 & Lot 2.<br><br>2) Via an access point (accommodating ingress and egress movements) connecting to/from Appleton Street proximate to the boundary of Lot 1 & Lot 2. |
| Building B | |
| Building C | |
| Building D | |
| Building E | |
| Building F | 1) Via an access point (accommodating ingress and egress movements) connecting to and from Doonside Street located in the north-east corner of Lot 3. |

## 3.4 Proposed Pedestrian Laneway

An internal north-south pedestrian laneway is proposed within Lot 2 along the eastern boundary to connect from Doonside Street through to Appleton Street. The pedestrian laneway is not proposed to be used by general traffic but would be available for use by emergency vehicles as required.

It is recommended that the pedestrian laneway is at least 3.5 metres wide to allow for emergency vehicle use when required.

## 3.5 Pedestrian Access

Pedestrian access is proposed as follows:

— To the commercial use (within Lot 1) from the southeast corner of the Burnley Street/Doonside Street intersection;
— To the commercial use (within Lot 2) from the corner of Doonside Street and the pedestrian laneway;
— To Building A from the southeast corner of the Burnley Street/Doonside Street intersection;
— To Building B from Burnley Street and/or Appleton Street;
— To Building C from Doonside Street;
— To Building D from Appleton Street and the pedestrian laneway;
— To Building E from Doonside Street and the pedestrian laneway; and
— To Building F from Doonside Street and the pedestrian laneway.

## 4.1 Clause 52.06 Parking Requirements

Parking requirements for development, including a new use on an existing site, are outlined under Clause 52.06 of the Yarra Planning Scheme, which was last updated on the 31 July 2018 through Amendment VC148. The purpose of Clause 52.06 is defined in the Yarra Planning Scheme as follows:

- To ensure that car parking is provided in accordance with the Municipal Planning Strategy and the Planning Policy Framework.
- To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality.
- To support sustainable transport alternatives to the motor car.
- To promote the efficient use of car parking spaces through the consolidation of car parking facilities.
- To ensure that car parking does not adversely affect the amenity of the locality.
- To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.

As per Amendment VC148, Column B rates of Table 1 from Clause 52.06 of the Yarra Planning Scheme apply if:

- Any part of the land is identified as being within the Principal Public Transport Network Area as shown in the Principal Public Transport Network Area Maps (State Government of Victoria, 2018); or
- A Schedule to the Parking Overlay or another provision of the planning scheme specifies that Column B applies.

As part of the subject site falls within the Principle Public Transport Network Area, the Column B rates of Table 1 in Clause 52.06 are applicable for the statutory number of car spaces to be provided for various uses. The statutory car parking requirements for uses relevant to the proposed rezoning are detailed in Table 4.1.

**Table 4.1: Clause 52.06 Parking Requirements**

| Use | Requirement |
|---|---|
| Dwellings | 1 space to each one or two bedroom dwelling |
| | 2 spaces to each three or more bedroom dwelling (with studies or studios that are separate rooms counted as bedrooms) |
| | 0 spaces for visitors |
| Shop | 3.5 spaces to each 100 sqm of leasable floor area |
| Restricted Retail Premises | 2.5 spaces to each 100 sqm of leasable floor area |
| Office | 3.0 spaces to each 100sqm of net floor area |
| Food and Drink Premises | 3.5 spaces to each 100sqm of leasable floor area |

Under Clause 52.06-6 of the Planning Scheme, the Responsible Authority is able to reduce the parking requirements (including to zero), provided the applicant satisfies the responsible authority that the provision of car parking is justified on the basis of:

— The car parking demand likely to be generated by the use;
— Whether it is appropriate to allow fewer spaces to be provided than the number likely to be generated by the use.

## 4.2 Recommended Parking Rates

### Residents

Car ownership data for residents living within the suburb of Richmond in apartment buildings of three storeys or less was obtained from the Australian Bureau of Statistics (ABS) 2016 Census. Average car ownership rates for one, two and three-bedroom apartments in the Richmond suburb are set out in Table 4.2.

**Table 4.2: ABS 2016 Census Car Ownership Data - Suburb of Richmond**

| Dwelling Type | | Average Car Ownership |
|---|---|---|
| Flat, unit or apartment in a three storey block or less | 1 Bedroom | 0.68 cars per dwelling |
| | 2 Bedroom | 1.01 cars per dwelling |
| | 3 Bedroom | 1.52 cars per dwelling |

The site is well located for future residents who choose not to own a car, noting the site's close proximity to a wide range of retail (including a full line supermarket) at Victoria Gardens Shopping Centre and numerous sustainable transport options, including car share as detailed in Section 2.8.

Based on the above, it is recommended that resident parking is provided generally in accordance with the following indicative rates for future development on the site:

— **0.5 - 0.7 spaces to each one-bedroom dwelling;**
— **0.7 - 0.9 spaces to each two-bedroom dwelling; and**
— **1.0 - 1.5 spaces to each three-bedroom dwelling.**

Whilst the apartment breakdown has not been prepared at this stage, the preliminary yield analysis indicates that an overall parking provision in the order of 0.5 - 0.8 car spaces per dwelling would be expected.

### Visitors

The Column B rates under Table 1 of Clause 52.06 of the Yarra Planning Scheme, do not statutorily require visitor parking to be provided and no visitor parking is proposed. The visitor car parking demand generated by the development will need to be accommodated by the surrounding on-street parking supply.

It is noted that a significant portion of the on-street parking supply is subject to short-term restrictions which will encourage a high turnover of parking, enabling visitors to find a parking space, even during periods of peak activity.

Alternatively, visitors can utilise the numerous alternate modes of sustainable transport options to access the site.

### Retail

Parking demands in Activity Centres are typically generated by the Activity Centre itself rather than individual smaller tenancies. In this

instance, it is considered likely that a large portion of customers associated with the proposed retail would already be in the area either as local residents, staff or customers visiting as part of a trip to Victoria Gardens Shopping Centre. Additional car parking demands associated with customers are therefore expected to be minimal.

For any retail use at the subject site, it is considered appropriate for staff parking to be provided on-site, with customers accommodated on-street and surrounding areas. As such, it is recommended that retail parking is provided generally in accordance with the following indicative rate for future development on the site:

— **1 space to each 100 square metres of leasable floor area for staff.**

### Commercial

Commercial parking demands are often a function of on-site parking supply and in locations where parking is constrained by parking restrictions, staff typically elect to utilise alternate transport modes where available.

Considering the location of the site, its proximity to a variety of transport modes, generous provision of bicycle parking and the extensive short-term parking restrictions in the vicinity of the site, it is recommended that commercial parking is provided generally in accordance with the following indicative rate for future development on the site:

— 1.0 to 2.5 car spaces to each 100 square metres of leasable floor area.

These lower rates will encourage the use of public transport, cycling and walking, in preference to use of private motor vehicles as per the objectives of the Richmond Urban Design Framework.

### Summary

Based on the foregoing, it is recommended that parking for any future development on the site is provided generally in accordance with the indicative rates provided in Table 4.3.

**Table 4.3: Indicative Recommended Parking Rates**

| Component | Indicative Recommended Parking Rate |
|---|---|
| Residents | 0.5 - 0.7 spaces to each one-bedroom dwelling |
| | 0.7 - 0.9 space to each two-bedroom dwelling |
| | 1.0 - 1.5 spaces to each three-bedroom dwelling |
| Visitors | No on-site car parking |
| Retail | 1 space to each 100 square metres of leasable floor area for staff |
| Commercial | 1.0 - 2.5 spaces to each 100 square metres of leasable floor area |

It is recommended that as part of any town planning application, a Green Travel Plan be prepared to further encourage utilisation of the wide availability of sustainable transport alternatives and subsequently reduce parking demands and traffic generation associated with the proposal.

# 5 Bicycle Parking:

The provisions set out under Clause 52.34-3 (Bicycle Facilities) of the Yarra Planning Scheme require that bicycle parking for the relevant uses be provided at the rates shown in Table 5.1. Clause 52.34-3 also requires that showers and change rooms are provided in accordance with the rates in Table 5.2.

**Table 5.1: Bicycle Parking Statutory Requirements**

| Use | Requirement |
|---|---|
| Dwellings | In developments of four or more storeys, 1 to each 5 dwellings for residents |
| | In developments of four or more storeys, 1 to each 10 dwellings for visitors |
| Shop | 1 to each 600 sqm of leasable floor area for employees if the leasable floor area exceeds 1,000 sqm |
| | 1 to each 500 sqm of leasable floor area for shoppers if the leasable floor area exceeds 1,000 sqm |
| Retail | 1 to each 600 sqm of leasable floor area for employees if the leasable floor area exceeds 1,000 sqm |
| | 1 to each 500 sqm of leasable floor area for shoppers if the leasable floor area exceeds 1,000 sqm |
| Office | 1 to each 300 sqm of net floor area for employees if the net floor area exceeds 1,000 sqm |
| | 1 to each 1,000 sqm of net floor area for visitors if the net floor area exceeds 1,000 sqm |

**Table 5.2: Employee Shower and Change Room Statutory Requirements**

| Component | Employee Requirement |
|---|---|
| Showers | If 5 or more employee bicycle spaces are required, 1 shower for the first 5 employee bicycle spaces, plus 1 to each 10 employee bicycle spaces thereafter. |
| Change Rooms | 1 change room or direct access to a communal change room to each shower. The change room may be a combined shower and change room. |

For future development on the site, bicycle parking should be provided in accordance with the requirements set out in Table 5.1 as a minimum, whilst employee shower and change rooms should be provided in accordance with the requirements set out in Table 5.2.

Notwithstanding the above, in consideration of sustainable transport initiatives and the site's proximity to Melbourne's bicycle network, it is recommended that a bicycle parking provision in excess of the statutory requirements be considered for residents and office staff in particular, with bicycle parking provided generally in accordance with the following indicative rates:

- **1 bicycle space to each dwelling for residents.**
- **1 bicycle space to each 150 square metres for office staff (double the statutory rate).**

# 6 Loading Facilities:

Clause 65.01 of Yarra Planning Scheme outlines the decision guidelines for the approval of an application or a plan stating the following:

*"Before deciding on an application or approval of a plan, the responsible authority must consider, as appropriate:*

- *The adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts*."

Retail components of any development on the site would be expected to attract regular service and delivery vehicles for loading and unloading activities. For smaller retail tenancies, it is typically considered impractical to provide an on-site loading bay, with loading likely to be undertaken by vans and small trucks which can undertake loading within an on-street car space.

In the case of the proposal, it is considered that loading for the smaller retail tenancies could be undertaken either on-street (Doonside Street or Burnley Street) or on-site.

For any future restricted retail use on the site, it is recommended that on-site loading be provided subject to approval by the Responsible Authority.

## 7.1 Traffic Generation

### Residents

In consideration of the locality of the site, it is estimated that the residential component of the development will generate traffic at a rate of 3 daily vehicle movements per dwelling with an allocated car space, inclusive of 0.3 peak hour vehicle movements per dwelling with an allocated car space during the AM and PM peak hours.

Conservatively assuming that 80% of the proposed 557 dwellings (446 dwellings) are provided with a car space (conservatively representing the upper end of the suggested parking provision rate for dwellings discussed in Section 4.2) and applying the above rates results in an anticipated daily traffic volume of 1,338 daily vehicle movements, including an anticipated 134 peak hour vehicle movements during the AM and PM peak hours.

It is noted that Building F is likely to be accessed via Doonside Street and hence the anticipated traffic generation associated with Building F is expected to be to Doonside Street only. Assuming 80% of the proposed 113 dwellings in Building F (90 dwellings) are provided with a car space, peak hour traffic generation of 27 vehicle movements is anticipated to Doonside Street.

Traffic generation during the AM peak hour typically comprises 20% inbound movements and 80% outbound movements whilst traffic generation during the PM peak hour typically comprises 60% inbound movements and 40% outbound movements.

The resultant anticipated residential traffic generation is summarised in Table 7.1 below:

**Table 7.1: Anticipated Residential Traffic Generation**

| Location | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|
| | IN | OUT | Total | IN | OUT | Total |
| To Doonside Street | 27 | 73 | 100 | 80 | 36 | 116 |
| To Appleton Street | 0 | 34 | 34 | 0 | 17 | 17 |
| **Total** | **27** | **107** | **134** | **80** | **53** | **134** |

### Commercial

For commercial use, it is assumed that 50% of the parking allocated to the use is turned over during the peak hours. Conservatively assuming parking is allocated at 2.5 spaces to each 100 square metres (conservatively representing the upper end of the suggested parking provision for the commercial use as discussed in Section 4.2), equates to a parking provision of approximately 385 spaces for the 15,411 square metres and an anticipated peak hour traffic generation of 193 vehicle movements.

It is expected that the majority (90%) of movements will be inbound during the AM peak and outbound during the PM peak.

The resultant anticipated commercial traffic generation is summarised in Table 7.2.

**Table 7.2: Anticipated Commercial Traffic Generation**

| Location | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|
| | IN | OUT | Total | IN | OUT | Total |
| To Doonside Street | 173 | 11 | 184 | 20 | 96 | 116 |
| To Appleton Street | 0 | 9 | 9 | 0 | 77 | 77 |
| **Total** | **173** | **20** | **193** | **20** | **173** | **193** |

## Retail

During the AM and PM peak hours, it is expected that traffic associated with the retail will be limited to staff arrivals and departures.

Assuming 5 spaces are allocated to the retail uses (at the recommended parking rate of 1 space to each 100 square metres) and 50% turnover of these parking spaces during the peak hours equates to an estimated 2 vehicle movements during both the AM and PM peak.

It is expected that the majority (90%) of movements will be inbound during the AM peak and outbound during the PM peak.

The resultant anticipated retail traffic generation is summarised in Table 7.3 below:

**Table 7.3: Anticipated Retail Traffic Generation**

| Location | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|
| | IN | OUT | Total | IN | OUT | Total |
| To Doonside Street | 3 | 0 | 3 | 0 | 3 | 3 |
| To Appleton Street | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | **3** | **0** | **3** | **0** | **3** | **3** |

### Existing Traffic Generation Associated with the Site (To be Deducted)

As discussed in Section 2.2, it is understood that there are currently 115 staff members employed at the site.

Journey to Work data from the 2011 ABS census indicates that 61 percent of work journeys to the City of Yarra were by car as a driver.

Adopting a driver rate of 61 percent for the existing 115 staff and assuming 50% turnover during the peak hours equates to 35 vehicle movements associated with the existing operations.

It is expected that the majority (90%) of movements are inbound during the AM peak and outbound during the PM peak.

The resultant existing traffic generation expected to be associated with the site is summarised in Table 7.2. This traffic will be deducted from the anticipated traffic generation associated with the site.

**Table 7.4: Expected Existing Traffic Generation Associated with the Site (To be Deducted)**

| Location | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|
| | IN | OUT | Total | IN | OUT | Total |
| To Doonside Street | -32 | -3 | -35 | -3 | -32 | -3 |
| To Appleton Street | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | **-32** | **-3** | **-35** | **-3** | **-32** | **-35** |

### Summary

Based on the foregoing, the total anticipated traffic generation associated with the proposal is provided in Table 7.5 below:

**Table 7.5: Total Anticipated Traffic Generation**

| Location | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|
| | IN | OUT | Total | IN | OUT | Total |
| To Doonside Street | 204 | 84 | 288 | 100 | 132 | 232 |
| To Appleton Street | 0 | 43 | 43 | 0 | 98 | 98 |
| **Total** | **204** | **127** | **331** | **100** | **231** | **331** |

As discussed in Section 4.2, it is recommended that as part of any town planning application, a Green Travel Plan be prepared to further encourage utilisation of sustainable transport alternatives and subsequently reduce parking demands and traffic generation associated with the proposal.

## 7.2 Traffic Distribution

For the purposes of this assessment, the following has been assumed

— 50% of traffic is to/from the north, including:
  - 25% to/from the east on Victoria Street via Burnley Street; and
  - 25% to/from the west on Victoria Street via Burnley Street.

— 50% of traffic is to/from the south, including:
  - 10% to/from the east on Bridge Road via the local road network, with access to/from Bridge Road via River Street;
  - 20% to/from the south on Burnley Street past Bridge Road; and
  - 20% to/from the west on Bridge Road via Burnley Street.

The inbound movements from the south will be via Doonside Street, given the left in/left out arrangement in to Appleton Street from Burnley Street. In addition, it is also assumed that the inbound movements from the north will be via Doonside Street only given the convenient access to the proposed basement car park areas.

It is noted that this is consistent with the traffic distribution adopted in the Transport Impact Assessment prepared for 36-44 Doonside Street and 27-41 Appleton Street, Richmond.

The anticipated traffic generation of the proposal is subsequently detailed in Figure 7.1, whilst the anticipated post development volumes are provided in Figure 7.2. Both figures are also provided in Appendix A.

**Figure 7.1: Anticipated Traffic Generation**

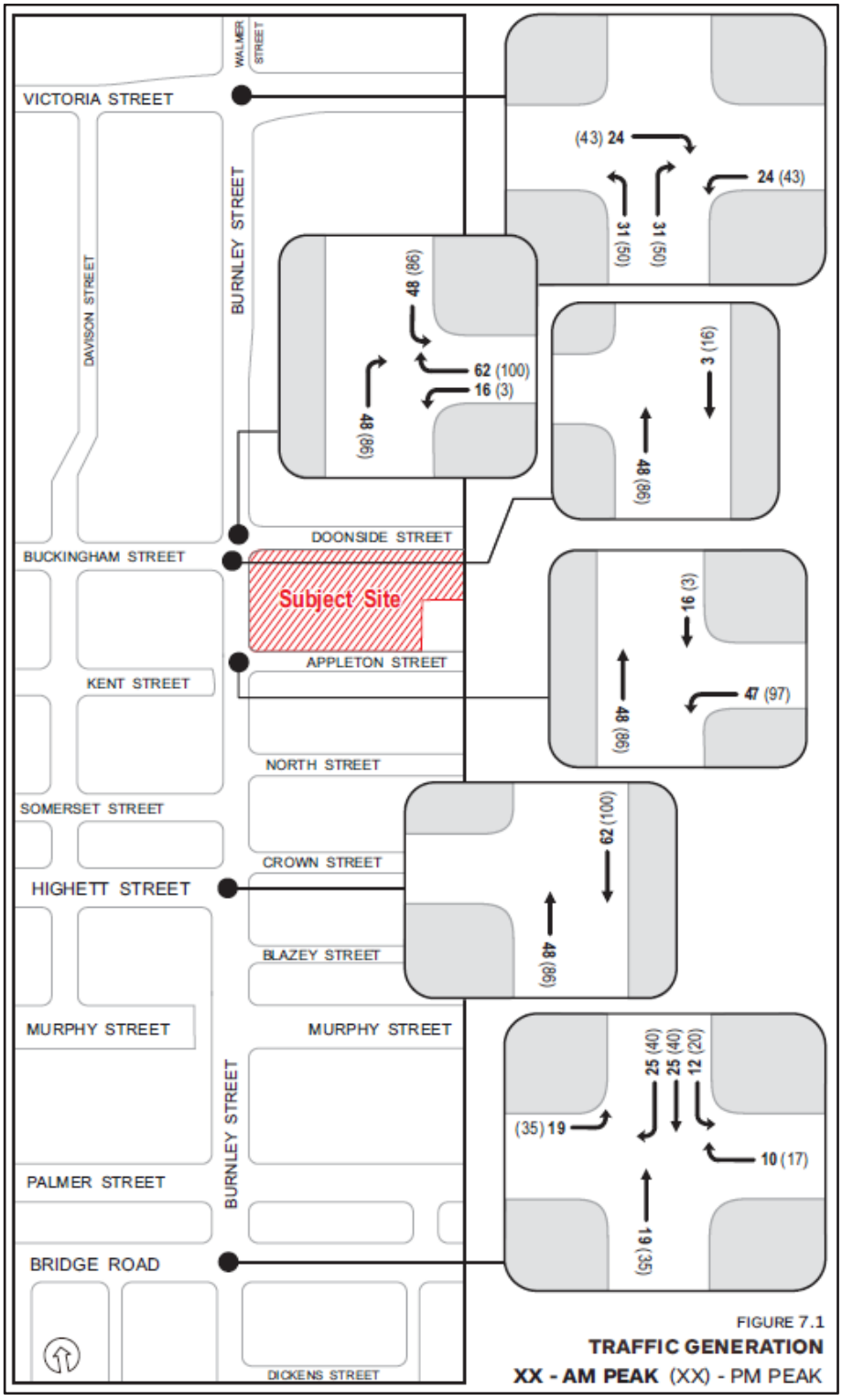
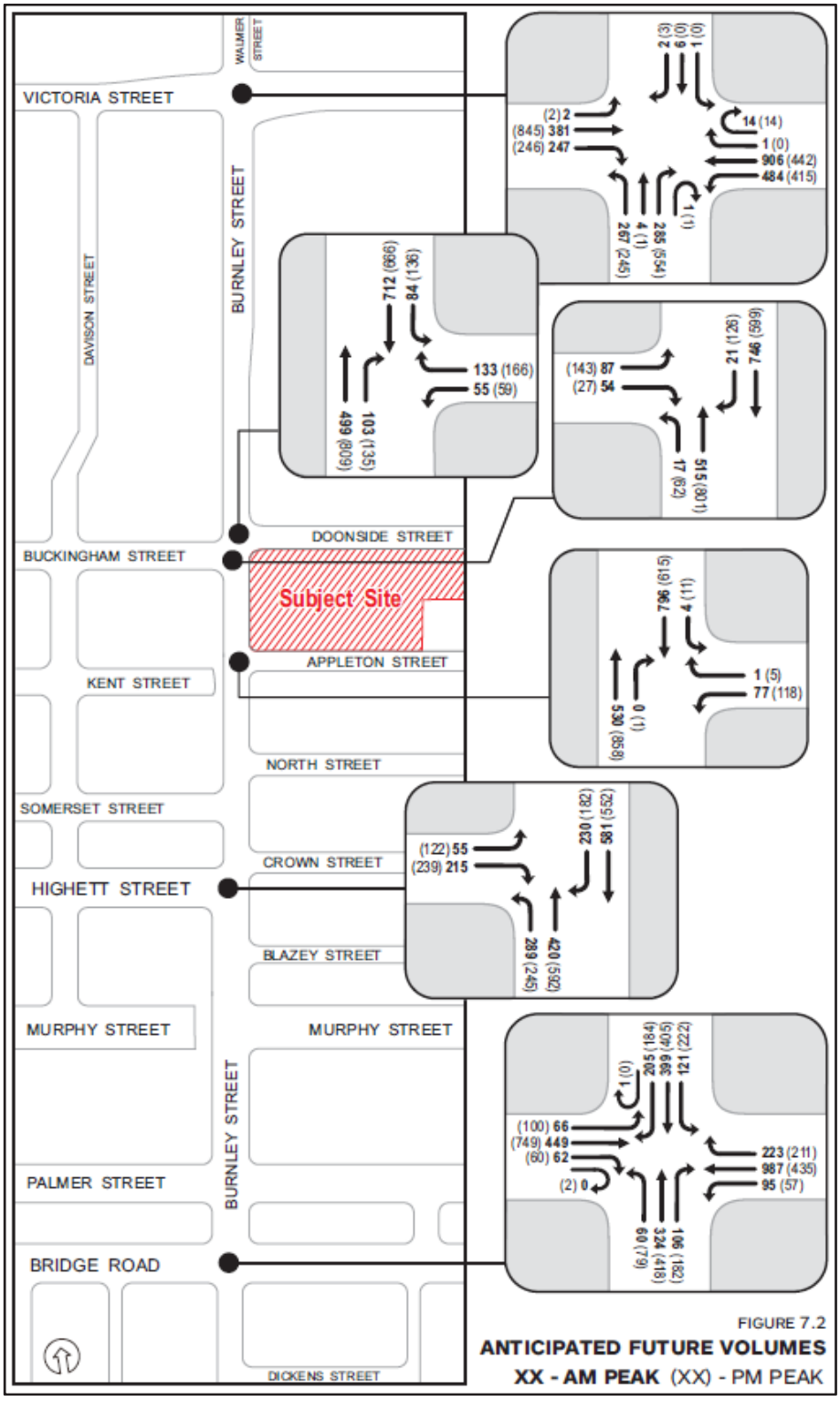


**Figure 7.2: Anticipated Post Development Volumes**




(Includes Base Case volumes plus anticipated traffic generation of proposed rezoning)

## 7.3 Traffic Impact

In order to assess the impact of the proposal, a SIDRA analysis of the post development conditions has been undertaken.

The results are compared against the Base Case conditions in Table 7.6 and Table 7.7 respectively. Detailed results are provided in Appendix B.

**Table 7.6: SIDRA Results - Post Development Operation - AM Peak**

| Intersection | Base Case Conditions* | | | Post Development Conditions | | |
|---|---|---|---|---|---|---|
| | D.O.S. | 95%ile Queue (m) | Avg Delay (s) | D.O.S. | 95%ile Queue (m) | Avg Delay (s) |
| Burnley St/Victoria St | 0.866 | 253 | 34 | 0.899 | 286 | 38 |
| Burnley St/Doonside St | 0.397 | 10 | 3 | 0.716 | 26 | 6 |
| Burnley St/Buckingham St | 0.428 | 6 | 2 | 0.438 | 7 | 2 |
| Burnley St/Appleton St | 0.437 | 2 | 1 | 0.446 | 6 | 1 |
| Burnley St/Highett St | 0.716 | 117 | 21 | 0.770 | 137 | 21 |
| Burnley St/Bridge Rd | 0.946 | 361 | 51 | 1.083 | 427 | 81 |

(Includes existing traffic plus anticipated traffic generation of 36-44 Doonside Street and 27-41 Appleton Street, 9-15 David Street and 171 Buckingham Street developments).

**Table 7.7: SIDRA Results – Post Development Operation – PM Peak**

| Intersection | Base Case Conditions* | | | Post Development Conditions | | |
|---|---|---|---|---|---|---|
| | D.O.S. | 95%ile Queue (m) | Avg Delay (s) | D.O.S. | 95%ile Queue (m) | Avg Delay (s) |
| Burnley St/Victoria St | 0.877 | 172 | 35 | 0.966 | 203 | 44 |
| Burnley St/Doonside St | 0.534 | 15 | 3 | 1.727 | 381 | 63 |
| Burnley St/Buckingham St | 0.511 | 29 | 4 | 0.538 | 34 | 5 |
| Burnley St/Appleton St | 0.432 | 2 | 0 | 0.479 | 8 | 1 |
| Burnley St/Highett St | 0.802 | 174 | 25 | 0.855 | 221 | 27 |
| Burnley St/Bridge Rd | 1.030 | 345 | 67 | 1.065 | 405 | 82 |

(Includes existing traffic plus anticipated traffic generation of 36-44 Doonside Street and 27-41 Appleton Street, 9-15 David Street and 171 Buckingham Street developments).

A review of the results indicates that most of the intersections analysed are expected to observe minimal increases to queues and delays.

The critical intersection is the Burnley Street/Doonside Street intersection during the PM peak hour. As can be seen in Table 7.8 above, the DOS of saturation for this intersection has increased to 1.727 under post development conditions, indicating that the intersection in its current form will ultimately reach capacity as the subject site and surrounding sites reach their full development potential. It is noted that this intersection has previously been identified by traffic studies as ultimately requiring signalisation following the development of the overall Victoria Street East Precinct.

Based on the analysis undertaken above, it is considered that the intersection of Burnley Street/Doonside Street will require signalisation to facilitate vehicle movements in and out of Doonside Street and improve the safety of these movements.

The preliminary analysis indicates that the intersection would need to be signalised following construction of approximately 50% of the proposed development plus full build-out of the nearby approved developments. This scenario would enable Lot 2 (the initial stage of the project to be developed) to be fully constructed without the intersection requiring to be signalised. It is suggested that more detailed traffic analysis be undertaken during the planning permit stages to determine precisely when the intersection is required to be signalised.

# 8 Conclusions:

It is proposed to rezone the subject site to Mixed Use Zone (MUZ). The preliminary concept plans prepared for the proposed rezoning show six new buildings across three lots and varying between 7-12 storeys.

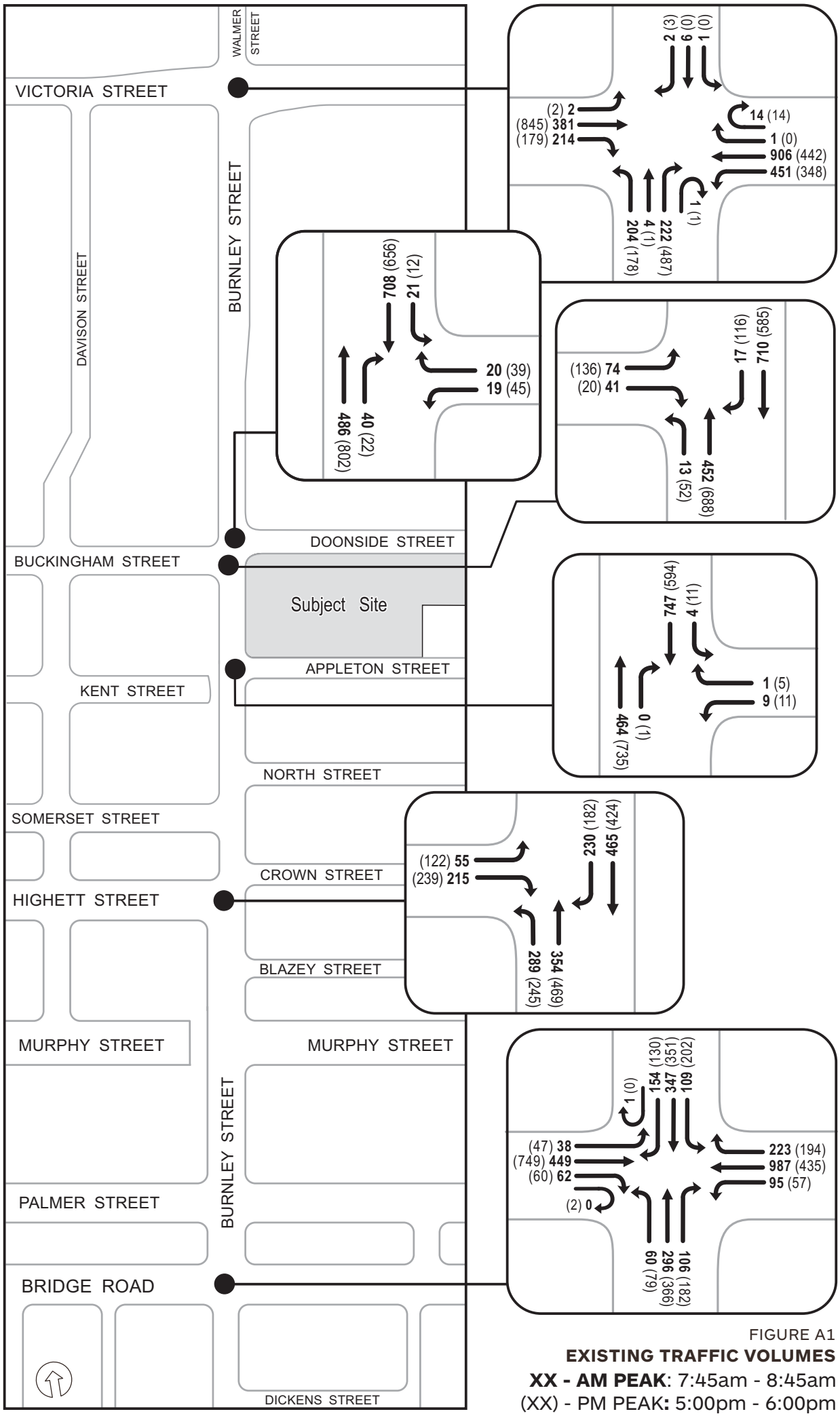
Preliminary yield analysis indicates in the order of 557 dwellings, with ground floor retail and commercial uses.

The proposal will include a pedestrian laneway between Doonside Street and Appleton Street, with primary vehicle access provided via Doonside Street and Appleton Street.

Based on the assessment undertaken above, it is concluded as follows:

- **It is recommended that reduced on-site parking provision rates be considered for development applications within the site. Indicative rates are provided as follows:**
  - **Residents**
    - **0.5 - 0.7 spaces to each one bedroom dwelling;**
    - **0.7 - 0.9 spaces to each two bedroom dwelling; and**
    - **1.0 - 1.5 spaces to each three bedroom dwelling.**
  - **Residential Visitors**
    - **No on-site parking.**
  - **Retail**
    - **1 space to each 100 square metres of leasable floor area for staff.**
  - **Commercial**
    - **1.0 - 2.5 spaces to each 100 square metres of leasable floor area.**
- It is recommended that bicycle parking and end of trip facilities are provided in accordance with the statutory requirements as a minimum, with consideration given to providing bicycle parking in excess of the statutory requirements for residents and office staff in particular.
- It is considered that loading for smaller retail tenancies could be provided either on-street or on-site, whilst loading for any future restricted retail use on the site is recommended to be provided on-site in subject to approval from the responsible authority.
- The traffic anticipated to be generated by the proposal can be accommodated by the existing road network, subject to the intersection of Burnley Street and Doonside Street being upgraded during the mid-stages of development of the subject site and surrounding sites.

# Appendix A **Traffic Volume Diagrams**




Project:
13373

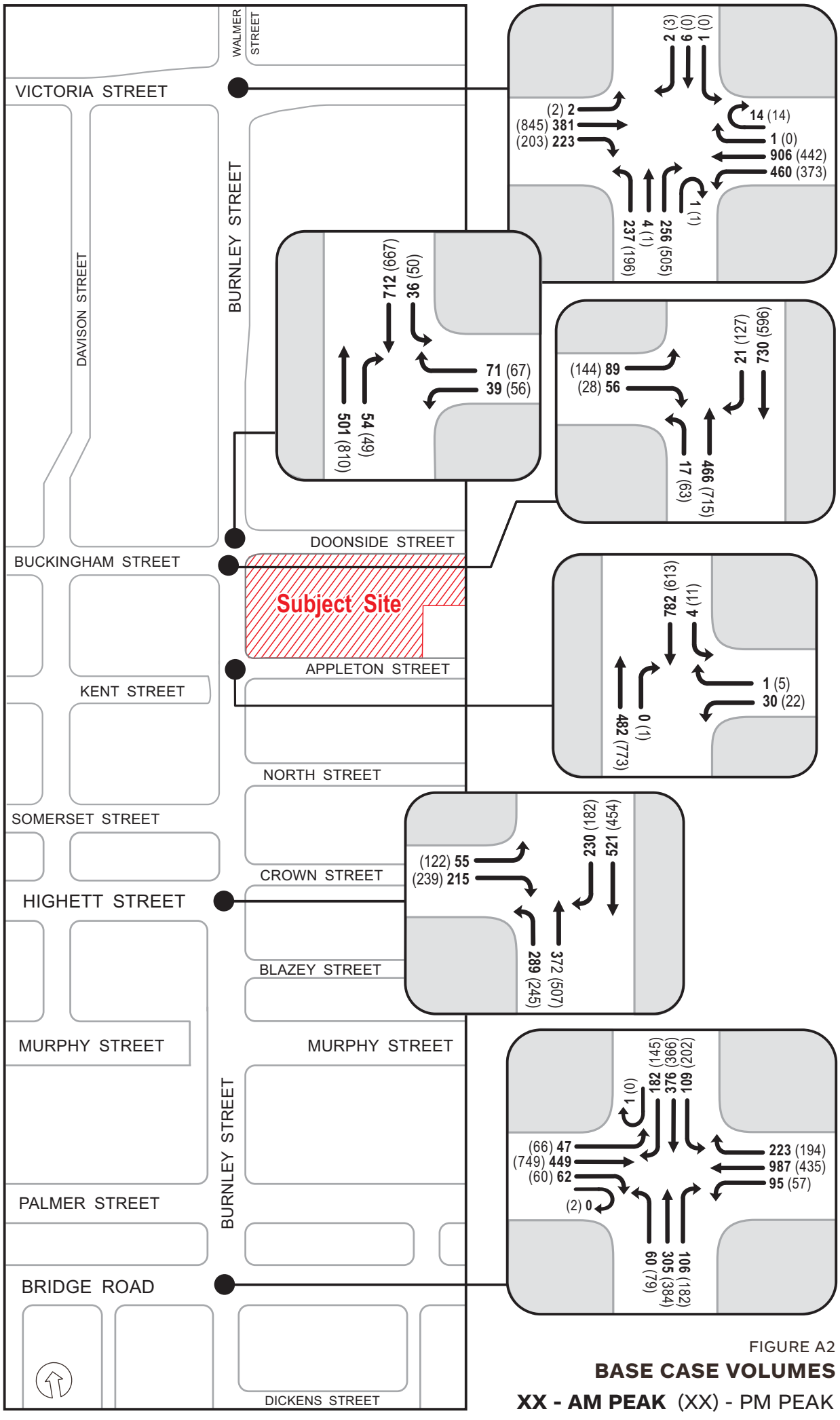
June 2016

FIGURE A1

**EXISTING TRAFFIC VOLUMES**

**XX - AM PEAK**: 7:45am - 8:45am

(XX) - PM PEAK**:** 5:00pm - 6:00pm



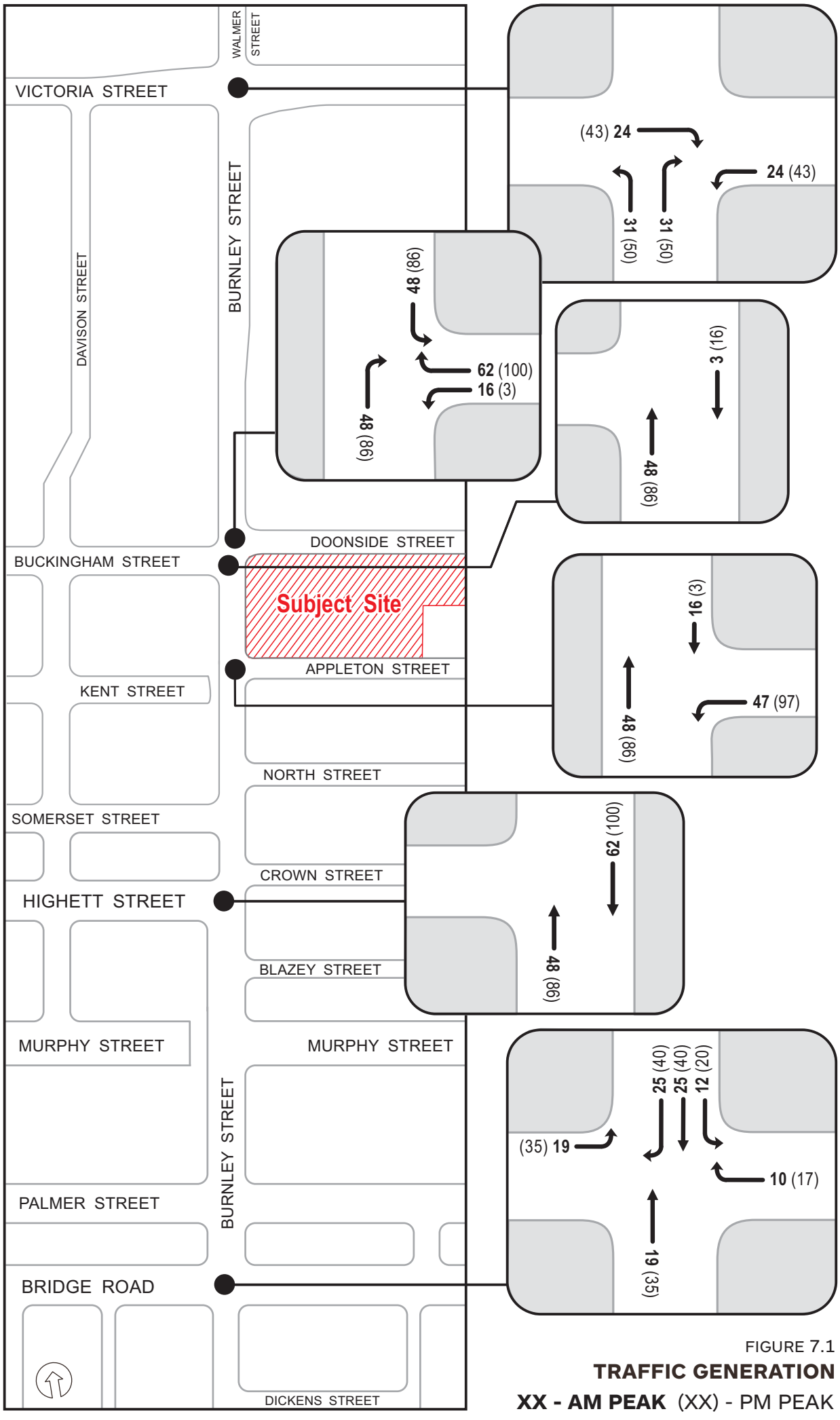

Project:
13373

December
2017

FIGURE A2

**BASE CASE VOLUMES**

**XX - AM PEAK** (XX) - PM PEAK



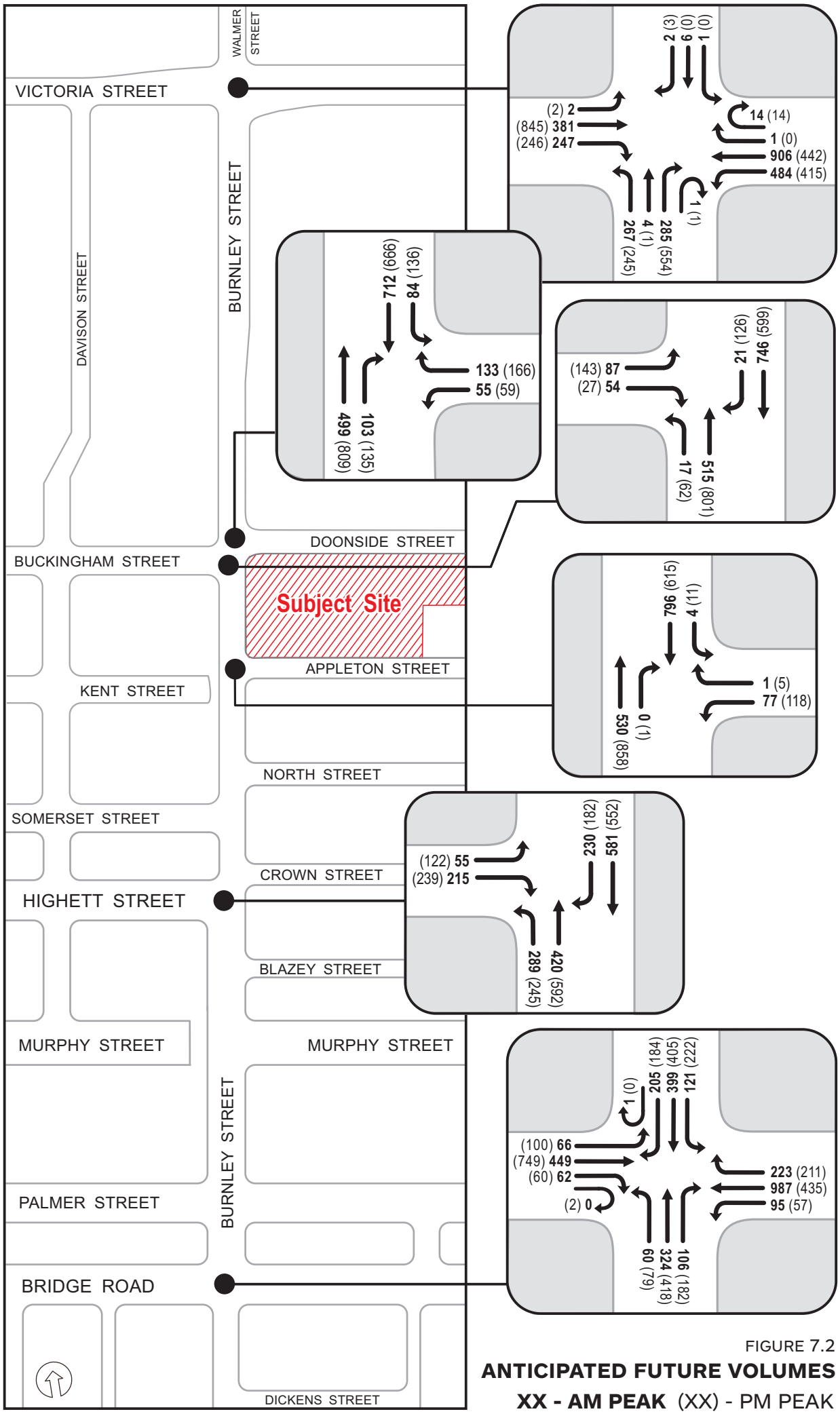

Project:
13373

December
2018

FIGURE 7.1

**TRAFFIC GENERATION**

**XX - AM PEAK** (XX) - PM PEAK




Project:
13373

December
2018

FIGURE 7.2

**ANTICIPATED FUTURE VOLUMES**

**XX - AM PEAK** (XX) - PM PEAK

# Appendix B SIDRA Results

# MOVEMENT SUMMARY

## Site: 101 [BuVi_AMEx]

Burnley Street/Victoria Street/Walmer Street
AM Peak Existing Conditions
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 215 | 5.0 | 0.339 | 35.0 | LOS C | 9.2 | 67.3 | 0.77 | 0.78 | 0.77 | 37.4 |
| 2 | T1 | 4 | 5.0 | 0.339 | 29.4 | LOS C | 9.2 | 67.3 | 0.77 | 0.78 | 0.77 | 38.2 |
| 3 | R2 | 234 | 5.0 | 0.492 | 59.1 | LOS E | 6.6 | 48.0 | 0.97 | 0.79 | 0.97 | 30.1 |
| 3u | U | 1 | 5.0 | 0.492 | 60.2 | LOS E | 6.6 | 47.8 | 0.97 | 0.79 | 0.97 | 29.9 |
| Approach | | 454 | 5.0 | 0.492 | 47.4 | LOS D | 9.2 | 67.3 | 0.87 | 0.79 | 0.87 | 33.2 |
| East: Victoria Street (E) | | | | | | | | | | | | |
| 4 | L2 | 475 | 5.0 | 0.385 | 8.4 | LOS A | 6.9 | 50.1 | 0.34 | 0.66 | 0.34 | 51.9 |
| 5 | T1 | 954 | 5.0 | 0.846 | 41.7 | LOS D | 34.4 | 250.8 | 0.92 | 0.91 | 1.05 | 35.7 |
| 6 | R2 | 1 | 5.0 | 0.846 | 47.7 | LOS D | 34.4 | 250.8 | 0.98 | 0.95 | 1.08 | 34.7 |
| 6u | U | 15 | 5.0 | 0.846 | 48.9 | LOS D | 34.4 | 250.8 | 0.98 | 0.95 | 1.08 | 34.6 |
| Approach | | 1444 | 5.0 | 0.846 | 30.8 | LOS C | 34.4 | 250.8 | 0.73 | 0.83 | 0.81 | 39.7 |
| North: Walmer Street (N) | | | | | | | | | | | | |
| 7 | L2 | 1 | 5.0 | 0.077 | 64.2 | LOS E | 0.5 | 3.9 | 0.96 | 0.66 | 0.96 | 29.7 |
| 8 | T1 | 6 | 5.0 | 0.077 | 58.6 | LOS E | 0.5 | 3.9 | 0.96 | 0.66 | 0.96 | 30.2 |
| 9 | R2 | 2 | 5.0 | 0.077 | 64.2 | LOS E | 0.5 | 3.9 | 0.96 | 0.66 | 0.96 | 29.7 |
| Approach | | 9 | 5.0 | 0.077 | 60.5 | LOS E | 0.5 | 3.9 | 0.96 | 0.66 | 0.96 | 30.0 |
| West: Victoria Street (W) | | | | | | | | | | | | |
| 10 | L2 | 2 | 5.0 | 0.164 | 14.2 | LOS B | 4.5 | 32.9 | 0.42 | 0.36 | 0.42 | 51.1 |
| 11 | T1 | 401 | 5.0 | 0.164 | 8.6 | LOS A | 4.5 | 32.9 | 0.42 | 0.36 | 0.42 | 52.6 |
| 12 | R2 | 225 | 5.0 | 0.829 | 59.5 | LOS E | 13.3 | 97.1 | 0.95 | 0.91 | 1.18 | 30.0 |
| Approach | | 628 | 5.0 | 0.829 | 26.9 | LOS C | 13.3 | 97.1 | 0.61 | 0.56 | 0.69 | 41.4 |
| All Vehicles | | 2536 | 5.0 | 0.846 | 32.9 | LOS C | 34.4 | 250.8 | 0.73 | 0.75 | 0.79 | 38.7 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 53 | 33.1 | LOS D | 0.1 | 0.1 | 0.74 | 0.74 |
| P21 | East Stage 1 | 53 | 16.1 | LOS B | 0.1 | 0.1 | 0.52 | 0.52 |
| P22 | East Stage 2 | 53 | 54.3 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P3 | North Full Crossing | 53 | 9.2 | LOS A | 0.1 | 0.1 | 0.39 | 0.39 |
| P4 | West Full Crossing | 53 | 54.3 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| All Pedestrians | | 263 | 33.4 | LOS D | | | 0.71 | 0.71 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

# MOVEMENT SUMMARY

## Site: 101 [BuVi_PMEx]

Burnley Street/Victoria Street/Walmer Street
PM Peak Existing Conditions
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 187 | 5.0 | 0.216 | 24.0 | LOS C | 6.2 | 45.1 | 0.60 | 0.73 | 0.60 | 42.1 |
| 2 | T1 | 1 | 5.0 | 0.216 | 18.4 | LOS B | 6.2 | 45.1 | 0.60 | 0.73 | 0.60 | 43.1 |
| 3 | R2 | 513 | 5.0 | 0.823 | 59.1 | LOS E | 15.3 | 111.3 | 0.97 | 0.91 | 1.16 | 30.1 |
| 3u | U | 1 | 5.0 | 0.823 | 60.3 | LOS E | 15.2 | 111.3 | 0.97 | 0.91 | 1.16 | 29.9 |
| Approach | | 702 | 5.0 | 0.823 | 49.7 | LOS D | 15.3 | 111.3 | 0.87 | 0.86 | 1.01 | 32.6 |
| East: Victoria Street (E) | | | | | | | | | | | | |
| 4 | L2 | 366 | 5.0 | 0.306 | 7.5 | LOS A | 4.0 | 29.0 | 0.27 | 0.64 | 0.27 | 52.6 |
| 5 | T1 | 465 | 5.0 | 0.803 | 44.7 | LOS D | 22.0 | 160.5 | 0.95 | 0.87 | 1.02 | 34.6 |
| 6 | R2 | 1 | 5.0 | 0.803 | 53.1 | LOS D | 22.0 | 160.5 | 0.99 | 0.94 | 1.09 | 33.0 |
| 6u | U | 15 | 5.0 | 0.803 | 54.3 | LOS D | 22.0 | 160.5 | 0.99 | 0.94 | 1.09 | 32.9 |
| Approach | | 847 | 5.0 | 0.803 | 28.8 | LOS C | 22.0 | 160.5 | 0.65 | 0.77 | 0.70 | 40.6 |
| North: Walmer Street (N) | | | | | | | | | | | | |
| 7 | L2 | 1 | 5.0 | 0.044 | 63.8 | LOS E | 0.3 | 2.2 | 0.96 | 0.64 | 0.96 | 29.1 |
| 8 | T1 | 1 | 5.0 | 0.044 | 58.2 | LOS E | 0.3 | 2.2 | 0.96 | 0.64 | 0.96 | 29.6 |
| 9 | R2 | 3 | 5.0 | 0.044 | 63.9 | LOS E | 0.3 | 2.2 | 0.96 | 0.64 | 0.96 | 29.1 |
| Approach | | 5 | 5.0 | 0.044 | 62.7 | LOS E | 0.3 | 2.2 | 0.96 | 0.64 | 0.96 | 29.2 |
| West: Victoria Street (W) | | | | | | | | | | | | |
| 10 | L2 | 2 | 5.0 | 0.474 | 21.9 | LOS C | 17.3 | 126.4 | 0.64 | 0.57 | 0.64 | 46.2 |
| 11 | T1 | 889 | 5.0 | 0.474 | 15.7 | LOS B | 17.3 | 126.4 | 0.61 | 0.54 | 0.61 | 47.7 |
| 12 | R2 | 188 | 5.0 | 0.842 | 59.7 | LOS E | 11.0 | 80.6 | 0.91 | 0.92 | 1.20 | 30.0 |
| Approach | | 1080 | 5.0 | 0.842 | 23.4 | LOS C | 17.3 | 126.4 | 0.67 | 0.61 | 0.72 | 43.3 |
| All Vehicles | | 2635 | 5.0 | 0.842 | 32.2 | LOS C | 22.0 | 160.5 | 0.72 | 0.73 | 0.79 | 39.0 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 53 | 42.6 | LOS E | 0.2 | 0.2 | 0.84 | 0.84 |
| P21 | East Stage 1 | 53 | 10.4 | LOS B | 0.1 | 0.1 | 0.42 | 0.42 |
| P22 | East Stage 2 | 53 | 54.3 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P3 | North Full Crossing | 53 | 13.6 | LOS B | 0.1 | 0.1 | 0.48 | 0.48 |
| P4 | West Full Crossing | 53 | 49.6 | LOS E | 0.2 | 0.2 | 0.91 | 0.91 |
| All Pedestrians | | 263 | 34.1 | LOS D | | | 0.72 | 0.72 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

# MOVEMENT SUMMARY

## Site: 101 [BuDo_AMEx]

Burnley Street/Doonside Street
AM Peak Existing Conditions
Site Category: (None)
Stop (Two-Way)

| Movement Performance - Vehicles | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
| South: Burnley Street (S) | | | | | | | | | | | | |
| 2 | T1 | 512 | 5.0 | 0.327 | 1.0 | LOS A | 0.9 | 6.7 | 0.18 | 0.05 | 0.22 | 57.1 |
| 3 | R2 | 42 | 5.0 | 0.327 | 8.2 | LOS A | 0.9 | 6.7 | 0.18 | 0.05 | 0.22 | 53.5 |
| Approach | | 554 | 5.0 | 0.327 | 1.6 | NA | 0.9 | 6.7 | 0.18 | 0.05 | 0.22 | 56.8 |
| East: Doonside Street (E) | | | | | | | | | | | | |
| 4 | L2 | 20 | 5.0 | 0.046 | 14.8 | LOS B | 0.2 | 1.1 | 0.64 | 0.98 | 0.64 | 41.2 |
| 6 | R2 | 21 | 5.0 | 0.092 | 23.0 | LOS C | 0.3 | 2.2 | 0.82 | 1.00 | 0.82 | 43.3 |
| Approach | | 41 | 5.0 | 0.092 | 19.0 | LOS C | 0.3 | 2.2 | 0.73 | 0.99 | 0.73 | 42.6 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 7 | L2 | 22 | 5.0 | 0.012 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.58 | 0.00 | 53.4 |
| 8 | T1 | 745 | 5.0 | 0.395 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | 767 | 5.0 | 0.395 | 0.2 | NA | 0.0 | 0.0 | 0.00 | 0.02 | 0.00 | 59.5 |
| All Vehicles | | 1362 | 5.0 | 0.395 | 1.3 | NA | 0.9 | 6.7 | 0.10 | 0.06 | 0.11 | 57.5 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [BuDo_PMEx]

Burnley Street/Doonside Street
PM Peak Existing Conditions
Site Category: (None)
Stop (Two-Way)

| Movement Performance - Vehicles | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
| South: Burnley Street (S) | | | | | | | | | | | | |
| 2 | T1 | 844 | 5.0 | 0.475 | 0.4 | LOS A | 0.7 | 5.1 | 0.08 | 0.02 | 0.11 | 58.8 |
| 3 | R2 | 23 | 5.0 | 0.475 | 9.1 | LOS A | 0.7 | 5.1 | 0.08 | 0.02 | 0.11 | 54.9 |
| Approach | | 867 | 5.0 | 0.475 | 0.7 | NA | 0.7 | 5.1 | 0.08 | 0.02 | 0.11 | 58.7 |
| East: Doonside Street (E) | | | | | | | | | | | | |
| 4 | L2 | 47 | 5.0 | 0.099 | 14.2 | LOS B | 0.3 | 2.5 | 0.62 | 1.00 | 0.62 | 41.8 |
| 6 | R2 | 41 | 5.0 | 0.277 | 35.6 | LOS E | 0.9 | 6.7 | 0.91 | 1.03 | 1.02 | 37.7 |
| Approach | | 88 | 5.0 | 0.277 | 24.1 | LOS C | 0.9 | 6.7 | 0.75 | 1.01 | 0.80 | 39.1 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 7 | L2 | 13 | 5.0 | 0.007 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.58 | 0.00 | 53.4 |
| 8 | T1 | 691 | 5.0 | 0.366 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | 703 | 5.0 | 0.366 | 0.1 | NA | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 59.7 |
| All Vehicles | | 1659 | 5.0 | 0.475 | 1.7 | NA | 0.9 | 6.7 | 0.08 | 0.07 | 0.10 | 57.0 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [BuBu_AMEx]

Burnley Street/Buckingham Street
AM Peak Existing Conditions
Site Category: (None)
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 14 | 5.0 | 0.008 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.58 | 0.00 | 53.4 |
| 2 | T1 | 476 | 5.0 | 0.252 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | 489 | 5.0 | 0.252 | 0.2 | NA | 0.0 | 0.0 | 0.00 | 0.02 | 0.00 | 59.6 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 8 | T1 | 747 | 5.0 | 0.412 | 0.2 | LOS A | 0.3 | 2.5 | 0.04 | 0.01 | 0.05 | 59.4 |
| 9 | R2 | 18 | 5.0 | 0.412 | 5.8 | LOS A | 0.3 | 2.5 | 0.04 | 0.01 | 0.05 | 55.5 |
| Approach | | 765 | 5.0 | 0.412 | 0.3 | NA | 0.3 | 2.5 | 0.04 | 0.01 | 0.05 | 59.3 |
| West: Buckingham Street (W) | | | | | | | | | | | | |
| 10 | L2 | 78 | 5.0 | 0.114 | 8.8 | LOS A | 0.4 | 3.2 | 0.51 | 0.72 | 0.51 | 45.6 |
| 12 | R2 | 43 | 5.0 | 0.176 | 20.1 | LOS C | 0.6 | 4.3 | 0.82 | 0.93 | 0.83 | 43.9 |
| Approach | | 121 | 5.0 | 0.176 | 12.8 | LOS B | 0.6 | 4.3 | 0.62 | 0.80 | 0.63 | 44.7 |
| All Vehicles | | 1376 | 5.0 | 0.412 | 1.4 | NA | 0.6 | 4.3 | 0.08 | 0.08 | 0.08 | 57.3 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [BuBu_PMEx]

Burnley Street/Buckingham Street
PM Peak Existing Conditions
Site Category: (None)
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 55 | 5.0 | 0.031 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.58 | 0.00 | 53.4 |
| 2 | T1 | 724 | 5.0 | 0.383 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | 779 | 5.0 | 0.383 | 0.4 | NA | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 59.0 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 8 | T1 | 616 | 5.0 | 0.483 | 2.8 | LOS A | 3.4 | 24.7 | 0.42 | 0.13 | 0.60 | 53.4 |
| 9 | R2 | 122 | 5.0 | 0.483 | 9.5 | LOS A | 3.4 | 24.7 | 0.42 | 0.13 | 0.60 | 50.1 |
| Approach | | 738 | 5.0 | 0.483 | 3.9 | NA | 3.4 | 24.7 | 0.42 | 0.13 | 0.60 | 52.8 |
| West: Buckingham Street (W) | | | | | | | | | | | | |
| 10 | L2 | 143 | 5.0 | 0.307 | 13.5 | LOS B | 1.3 | 9.8 | 0.69 | 0.91 | 0.82 | 41.1 |
| 12 | R2 | 21 | 5.0 | 0.116 | 24.9 | LOS C | 0.4 | 2.6 | 0.86 | 0.94 | 0.86 | 41.5 |
| Approach | | 164 | 5.0 | 0.307 | 14.9 | LOS B | 1.3 | 9.8 | 0.71 | 0.91 | 0.83 | 41.2 |
| All Vehicles | | 1681 | 5.0 | 0.483 | 3.4 | NA | 3.4 | 24.7 | 0.25 | 0.17 | 0.35 | 53.9 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [BuAp_AMEx]

Burnley Street/Appleton Street
AM Peak Existing Conditions
Site Category: (None)
Stop (Two-Way)

| Movement Performance - Vehicles | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
| South: Burnley Street (S) | | | | | | | | | | | | |
| 2 | T1 | 488 | 5.0 | 0.260 | 0.0 | LOS A | 0.0 | 0.2 | 0.01 | 0.00 | 0.01 | 59.9 |
| 3 | R2 | 1 | 5.0 | 0.260 | 11.7 | LOS B | 0.0 | 0.2 | 0.01 | 0.00 | 0.01 | 57.4 |
| Approach | | 489 | 5.0 | 0.260 | 0.1 | NA | 0.0 | 0.2 | 0.01 | 0.00 | 0.01 | 59.9 |
| East: Appleton Street (E) | | | | | | | | | | | | |
| 4 | L2 | 9 | 5.0 | 0.029 | 15.4 | LOS C | 0.1 | 0.7 | 0.69 | 0.96 | 0.69 | 47.2 |
| 6 | R2 | 1 | 5.0 | 0.029 | 22.9 | LOS C | 0.1 | 0.7 | 0.69 | 0.96 | 0.69 | 46.8 |
| Approach | | 11 | 5.0 | 0.029 | 16.2 | LOS C | 0.1 | 0.7 | 0.69 | 0.96 | 0.69 | 47.1 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 7 | L2 | 4 | 5.0 | 0.419 | 5.7 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 58.0 |
| 8 | T1 | 786 | 5.0 | 0.419 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | 791 | 5.0 | 0.419 | 0.1 | NA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.8 |
| All Vehicles | | 1291 | 5.0 | 0.419 | 0.2 | NA | 0.1 | 0.7 | 0.01 | 0.01 | 0.01 | 59.7 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [BuAp_PMEx]

Burnley Street/Appleton Street
PM Peak Existing Conditions
Site Category: (None)
Stop (Two-Way)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 2 | T1 | 774 | 5.0 | 0.411 | 0.0 | LOS A | 0.0 | 0.2 | 0.00 | 0.00 | 0.00 | 60.0 |
| 3 | R2 | 1 | 5.0 | 0.411 | 10.9 | LOS B | 0.0 | 0.2 | 0.00 | 0.00 | 0.00 | 57.4 |
| Approach | | 775 | 5.0 | 0.411 | 0.0 | NA | 0.0 | 0.2 | 0.00 | 0.00 | 0.00 | 60.0 |
| East: Appleton Street (E) | | | | | | | | | | | | |
| 4 | L2 | 12 | 5.0 | 0.050 | 12.9 | LOS B | 0.2 | 1.2 | 0.68 | 0.96 | 0.68 | 46.7 |
| 6 | R2 | 5 | 5.0 | 0.050 | 25.9 | LOS D | 0.2 | 1.2 | 0.68 | 0.96 | 0.68 | 46.3 |
| Approach | | 17 | 5.0 | 0.050 | 17.0 | LOS C | 0.2 | 1.2 | 0.68 | 0.96 | 0.68 | 46.5 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 7 | L2 | 12 | 5.0 | 0.338 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 57.9 |
| 8 | T1 | 625 | 5.0 | 0.338 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 59.8 |
| Approach | | 637 | 5.0 | 0.338 | 0.1 | NA | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 59.8 |
| All Vehicles | | 1428 | 5.0 | 0.411 | 0.3 | NA | 0.2 | 1.2 | 0.01 | 0.02 | 0.01 | 59.7 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [BuHi_AMEx]

Burnley Street/Highett Street
AM Peak Existing Conditions
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 304 | 5.0 | 0.234 | 11.3 | LOS B | 5.8 | 42.0 | 0.35 | 0.68 | 0.35 | 49.3 |
| 2 | T1 | 373 | 5.0 | 0.676 | 24.8 | LOS C | 15.0 | 109.6 | 0.74 | 0.64 | 0.74 | 42.6 |
| Approach | | 677 | 5.0 | 0.676 | 18.8 | LOS B | 15.0 | 109.6 | 0.57 | 0.66 | 0.57 | 45.4 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 8 | T1 | 489 | 5.0 | 0.671 | 9.5 | LOS A | 12.6 | 92.2 | 0.48 | 0.43 | 0.48 | 51.9 |
| 9 | R2 | 242 | 5.0 | 0.390 | 16.9 | LOS B | 5.6 | 40.8 | 0.67 | 0.77 | 0.67 | 45.4 |
| Approach | | 732 | 5.0 | 0.671 | 12.0 | LOS B | 12.6 | 92.2 | 0.55 | 0.54 | 0.55 | 49.5 |
| West: Highett Street (W) | | | | | | | | | | | | |
| 10 | L2 | 58 | 5.0 | 0.667 | 50.4 | LOS D | 15.2 | 111.1 | 0.96 | 0.84 | 0.96 | 32.3 |
| 12 | R2 | 226 | 5.0 | 0.667 | 50.3 | LOS D | 15.2 | 111.1 | 0.96 | 0.84 | 0.96 | 32.2 |
| Approach | | 284 | 5.0 | 0.667 | 50.3 | LOS D | 15.2 | 111.1 | 0.96 | 0.84 | 0.96 | 32.2 |
| All Vehicles | | 1693 | 5.0 | 0.676 | 21.1 | LOS C | 15.2 | 111.1 | 0.62 | 0.64 | 0.62 | 43.9 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P3 | North Full Crossing | 53 | 40.9 | LOS E | 0.1 | 0.1 | 0.83 | 0.83 |
| P4 | West Full Crossing | 53 | 21.6 | LOS C | 0.1 | 0.1 | 0.60 | 0.60 |
| All Pedestrians | | 105 | 31.3 | LOS D | | | 0.71 | 0.71 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 101 [BuHi_PMEx]

Burnley Street/Highett Street
PM Peak Existing Conditions
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 258 | 5.0 | 0.184 | 9.0 | LOS A | 3.7 | 27.2 | 0.27 | 0.65 | 0.27 | 50.9 |
| 2 | T1 | 494 | 5.0 | 0.779 | 26.7 | LOS C | 21.6 | 157.8 | 0.78 | 0.71 | 0.81 | 41.6 |
| Approach | | 752 | 5.0 | 0.779 | 20.7 | LOS C | 21.6 | 157.8 | 0.60 | 0.69 | 0.63 | 44.4 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 8 | T1 | 446 | 5.0 | 0.609 | 11.1 | LOS B | 12.3 | 89.8 | 0.52 | 0.45 | 0.52 | 50.7 |
| 9 | R2 | 192 | 5.0 | 0.408 | 20.2 | LOS C | 4.8 | 35.0 | 0.75 | 0.78 | 0.75 | 43.6 |
| Approach | | 638 | 5.0 | 0.609 | 13.9 | LOS B | 12.3 | 89.8 | 0.59 | 0.55 | 0.59 | 48.3 |
| West: Highett Street (W) | | | | | | | | | | | | |
| 10 | L2 | 128 | 5.0 | 0.770 | 50.5 | LOS D | 21.3 | 155.3 | 0.98 | 0.88 | 1.03 | 32.2 |
| 12 | R2 | 252 | 5.0 | 0.770 | 50.5 | LOS D | 21.3 | 155.3 | 0.98 | 0.88 | 1.03 | 32.2 |
| Approach | | 380 | 5.0 | 0.770 | 50.5 | LOS D | 21.3 | 155.3 | 0.98 | 0.88 | 1.03 | 32.2 |
| All Vehicles | | 1769 | 5.0 | 0.779 | 24.6 | LOS C | 21.6 | 157.8 | 0.68 | 0.68 | 0.70 | 42.2 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P3 | North Full Crossing | 53 | 37.7 | LOS D | 0.1 | 0.1 | 0.79 | 0.79 |
| P4 | West Full Crossing | 53 | 19.9 | LOS B | 0.1 | 0.1 | 0.58 | 0.58 |
| All Pedestrians | | 105 | 28.8 | LOS C | | | 0.68 | 0.68 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 101 [BuBr_AMEx]

Burnley Street/Bridge Road
AM Peak Existing Conditions
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site Practical Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 63 | 5.0 | 0.927 | 71.9 | LOS E | 25.9 | 189.1 | 0.98 | 1.11 | 1.35 | 28.2 |
| 2 | T1 | 312 | 5.0 | 0.927 | 66.3 | LOS E | 25.9 | 189.1 | 0.98 | 1.11 | 1.35 | 28.6 |
| 3 | R2 | 112 | 5.0 | 0.506 | 38.3 | LOS D | 4.7 | 34.0 | 0.96 | 0.78 | 0.96 | 36.2 |
| Approach | | 486 | 5.0 | 0.927 | 60.6 | LOS E | 25.9 | 189.1 | 0.98 | 1.03 | 1.26 | 30.0 |
| East: Bridge Road (E) | | | | | | | | | | | | |
| 4 | L2 | 100 | 5.0 | 0.946 | 69.4 | LOS E | 49.3 | 360.0 | 1.00 | 1.13 | 1.30 | 28.7 |
| 5 | T1 | 1039 | 5.0 | 0.946 | 64.4 | LOS E | 49.3 | 360.0 | 0.95 | 1.11 | 1.30 | 29.1 |
| 6 | R2 | 235 | 5.0 | 0.645 | 27.4 | LOS C | 7.9 | 57.7 | 0.88 | 0.81 | 0.88 | 40.7 |
| Approach | | 1374 | 5.0 | 0.946 | 58.4 | LOS E | 49.3 | 360.0 | 0.94 | 1.06 | 1.23 | 30.5 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 7 | L2 | 115 | 5.0 | 0.157 | 29.4 | LOS C | 4.2 | 30.6 | 0.67 | 0.73 | 0.67 | 39.6 |
| 8 | T1 | 365 | 5.0 | 0.912 | 62.4 | LOS E | 24.3 | 177.5 | 0.98 | 1.07 | 1.31 | 29.7 |
| 9 | R2 | 162 | 5.0 | 0.684 | 40.5 | LOS D | 7.2 | 52.7 | 0.99 | 0.83 | 1.05 | 35.4 |
| 9u | U | 1 | 5.0 | 0.684 | 41.6 | LOS D | 7.2 | 52.7 | 0.99 | 0.83 | 1.05 | 35.2 |
| Approach | | 643 | 5.0 | 0.912 | 50.9 | LOS D | 24.3 | 177.5 | 0.93 | 0.95 | 1.13 | 32.5 |
| West: Bridge Road (W) | | | | | | | | | | | | |
| 10 | L2 | 40 | 5.0 | 0.221 | 31.7 | LOS C | 5.1 | 36.9 | 0.70 | 0.63 | 0.70 | 40.3 |
| 11 | T1 | 473 | 5.0 | 0.678 | 30.4 | LOS C | 17.4 | 126.8 | 0.81 | 0.71 | 0.81 | 39.9 |
| 12 | R2 | 65 | 5.0 | 0.364 | 62.0 | LOS E | 3.7 | 27.0 | 0.97 | 0.76 | 0.97 | 29.3 |
| Approach | | 578 | 5.0 | 0.678 | 34.0 | LOS C | 17.4 | 126.8 | 0.82 | 0.71 | 0.82 | 38.4 |
| All Vehicles | | 3081 | 5.0 | 0.946 | 52.6 | LOS D | 49.3 | 360.0 | 0.92 | 0.96 | 1.14 | 32.1 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 53 | 29.5 | LOS C | 0.1 | 0.1 | 0.70 | 0.70 |
| P2 | East Full Crossing | 53 | 45.2 | LOS E | 0.2 | 0.2 | 0.87 | 0.87 |
| P3 | North Full Crossing | 53 | 31.6 | LOS D | 0.1 | 0.1 | 0.73 | 0.73 |
| P4 | West Full Crossing | 53 | 45.2 | LOS E | 0.2 | 0.2 | 0.87 | 0.87 |
| All Pedestrians | | 211 | 37.9 | LOS D | | | 0.79 | 0.79 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 101 [BuBr_PMEx]

Burnley Street/Bridge Road
PM Peak Existing Conditions
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site Practical Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 83 | 5.0 | 0.999 | 98.5 | LOS F | 38.8 | 283.1 | 0.96 | 1.28 | 1.56 | 23.4 |
| 2 | T1 | 385 | 5.0 | 0.999 | 92.9 | LOS F | 38.8 | 283.1 | 0.96 | 1.28 | 1.56 | 23.7 |
| 3 | R2 | 192 | 5.0 | 0.692 | 34.3 | LOS C | 7.6 | 55.7 | 0.93 | 0.83 | 0.99 | 37.7 |
| Approach | | 660 | 5.0 | 0.999 | 76.6 | LOS E | 38.8 | 283.1 | 0.95 | 1.15 | 1.39 | 26.5 |
| East: Bridge Road (E) | | | | | | | | | | | | |
| 4 | L2 | 60 | 5.0 | 0.304 | 34.5 | LOS C | 3.0 | 22.0 | 0.72 | 0.69 | 0.72 | 38.0 |
| 5 | T1 | 458 | 5.0 | 0.994 | 89.8 | LOS F | 36.4 | 266.0 | 0.99 | 1.28 | 1.56 | 24.2 |
| 6 | R2 | 204 | 5.0 | 0.713 | 36.5 | LOS D | 8.0 | 58.3 | 1.00 | 0.85 | 1.06 | 37.0 |
| Approach | | 722 | 5.0 | 0.994 | 70.1 | LOS E | 36.4 | 266.0 | 0.97 | 1.11 | 1.35 | 27.8 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 7 | L2 | 213 | 5.0 | 0.241 | 24.2 | LOS C | 7.1 | 51.6 | 0.61 | 0.74 | 0.61 | 42.0 |
| 8 | T1 | 369 | 5.0 | 0.839 | 44.9 | LOS D | 20.6 | 150.1 | 0.90 | 0.89 | 1.06 | 34.6 |
| 9 | R2 | 137 | 5.0 | 0.494 | 33.9 | LOS C | 5.1 | 37.1 | 0.94 | 0.79 | 0.94 | 37.8 |
| Approach | | 719 | 5.0 | 0.839 | 36.7 | LOS D | 20.6 | 150.1 | 0.82 | 0.83 | 0.91 | 37.1 |
| West: Bridge Road (W) | | | | | | | | | | | | |
| 10 | L2 | 49 | 5.0 | 0.830 | 53.8 | LOS D | 26.4 | 192.8 | 1.00 | 0.96 | 1.11 | 32.7 |
| 11 | T1 | 788 | 5.0 | 0.830 | 48.2 | LOS D | 26.4 | 192.8 | 0.98 | 0.95 | 1.11 | 33.4 |
| 12 | R2 | 63 | 5.0 | 0.315 | 59.5 | LOS E | 3.6 | 26.4 | 0.96 | 0.76 | 0.96 | 29.9 |
| 12u | U | 2 | 5.0 | 0.315 | 60.7 | LOS E | 3.6 | 26.4 | 0.96 | 0.76 | 0.96 | 29.7 |
| Approach | | 903 | 5.0 | 0.830 | 49.3 | LOS D | 26.4 | 192.8 | 0.98 | 0.93 | 1.10 | 33.1 |
| All Vehicles | | 3004 | 5.0 | 0.999 | 57.3 | LOS E | 38.8 | 283.1 | 0.93 | 1.00 | 1.18 | 30.8 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 53 | 37.7 | LOS D | 0.1 | 0.1 | 0.79 | 0.79 |
| P2 | East Full Crossing | 53 | 38.5 | LOS D | 0.1 | 0.1 | 0.80 | 0.80 |
| P3 | North Full Crossing | 53 | 40.1 | LOS E | 0.1 | 0.1 | 0.82 | 0.82 |
| P4 | West Full Crossing | 53 | 38.5 | LOS D | 0.1 | 0.1 | 0.80 | 0.80 |
| All Pedestrians | | 211 | 38.7 | LOS D | | | 0.80 | 0.80 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 101 [BuVi_AMBase]

Burnley Street/Victoria Street/Walmer Street
AM Peak Base Case Conditions
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 248 | 5.0 | 0.386 | 35.6 | LOS D | 10.9 | 79.2 | 0.79 | 0.79 | 0.79 | 37.2 |
| 2 | T1 | 4 | 5.0 | 0.386 | 30.0 | LOS C | 10.9 | 79.2 | 0.79 | 0.79 | 0.79 | 37.9 |
| 3 | R2 | 268 | 5.0 | 0.564 | 59.7 | LOS E | 7.6 | 55.7 | 0.99 | 0.80 | 0.99 | 29.9 |
| 3u | U | 1 | 5.0 | 0.564 | 60.8 | LOS E | 7.6 | 55.6 | 0.99 | 0.80 | 0.99 | 29.7 |
| Approach | | 522 | 5.0 | 0.564 | 48.0 | LOS D | 10.9 | 79.2 | 0.89 | 0.80 | 0.89 | 33.1 |
| East: Victoria Street (E) | | | | | | | | | | | | |
| 4 | L2 | 484 | 5.0 | 0.394 | 8.7 | LOS A | 7.4 | 54.2 | 0.35 | 0.67 | 0.35 | 51.7 |
| 5 | T1 | 954 | 5.0 | 0.849 | 42.0 | LOS D | 34.6 | 252.7 | 0.92 | 0.91 | 1.05 | 35.5 |
| 6 | R2 | 1 | 5.0 | 0.849 | 48.0 | LOS D | 34.6 | 252.7 | 0.98 | 0.96 | 1.08 | 34.6 |
| 6u | U | 15 | 5.0 | 0.849 | 49.2 | LOS D | 34.6 | 252.7 | 0.98 | 0.96 | 1.08 | 34.5 |
| Approach | | 1454 | 5.0 | 0.849 | 31.0 | LOS C | 34.6 | 252.7 | 0.73 | 0.83 | 0.82 | 39.7 |
| North: Walmer Street (N) | | | | | | | | | | | | |
| 7 | L2 | 1 | 5.0 | 0.077 | 64.2 | LOS E | 0.5 | 3.9 | 0.96 | 0.66 | 0.96 | 29.7 |
| 8 | T1 | 6 | 5.0 | 0.077 | 58.6 | LOS E | 0.5 | 3.9 | 0.96 | 0.66 | 0.96 | 30.2 |
| 9 | R2 | 2 | 5.0 | 0.077 | 64.2 | LOS E | 0.5 | 3.9 | 0.96 | 0.66 | 0.96 | 29.7 |
| Approach | | 9 | 5.0 | 0.077 | 60.5 | LOS E | 0.5 | 3.9 | 0.96 | 0.66 | 0.96 | 30.0 |
| West: Victoria Street (W) | | | | | | | | | | | | |
| 10 | L2 | 2 | 5.0 | 0.164 | 14.2 | LOS B | 4.5 | 32.9 | 0.42 | 0.36 | 0.42 | 51.1 |
| 11 | T1 | 401 | 5.0 | 0.164 | 8.6 | LOS A | 4.5 | 32.9 | 0.42 | 0.36 | 0.42 | 52.6 |
| 12 | R2 | 235 | 5.0 | 0.866 | 63.8 | LOS E | 14.5 | 106.1 | 0.96 | 0.95 | 1.26 | 29.0 |
| Approach | | 638 | 5.0 | 0.866 | 28.9 | LOS C | 14.5 | 106.1 | 0.62 | 0.57 | 0.73 | 40.5 |
| All Vehicles | | 2623 | 5.0 | 0.866 | 34.0 | LOS C | 34.6 | 252.7 | 0.74 | 0.76 | 0.81 | 38.3 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 53 | 33.1 | LOS D | 0.1 | 0.1 | 0.74 | 0.74 |
| P21 | East Stage 1 | 53 | 16.1 | LOS B | 0.1 | 0.1 | 0.52 | 0.52 |
| P22 | East Stage 2 | 53 | 54.3 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P3 | North Full Crossing | 53 | 9.2 | LOS A | 0.1 | 0.1 | 0.39 | 0.39 |
| P4 | West Full Crossing | 53 | 54.3 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| All Pedestrians | | 263 | 33.4 | LOS D | | | 0.71 | 0.71 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

# MOVEMENT SUMMARY

## Site: 101 [BuVi_PMBase]

Burnley Street/Victoria Street/Walmer Street
PM Peak Base Case Conditions
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 205 | 5.0 | 0.229 | 23.0 | LOS C | 6.6 | 48.3 | 0.59 | 0.73 | 0.59 | 42.6 |
| 2 | T1 | 1 | 5.0 | 0.229 | 17.4 | LOS B | 6.6 | 48.3 | 0.59 | 0.73 | 0.59 | 43.6 |
| 3 | R2 | 531 | 5.0 | 0.877 | 65.2 | LOS E | 16.8 | 122.9 | 0.98 | 0.96 | 1.27 | 28.7 |
| 3u | U | 1 | 5.0 | 0.877 | 66.3 | LOS E | 16.8 | 122.9 | 0.98 | 0.96 | 1.27 | 28.5 |
| Approach | | 738 | 5.0 | 0.877 | 53.4 | LOS D | 16.8 | 122.9 | 0.87 | 0.90 | 1.08 | 31.5 |
| East: Victoria Street (E) | | | | | | | | | | | | |
| 4 | L2 | 392 | 5.0 | 0.335 | 7.9 | LOS A | 4.9 | 35.9 | 0.30 | 0.65 | 0.30 | 52.3 |
| 5 | T1 | 465 | 5.0 | 0.853 | 49.9 | LOS D | 23.6 | 172.3 | 0.96 | 0.92 | 1.10 | 33.0 |
| 6 | R2 | 1 | 5.0 | 0.853 | 59.3 | LOS E | 23.6 | 172.3 | 1.00 | 1.00 | 1.18 | 31.2 |
| 6u | U | 15 | 5.0 | 0.853 | 60.5 | LOS E | 23.6 | 172.3 | 1.00 | 1.00 | 1.18 | 31.2 |
| Approach | | 873 | 5.0 | 0.853 | 31.3 | LOS C | 23.6 | 172.3 | 0.66 | 0.80 | 0.74 | 39.5 |
| North: Walmer Street (N) | | | | | | | | | | | | |
| 7 | L2 | 1 | 5.0 | 0.044 | 63.8 | LOS E | 0.3 | 2.2 | 0.96 | 0.64 | 0.96 | 29.1 |
| 8 | T1 | 1 | 5.0 | 0.044 | 58.2 | LOS E | 0.3 | 2.2 | 0.96 | 0.64 | 0.96 | 29.6 |
| 9 | R2 | 3 | 5.0 | 0.044 | 63.9 | LOS E | 0.3 | 2.2 | 0.96 | 0.64 | 0.96 | 29.1 |
| Approach | | 5 | 5.0 | 0.044 | 62.7 | LOS E | 0.3 | 2.2 | 0.96 | 0.64 | 0.96 | 29.2 |
| West: Victoria Street (W) | | | | | | | | | | | | |
| 10 | L2 | 2 | 5.0 | 0.478 | 22.0 | LOS C | 17.5 | 128.0 | 0.64 | 0.57 | 0.64 | 46.2 |
| 11 | T1 | 889 | 5.0 | 0.478 | 15.7 | LOS B | 17.5 | 128.0 | 0.62 | 0.55 | 0.62 | 47.7 |
| 12 | R2 | 213 | 5.0 | 0.872 | 62.6 | LOS E | 12.9 | 94.3 | 0.90 | 0.95 | 1.25 | 29.3 |
| Approach | | 1104 | 5.0 | 0.872 | 24.8 | LOS C | 17.5 | 128.0 | 0.67 | 0.62 | 0.74 | 42.5 |
| All Vehicles | | 2720 | 5.0 | 0.877 | 34.7 | LOS C | 23.6 | 172.3 | 0.72 | 0.75 | 0.83 | 38.0 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 53 | 44.3 | LOS E | 0.2 | 0.2 | 0.86 | 0.86 |
| P21 | East Stage 1 | 53 | 9.6 | LOS A | 0.1 | 0.1 | 0.40 | 0.40 |
| P22 | East Stage 2 | 53 | 54.3 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P3 | North Full Crossing | 53 | 13.6 | LOS B | 0.1 | 0.1 | 0.48 | 0.48 |
| P4 | West Full Crossing | 53 | 49.6 | LOS E | 0.2 | 0.2 | 0.91 | 0.91 |
| All Pedestrians | | 263 | 34.3 | LOS D | | | 0.72 | 0.72 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

# MOVEMENT SUMMARY

## Site: 101 [BuDo_AMBase]

Burnley Street/Doonside Street
AM Peak Base Case Conditions
Site Category: (None)
Stop (Two-Way)

| Movement Performance - Vehicles | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
| South: Burnley Street (S) | | | | | | | | | | | | |
| 2 | T1 | 525 | 5.0 | 0.355 | 1.4 | LOS A | 1.3 | 9.6 | 0.24 | 0.07 | 0.30 | 56.2 |
| 3 | R2 | 57 | 5.0 | 0.355 | 8.6 | LOS A | 1.3 | 9.6 | 0.24 | 0.07 | 0.30 | 52.6 |
| Approach | | 582 | 5.0 | 0.355 | 2.1 | NA | 1.3 | 9.6 | 0.24 | 0.07 | 0.30 | 55.8 |
| East: Doonside Street (E) | | | | | | | | | | | | |
| 4 | L2 | 41 | 5.0 | 0.096 | 15.1 | LOS C | 0.3 | 2.4 | 0.66 | 1.00 | 0.66 | 41.0 |
| 6 | R2 | 75 | 5.0 | 0.346 | 28.1 | LOS D | 1.3 | 9.4 | 0.87 | 1.05 | 1.06 | 40.9 |
| Approach | | 116 | 5.0 | 0.346 | 23.5 | LOS C | 1.3 | 9.4 | 0.80 | 1.03 | 0.92 | 40.9 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 7 | L2 | 38 | 5.0 | 0.021 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.58 | 0.00 | 53.4 |
| 8 | T1 | 749 | 5.0 | 0.397 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | 787 | 5.0 | 0.397 | 0.3 | NA | 0.0 | 0.0 | 0.00 | 0.03 | 0.00 | 59.3 |
| All Vehicles | | 1485 | 5.0 | 0.397 | 2.8 | NA | 1.3 | 9.6 | 0.16 | 0.12 | 0.19 | 55.1 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [BuDo_PMBase]

Burnley Street/Doonside Street
PM Peak Base Case Conditions
Site Category: (None)
Stop (Two-Way)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 2 | T1 | 852 | 5.0 | 0.517 | 1.1 | LOS A | 1.7 | 12.4 | 0.18 | 0.04 | 0.26 | 57.1 |
| 3 | R2 | 52 | 5.0 | 0.517 | 10.1 | LOS B | 1.7 | 12.4 | 0.18 | 0.04 | 0.26 | 53.4 |
| Approach | | 903 | 5.0 | 0.517 | 1.6 | NA | 1.7 | 12.4 | 0.18 | 0.04 | 0.26 | 56.9 |
| East: Doonside Street (E) | | | | | | | | | | | | |
| 4 | L2 | 59 | 5.0 | 0.126 | 14.4 | LOS B | 0.4 | 3.3 | 0.63 | 1.00 | 0.63 | 41.5 |
| 6 | R2 | 71 | 5.0 | 0.534 | 48.6 | LOS E | 2.0 | 14.5 | 0.94 | 1.09 | 1.30 | 33.3 |
| Approach | | 129 | 5.0 | 0.534 | 33.0 | LOS D | 2.0 | 14.5 | 0.80 | 1.05 | 1.00 | 35.4 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 7 | L2 | 53 | 5.0 | 0.029 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.58 | 0.00 | 53.4 |
| 8 | T1 | 701 | 5.0 | 0.371 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | 754 | 5.0 | 0.371 | 0.4 | NA | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 59.0 |
| All Vehicles | | 1786 | 5.0 | 0.534 | 3.4 | NA | 2.0 | 14.5 | 0.15 | 0.11 | 0.20 | 54.3 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [BuAp_AMBase]

Burnley Street/Appleton Street
AM Peak Base Case Conditions
Site Category: (None)
Stop (Two-Way)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 2 | T1 | 507 | 5.0 | 0.270 | 0.0 | LOS A | 0.0 | 0.2 | 0.01 | 0.00 | 0.01 | 59.9 |
| 3 | R2 | 1 | 5.0 | 0.270 | 12.4 | LOS B | 0.0 | 0.2 | 0.01 | 0.00 | 0.01 | 57.4 |
| Approach | | 508 | 5.0 | 0.270 | 0.1 | NA | 0.0 | 0.2 | 0.01 | 0.00 | 0.01 | 59.9 |
| East: Appleton Street (E) | | | | | | | | | | | | |
| 4 | L2 | 32 | 5.0 | 0.090 | 16.5 | LOS C | 0.3 | 2.2 | 0.71 | 1.00 | 0.71 | 46.8 |
| 6 | R2 | 1 | 5.0 | 0.090 | 25.6 | LOS D | 0.3 | 2.2 | 0.71 | 1.00 | 0.71 | 46.4 |
| Approach | | 33 | 5.0 | 0.090 | 16.8 | LOS C | 0.3 | 2.2 | 0.71 | 1.00 | 0.71 | 46.8 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 7 | L2 | 4 | 5.0 | 0.437 | 5.7 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 58.0 |
| 8 | T1 | 821 | 5.0 | 0.437 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.8 |
| Approach | | 825 | 5.0 | 0.437 | 0.1 | NA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.8 |
| All Vehicles | | 1366 | 5.0 | 0.437 | 0.5 | NA | 0.3 | 2.2 | 0.02 | 0.03 | 0.02 | 59.5 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [BuAp_PMBase]

Burnley Street/Appleton Street
PM Peak Base Case Conditions
Site Category: (None)
Stop (Two-Way)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 2 | T1 | 813 | 5.0 | 0.432 | 0.0 | LOS A | 0.0 | 0.2 | 0.00 | 0.00 | 0.00 | 60.0 |
| 3 | R2 | 1 | 5.0 | 0.432 | 11.4 | LOS B | 0.0 | 0.2 | 0.00 | 0.00 | 0.00 | 57.4 |
| Approach | | 814 | 5.0 | 0.432 | 0.0 | NA | 0.0 | 0.2 | 0.00 | 0.00 | 0.00 | 60.0 |
| East: Appleton Street (E) | | | | | | | | | | | | |
| 4 | L2 | 23 | 5.0 | 0.076 | 13.3 | LOS B | 0.3 | 1.9 | 0.66 | 0.98 | 0.66 | 47.2 |
| 6 | R2 | 5 | 5.0 | 0.076 | 28.8 | LOS D | 0.3 | 1.9 | 0.66 | 0.98 | 0.66 | 46.7 |
| Approach | | 28 | 5.0 | 0.076 | 16.2 | LOS C | 0.3 | 1.9 | 0.66 | 0.98 | 0.66 | 47.1 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 7 | L2 | 12 | 5.0 | 0.348 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 57.9 |
| 8 | T1 | 644 | 5.0 | 0.348 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 59.8 |
| Approach | | 656 | 5.0 | 0.348 | 0.1 | NA | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 59.8 |
| All Vehicles | | 1498 | 5.0 | 0.432 | 0.4 | NA | 0.3 | 1.9 | 0.01 | 0.02 | 0.01 | 59.6 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [BuBu_AMBase]

Burnley Street/Buckingham Street
AM Peak Base Case Conditions
Site Category: (None)
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 18 | 5.0 | 0.010 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.58 | 0.00 | 53.4 |
| 2 | T1 | 491 | 5.0 | 0.260 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | 508 | 5.0 | 0.260 | 0.2 | NA | 0.0 | 0.0 | 0.00 | 0.02 | 0.00 | 59.5 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 8 | T1 | 768 | 5.0 | 0.428 | 0.2 | LOS A | 0.5 | 3.3 | 0.05 | 0.02 | 0.06 | 59.3 |
| 9 | R2 | 22 | 5.0 | 0.428 | 6.1 | LOS A | 0.5 | 3.3 | 0.05 | 0.02 | 0.06 | 55.3 |
| Approach | | 791 | 5.0 | 0.428 | 0.4 | NA | 0.5 | 3.3 | 0.05 | 0.02 | 0.06 | 59.2 |
| West: Buckingham Street (W) | | | | | | | | | | | | |
| 10 | L2 | 92 | 5.0 | 0.136 | 9.0 | LOS A | 0.5 | 3.9 | 0.52 | 0.74 | 0.52 | 45.4 |
| 12 | R2 | 57 | 5.0 | 0.249 | 22.7 | LOS C | 0.9 | 6.4 | 0.85 | 0.96 | 0.94 | 42.6 |
| Approach | | 148 | 5.0 | 0.249 | 14.3 | LOS B | 0.9 | 6.4 | 0.65 | 0.82 | 0.68 | 43.8 |
| All Vehicles | | 1447 | 5.0 | 0.428 | 1.8 | NA | 0.9 | 6.4 | 0.09 | 0.10 | 0.10 | 56.6 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [BuBu_PMBase]

Burnley Street/Buckingham Street
PM Peak Base Case Conditions
Site Category: (None)
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 65 | 5.0 | 0.036 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.58 | 0.00 | 53.4 |
| 2 | T1 | 753 | 5.0 | 0.399 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | 818 | 5.0 | 0.399 | 0.5 | NA | 0.0 | 0.0 | 0.00 | 0.05 | 0.00 | 58.9 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 8 | T1 | 627 | 5.0 | 0.511 | 3.4 | LOS A | 4.0 | 29.1 | 0.47 | 0.15 | 0.70 | 52.3 |
| 9 | R2 | 133 | 5.0 | 0.511 | 10.4 | LOS B | 4.0 | 29.1 | 0.47 | 0.15 | 0.70 | 49.2 |
| Approach | | 760 | 5.0 | 0.511 | 4.6 | NA | 4.0 | 29.1 | 0.47 | 0.15 | 0.70 | 51.8 |
| West: Buckingham Street (W) | | | | | | | | | | | | |
| 10 | L2 | 151 | 5.0 | 0.340 | 14.4 | LOS B | 1.5 | 11.2 | 0.71 | 0.93 | 0.90 | 40.3 |
| 12 | R2 | 28 | 5.0 | 0.172 | 27.6 | LOS D | 0.5 | 3.9 | 0.88 | 0.96 | 0.90 | 40.3 |
| Approach | | 179 | 5.0 | 0.340 | 16.5 | LOS C | 1.5 | 11.2 | 0.74 | 0.94 | 0.90 | 40.3 |
| All Vehicles | | 1757 | 5.0 | 0.511 | 3.9 | NA | 4.0 | 29.1 | 0.28 | 0.18 | 0.39 | 53.1 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [BuHi_AMBase]

Burnley Street/Highett Street
AM Peak Base Case Conditions
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 304 | 5.0 | 0.237 | 11.7 | LOS B | 5.9 | 43.3 | 0.37 | 0.68 | 0.37 | 49.0 |
| 2 | T1 | 392 | 5.0 | 0.710 | 25.1 | LOS C | 16.0 | 116.6 | 0.75 | 0.65 | 0.75 | 42.4 |
| Approach | | 696 | 5.0 | 0.710 | 19.3 | LOS B | 16.0 | 116.6 | 0.58 | 0.67 | 0.58 | 45.1 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 8 | T1 | 546 | 5.0 | 0.716 | 9.4 | LOS A | 14.3 | 104.6 | 0.49 | 0.44 | 0.49 | 51.9 |
| 9 | R2 | 242 | 5.0 | 0.389 | 16.8 | LOS B | 5.4 | 39.7 | 0.67 | 0.77 | 0.67 | 45.4 |
| Approach | | 788 | 5.0 | 0.716 | 11.7 | LOS B | 14.3 | 104.6 | 0.55 | 0.54 | 0.55 | 49.8 |
| West: Highett Street (W) | | | | | | | | | | | | |
| 10 | L2 | 58 | 5.0 | 0.691 | 51.7 | LOS D | 15.5 | 113.0 | 0.97 | 0.85 | 0.98 | 31.9 |
| 12 | R2 | 226 | 5.0 | 0.691 | 51.7 | LOS D | 15.5 | 113.0 | 0.97 | 0.85 | 0.98 | 31.8 |
| Approach | | 284 | 5.0 | 0.691 | 51.7 | LOS D | 15.5 | 113.0 | 0.97 | 0.85 | 0.98 | 31.8 |
| All Vehicles | | 1768 | 5.0 | 0.716 | 21.1 | LOS C | 16.0 | 116.6 | 0.63 | 0.64 | 0.63 | 44.0 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P3 | North Full Crossing | 53 | 41.8 | LOS E | 0.1 | 0.1 | 0.84 | 0.84 |
| P4 | West Full Crossing | 53 | 21.6 | LOS C | 0.1 | 0.1 | 0.60 | 0.60 |
| All Pedestrians | | 105 | 31.7 | LOS D | | | 0.72 | 0.72 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 101 [BuHi_PMBase]

Burnley Street/Highett Street
PM Peak Base Case Conditions
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 258 | 5.0 | 0.182 | 8.8 | LOS A | 3.6 | 26.1 | 0.26 | 0.65 | 0.26 | 51.0 |
| 2 | T1 | 533 | 5.0 | 0.802 | 27.1 | LOS C | 23.8 | 173.7 | 0.77 | 0.73 | 0.83 | 41.4 |
| Approach | | 791 | 5.0 | 0.802 | 21.1 | LOS C | 23.8 | 173.7 | 0.61 | 0.70 | 0.64 | 44.2 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 8 | T1 | 477 | 5.0 | 0.654 | 10.9 | LOS B | 13.1 | 95.8 | 0.52 | 0.46 | 0.52 | 50.9 |
| 9 | R2 | 192 | 5.0 | 0.430 | 20.6 | LOS C | 4.7 | 34.4 | 0.76 | 0.78 | 0.76 | 43.4 |
| Approach | | 668 | 5.0 | 0.654 | 13.7 | LOS B | 13.1 | 95.8 | 0.59 | 0.55 | 0.59 | 48.5 |
| West: Highett Street (W) | | | | | | | | | | | | |
| 10 | L2 | 128 | 5.0 | 0.794 | 52.8 | LOS D | 21.9 | 160.0 | 0.99 | 0.90 | 1.07 | 31.6 |
| 12 | R2 | 252 | 5.0 | 0.794 | 52.8 | LOS D | 21.9 | 160.0 | 0.99 | 0.90 | 1.07 | 31.5 |
| Approach | | 380 | 5.0 | 0.794 | 52.8 | LOS D | 21.9 | 160.0 | 0.99 | 0.90 | 1.07 | 31.5 |
| All Vehicles | | 1839 | 5.0 | 0.802 | 25.0 | LOS C | 23.8 | 173.7 | 0.68 | 0.69 | 0.71 | 42.0 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P3 | North Full Crossing | 53 | 38.5 | LOS D | 0.1 | 0.1 | 0.80 | 0.80 |
| P4 | West Full Crossing | 53 | 18.7 | LOS B | 0.1 | 0.1 | 0.56 | 0.56 |
| All Pedestrians | | 105 | 28.6 | LOS C | | | 0.68 | 0.68 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 101 [BuBr_AMBase]

Burnley Street/Bridge Road
AM Peak Base Case Conditions
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site Practical Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 63 | 5.0 | 0.870 | 57.9 | LOS E | 23.4 | 171.1 | 0.96 | 0.99 | 1.17 | 31.5 |
| 2 | T1 | 321 | 5.0 | 0.870 | 52.3 | LOS D | 23.4 | 171.1 | 0.96 | 0.99 | 1.17 | 32.1 |
| 3 | R2 | 112 | 5.0 | 0.564 | 38.5 | LOS D | 4.7 | 34.2 | 0.96 | 0.78 | 0.96 | 36.1 |
| Approach | | 496 | 5.0 | 0.870 | 49.9 | LOS D | 23.4 | 171.1 | 0.96 | 0.94 | 1.12 | 32.8 |
| East: Bridge Road (E) | | | | | | | | | | | | |
| 4 | L2 | 100 | 5.0 | 0.946 | 69.7 | LOS E | 49.5 | 361.1 | 1.00 | 1.13 | 1.31 | 28.6 |
| 5 | T1 | 1039 | 5.0 | 0.946 | 64.7 | LOS E | 49.5 | 361.1 | 0.95 | 1.11 | 1.30 | 29.0 |
| 6 | R2 | 235 | 5.0 | 0.680 | 28.8 | LOS C | 8.2 | 60.2 | 0.90 | 0.82 | 0.92 | 40.1 |
| Approach | | 1374 | 5.0 | 0.946 | 58.9 | LOS E | 49.5 | 361.1 | 0.95 | 1.06 | 1.23 | 30.4 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 7 | L2 | 115 | 5.0 | 0.151 | 28.1 | LOS C | 4.1 | 29.7 | 0.65 | 0.73 | 0.65 | 40.2 |
| 8 | T1 | 395 | 5.0 | 0.891 | 56.1 | LOS E | 25.0 | 182.7 | 0.97 | 1.02 | 1.22 | 31.3 |
| 9 | R2 | 191 | 5.0 | 0.802 | 52.0 | LOS D | 8.9 | 65.3 | 1.00 | 0.97 | 1.39 | 31.9 |
| 9u | U | 1 | 5.0 | 0.802 | 53.2 | LOS D | 8.9 | 65.3 | 1.00 | 0.97 | 1.39 | 31.7 |
| Approach | | 701 | 5.0 | 0.891 | 50.4 | LOS D | 25.0 | 182.7 | 0.92 | 0.96 | 1.18 | 32.6 |
| West: Bridge Road (W) | | | | | | | | | | | | |
| 10 | L2 | 49 | 5.0 | 0.227 | 31.1 | LOS C | 5.1 | 37.1 | 0.69 | 0.63 | 0.69 | 40.4 |
| 11 | T1 | 473 | 5.0 | 0.695 | 30.5 | LOS C | 17.8 | 129.9 | 0.82 | 0.71 | 0.82 | 39.8 |
| 12 | R2 | 65 | 5.0 | 0.397 | 63.3 | LOS E | 3.8 | 27.4 | 0.98 | 0.76 | 0.98 | 29.0 |
| Approach | | 587 | 5.0 | 0.695 | 34.2 | LOS C | 17.8 | 129.9 | 0.82 | 0.71 | 0.82 | 38.3 |
| All Vehicles | | 3158 | 5.0 | 0.946 | 51.0 | LOS D | 49.5 | 361.1 | 0.92 | 0.95 | 1.13 | 32.5 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 53 | 29.5 | LOS C | 0.1 | 0.1 | 0.70 | 0.70 |
| P2 | East Full Crossing | 53 | 42.6 | LOS E | 0.2 | 0.2 | 0.84 | 0.84 |
| P3 | North Full Crossing | 53 | 31.6 | LOS D | 0.1 | 0.1 | 0.73 | 0.73 |
| P4 | West Full Crossing | 53 | 42.6 | LOS E | 0.2 | 0.2 | 0.84 | 0.84 |
| All Pedestrians | | 211 | 36.6 | LOS D | | | 0.78 | 0.78 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 101 [BuBr_PMBase]

Burnley Street/Bridge Road
PM Peak Base Case Conditions
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site Practical Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 83 | 5.0 | 1.030 | 121.2 | LOS F | 47.2 | 344.6 | 1.00 | 1.42 | 1.74 | 20.3 |
| 2 | T1 | 404 | 5.0 | 1.030 | 115.6 | LOS F | 47.2 | 344.6 | 1.00 | 1.42 | 1.74 | 20.5 |
| 3 | R2 | 192 | 5.0 | 0.608 | 30.8 | LOS C | 6.9 | 50.6 | 0.91 | 0.80 | 0.91 | 39.1 |
| Approach | | 679 | 5.0 | 1.030 | 92.3 | LOS F | 47.2 | 344.6 | 0.98 | 1.24 | 1.51 | 23.6 |
| East: Bridge Road (E) | | | | | | | | | | | | |
| 4 | L2 | 60 | 5.0 | 0.314 | 35.2 | LOS D | 2.9 | 21.2 | 0.73 | 0.69 | 0.73 | 37.7 |
| 5 | T1 | 458 | 5.0 | 1.026 | 110.9 | LOS F | 41.7 | 304.3 | 0.99 | 1.38 | 1.70 | 21.1 |
| 6 | R2 | 204 | 5.0 | 0.785 | 40.7 | LOS D | 8.7 | 63.2 | 1.00 | 0.87 | 1.15 | 35.5 |
| Approach | | 722 | 5.0 | 1.026 | 84.7 | LOS F | 41.7 | 304.3 | 0.97 | 1.18 | 1.46 | 24.9 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 7 | L2 | 213 | 5.0 | 0.253 | 24.9 | LOS C | 7.2 | 52.5 | 0.62 | 0.74 | 0.62 | 41.7 |
| 8 | T1 | 384 | 5.0 | 0.870 | 49.1 | LOS D | 22.6 | 164.7 | 0.91 | 0.94 | 1.12 | 33.3 |
| 9 | R2 | 152 | 5.0 | 0.272 | 26.2 | LOS C | 5.3 | 38.9 | 0.66 | 0.73 | 0.66 | 41.1 |
| Approach | | 748 | 5.0 | 0.870 | 37.6 | LOS D | 22.6 | 164.7 | 0.78 | 0.84 | 0.89 | 36.8 |
| West: Bridge Road (W) | | | | | | | | | | | | |
| 10 | L2 | 69 | 5.0 | 0.900 | 64.9 | LOS E | 30.4 | 222.1 | 1.00 | 1.06 | 1.25 | 29.7 |
| 11 | T1 | 788 | 5.0 | 0.900 | 59.3 | LOS E | 30.4 | 222.1 | 1.00 | 1.06 | 1.26 | 30.3 |
| 12 | R2 | 63 | 5.0 | 0.340 | 60.7 | LOS E | 3.7 | 26.7 | 0.97 | 0.76 | 0.97 | 29.6 |
| 12u | U | 2 | 5.0 | 0.340 | 61.9 | LOS E | 3.7 | 26.7 | 0.97 | 0.76 | 0.97 | 29.4 |
| Approach | | 923 | 5.0 | 0.900 | 59.8 | LOS E | 30.4 | 222.1 | 1.00 | 1.04 | 1.24 | 30.2 |
| All Vehicles | | 3073 | 5.0 | 1.030 | 67.4 | LOS E | 47.2 | 344.6 | 0.93 | 1.07 | 1.26 | 28.3 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 53 | 39.3 | LOS D | 0.1 | 0.1 | 0.81 | 0.81 |
| P2 | East Full Crossing | 53 | 38.5 | LOS D | 0.1 | 0.1 | 0.80 | 0.80 |
| P3 | North Full Crossing | 53 | 41.8 | LOS E | 0.1 | 0.1 | 0.84 | 0.84 |
| P4 | West Full Crossing | 53 | 38.5 | LOS D | 0.1 | 0.1 | 0.80 | 0.80 |
| All Pedestrians | | 211 | 39.5 | LOS D | | | 0.81 | 0.81 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 101 [BuVi_AMFu]

Burnley Street/Victoria Street/Walmer Street
AM Peak Future Case Conditions
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 281 | 5.0 | 0.416 | 34.6 | LOS C | 12.2 | 88.9 | 0.78 | 0.79 | 0.78 | 37.5 |
| 2 | T1 | 4 | 5.0 | 0.416 | 29.0 | LOS C | 12.2 | 88.9 | 0.78 | 0.79 | 0.78 | 38.3 |
| 3 | R2 | 300 | 5.0 | 0.630 | 60.5 | LOS E | 8.6 | 63.1 | 1.00 | 0.81 | 1.01 | 29.8 |
| 3u | U | 1 | 5.0 | 0.630 | 61.6 | LOS E | 8.6 | 63.0 | 1.00 | 0.81 | 1.01 | 29.5 |
| Approach | | 586 | 5.0 | 0.630 | 47.9 | LOS D | 12.2 | 88.9 | 0.89 | 0.81 | 0.90 | 33.1 |
| East: Victoria Street (E) | | | | | | | | | | | | |
| 4 | L2 | 509 | 5.0 | 0.425 | 9.4 | LOS A | 8.8 | 64.5 | 0.39 | 0.68 | 0.39 | 51.2 |
| 5 | T1 | 954 | 5.0 | 0.899 | 52.1 | LOS D | 39.2 | 286.1 | 0.94 | 1.00 | 1.17 | 32.4 |
| 6 | R2 | 1 | 5.0 | 0.899 | 57.5 | LOS E | 39.2 | 286.1 | 1.00 | 1.05 | 1.19 | 31.8 |
| 6u | U | 15 | 5.0 | 0.899 | 58.7 | LOS E | 39.2 | 286.1 | 1.00 | 1.05 | 1.19 | 31.7 |
| Approach | | 1479 | 5.0 | 0.899 | 37.5 | LOS D | 39.2 | 286.1 | 0.75 | 0.89 | 0.90 | 37.1 |
| North: Walmer Street (N) | | | | | | | | | | | | |
| 7 | L2 | 1 | 5.0 | 0.077 | 64.2 | LOS E | 0.5 | 3.9 | 0.96 | 0.66 | 0.96 | 29.7 |
| 8 | T1 | 6 | 5.0 | 0.077 | 58.6 | LOS E | 0.5 | 3.9 | 0.96 | 0.66 | 0.96 | 30.2 |
| 9 | R2 | 2 | 5.0 | 0.077 | 64.2 | LOS E | 0.5 | 3.9 | 0.96 | 0.66 | 0.96 | 29.7 |
| Approach | | 9 | 5.0 | 0.077 | 60.5 | LOS E | 0.5 | 3.9 | 0.96 | 0.66 | 0.96 | 30.0 |
| West: Victoria Street (W) | | | | | | | | | | | | |
| 10 | L2 | 2 | 5.0 | 0.164 | 14.2 | LOS B | 4.5 | 32.9 | 0.42 | 0.36 | 0.42 | 51.1 |
| 11 | T1 | 401 | 5.0 | 0.164 | 8.6 | LOS A | 4.5 | 32.9 | 0.42 | 0.36 | 0.42 | 52.6 |
| 12 | R2 | 260 | 5.0 | 0.882 | 64.8 | LOS E | 16.4 | 119.6 | 0.95 | 0.96 | 1.27 | 28.7 |
| Approach | | 663 | 5.0 | 0.882 | 30.7 | LOS C | 16.4 | 119.6 | 0.63 | 0.59 | 0.75 | 39.7 |
| All Vehicles | | 2738 | 5.0 | 0.899 | 38.1 | LOS D | 39.2 | 286.1 | 0.75 | 0.80 | 0.87 | 36.7 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 53 | 34.6 | LOS D | 0.1 | 0.1 | 0.76 | 0.76 |
| P21 | East Stage 1 | 53 | 15.0 | LOS B | 0.1 | 0.1 | 0.50 | 0.50 |
| P22 | East Stage 2 | 53 | 54.3 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P3 | North Full Crossing | 53 | 9.2 | LOS A | 0.1 | 0.1 | 0.39 | 0.39 |
| P4 | West Full Crossing | 53 | 54.3 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| All Pedestrians | | 263 | 33.5 | LOS D | | | 0.71 | 0.71 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

# MOVEMENT SUMMARY

## Site: 101 [BuVi_PMFu]

Burnley Street/Victoria Street/Walmer Street
PM Peak Future Case Conditions
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 258 | 5.0 | 0.273 | 21.8 | LOS C | 8.1 | 59.4 | 0.58 | 0.74 | 0.58 | 43.2 |
| 2 | T1 | 1 | 5.0 | 0.273 | 16.2 | LOS B | 8.1 | 59.4 | 0.58 | 0.74 | 0.58 | 44.2 |
| 3 | R2 | 583 | 5.0 | 0.948 | 81.2 | LOS F | 21.2 | 154.5 | 0.97 | 1.05 | 1.47 | 25.5 |
| 3u | U | 1 | 5.0 | 0.948 | 82.4 | LOS F | 21.2 | 154.5 | 0.97 | 1.05 | 1.47 | 25.3 |
| Approach | | 843 | 5.0 | 0.948 | 63.0 | LOS E | 21.2 | 154.5 | 0.85 | 0.96 | 1.20 | 29.1 |
| East: Victoria Street (E) | | | | | | | | | | | | |
| 4 | L2 | 437 | 5.0 | 0.389 | 8.9 | LOS A | 6.7 | 49.3 | 0.36 | 0.67 | 0.36 | 51.6 |
| 5 | T1 | 465 | 5.0 | 0.939 | 65.2 | LOS E | 27.8 | 203.1 | 0.97 | 1.04 | 1.28 | 29.0 |
| 6 | R2 | 1 | 5.0 | 0.939 | 78.2 | LOS E | 27.8 | 203.1 | 1.00 | 1.15 | 1.40 | 26.9 |
| 6u | U | 15 | 5.0 | 0.939 | 79.4 | LOS E | 27.8 | 203.1 | 1.00 | 1.15 | 1.40 | 26.8 |
| Approach | | 918 | 5.0 | 0.939 | 38.6 | LOS D | 27.8 | 203.1 | 0.68 | 0.87 | 0.84 | 36.6 |
| North: Walmer Street (N) | | | | | | | | | | | | |
| 7 | L2 | 1 | 5.0 | 0.044 | 63.8 | LOS E | 0.3 | 2.2 | 0.96 | 0.64 | 0.96 | 29.1 |
| 8 | T1 | 1 | 5.0 | 0.044 | 58.2 | LOS E | 0.3 | 2.2 | 0.96 | 0.64 | 0.96 | 29.6 |
| 9 | R2 | 3 | 5.0 | 0.044 | 63.9 | LOS E | 0.3 | 2.2 | 0.96 | 0.64 | 0.96 | 29.1 |
| Approach | | 5 | 5.0 | 0.044 | 62.7 | LOS E | 0.3 | 2.2 | 0.96 | 0.64 | 0.96 | 29.2 |
| West: Victoria Street (W) | | | | | | | | | | | | |
| 10 | L2 | 2 | 5.0 | 0.505 | 23.4 | LOS C | 18.8 | 137.3 | 0.67 | 0.60 | 0.67 | 45.3 |
| 11 | T1 | 889 | 5.0 | 0.505 | 17.1 | LOS B | 18.8 | 137.3 | 0.64 | 0.57 | 0.64 | 46.9 |
| 12 | R2 | 259 | 5.0 | 0.966 | 88.7 | LOS F | 19.4 | 141.6 | 0.92 | 1.08 | 1.53 | 24.2 |
| Approach | | 1151 | 5.0 | 0.966 | 33.2 | LOS C | 19.4 | 141.6 | 0.70 | 0.68 | 0.84 | 38.7 |
| All Vehicles | | 2917 | 5.0 | 0.966 | 43.6 | LOS D | 27.8 | 203.1 | 0.74 | 0.82 | 0.94 | 34.8 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 53 | 46.9 | LOS E | 0.2 | 0.2 | 0.89 | 0.89 |
| P21 | East Stage 1 | 53 | 8.5 | LOS A | 0.1 | 0.1 | 0.38 | 0.38 |
| P22 | East Stage 2 | 53 | 54.3 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P3 | North Full Crossing | 53 | 14.5 | LOS B | 0.1 | 0.1 | 0.49 | 0.49 |
| P4 | West Full Crossing | 53 | 47.8 | LOS E | 0.2 | 0.2 | 0.89 | 0.89 |
| All Pedestrians | | 263 | 34.4 | LOS D | | | 0.72 | 0.72 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

# MOVEMENT SUMMARY

## Site: 101 [BuDo_AMFu]

Burnley Street/Doonside Street
AM Peak Future Case Conditions
Site Category: (None)
Stop (Two-Way)

| Movement Performance - Vehicles | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
| South: Burnley Street (S) | | | | | | | | | | | | |
| 2 | T1 | 525 | 5.0 | 0.432 | 3.0 | LOS A | 2.8 | 20.2 | 0.44 | 0.13 | 0.59 | 53.0 |
| 3 | R2 | 108 | 5.0 | 0.432 | 9.7 | LOS A | 2.8 | 20.2 | 0.44 | 0.13 | 0.59 | 49.8 |
| Approach | | 634 | 5.0 | 0.432 | 4.2 | NA | 2.8 | 20.2 | 0.44 | 0.13 | 0.59 | 52.5 |
| East: Doonside Street (E) | | | | | | | | | | | | |
| 4 | L2 | 58 | 5.0 | 0.135 | 15.3 | LOS C | 0.5 | 3.5 | 0.67 | 1.00 | 0.67 | 40.8 |
| 6 | R2 | 140 | 5.0 | 0.716 | 44.1 | LOS E | 3.6 | 26.1 | 0.95 | 1.21 | 1.78 | 34.7 |
| Approach | | 198 | 5.0 | 0.716 | 35.7 | LOS E | 3.6 | 26.1 | 0.86 | 1.15 | 1.46 | 35.7 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 7 | L2 | 88 | 5.0 | 0.049 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.58 | 0.00 | 53.4 |
| 8 | T1 | 749 | 5.0 | 0.397 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | 838 | 5.0 | 0.397 | 0.6 | NA | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 58.6 |
| All Vehicles | | 1669 | 5.0 | 0.716 | 6.1 | NA | 3.6 | 26.1 | 0.27 | 0.22 | 0.40 | 50.9 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [BuDo_PMFu]

Burnley Street/Doonside Street
PM Peak Future Case Conditions
Site Category: (None)
Stop (Two-Way)

| Movement Performance - Vehicles | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
| South: Burnley Street (S) | | | | | | | | | | | | |
| 2 | T1 | 852 | 5.0 | 0.651 | 3.9 | LOS A | 5.9 | 43.2 | 0.52 | 0.13 | 0.84 | 51.5 |
| 3 | R2 | 142 | 5.0 | 0.651 | 13.0 | LOS B | 5.9 | 43.2 | 0.52 | 0.13 | 0.84 | 48.5 |
| Approach | | 994 | 5.0 | 0.651 | 5.2 | NA | 5.9 | 43.2 | 0.52 | 0.13 | 0.84 | 51.0 |
| East: Doonside Street (E) | | | | | | | | | | | | |
| 4 | L2 | 62 | 5.0 | 0.132 | 14.5 | LOS B | 0.5 | 3.4 | 0.63 | 1.00 | 0.63 | 41.5 |
| 6 | R2 | 175 | 5.0 | 1.727 | 710.2 | LOS F | 52.1 | 380.6 | 1.00 | 3.49 | 11.52 | 4.6 |
| Approach | | 237 | 5.0 | 1.727 | 527.8 | LOS F | 52.1 | 380.6 | 0.90 | 2.84 | 8.66 | 5.4 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 7 | L2 | 143 | 5.0 | 0.080 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.58 | 0.00 | 53.4 |
| 8 | T1 | 701 | 5.0 | 0.371 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | 844 | 5.0 | 0.371 | 1.0 | NA | 0.0 | 0.0 | 0.00 | 0.10 | 0.00 | 57.9 |
| All Vehicles | | 2075 | 5.0 | 1.727 | 63.2 | NA | 52.1 | 380.6 | 0.35 | 0.42 | 1.39 | 21.5 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [BuBu_AMFu]

Burnley Street/Buckingham Street
AM Peak Future Case Conditions
Site Category: (None)
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 18 | 5.0 | 0.010 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.58 | 0.00 | 53.4 |
| 2 | T1 | 542 | 5.0 | 0.287 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | 560 | 5.0 | 0.287 | 0.2 | NA | 0.0 | 0.0 | 0.00 | 0.02 | 0.00 | 59.5 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 8 | T1 | 785 | 5.0 | 0.438 | 0.3 | LOS A | 0.5 | 3.7 | 0.06 | 0.02 | 0.07 | 59.2 |
| 9 | R2 | 22 | 5.0 | 0.438 | 6.7 | LOS A | 0.5 | 3.7 | 0.06 | 0.02 | 0.07 | 55.2 |
| Approach | | 807 | 5.0 | 0.438 | 0.4 | NA | 0.5 | 3.7 | 0.06 | 0.02 | 0.07 | 59.1 |
| West: Buckingham Street (W) | | | | | | | | | | | | |
| 10 | L2 | 92 | 5.0 | 0.147 | 9.6 | LOS A | 0.6 | 4.2 | 0.55 | 0.77 | 0.55 | 44.8 |
| 12 | R2 | 57 | 5.0 | 0.277 | 25.3 | LOS D | 1.0 | 7.1 | 0.87 | 0.98 | 0.99 | 41.3 |
| Approach | | 148 | 5.0 | 0.277 | 15.6 | LOS C | 1.0 | 7.1 | 0.67 | 0.85 | 0.72 | 42.8 |
| All Vehicles | | 1516 | 5.0 | 0.438 | 1.8 | NA | 1.0 | 7.1 | 0.10 | 0.10 | 0.11 | 56.5 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [BuBu_PMFu]

Burnley Street/Buckingham Street
PM Peak Future Case Conditions
Site Category: (None)
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 65 | 5.0 | 0.036 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.58 | 0.00 | 53.4 |
| 2 | T1 | 843 | 5.0 | 0.446 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | 908 | 5.0 | 0.446 | 0.5 | NA | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 58.9 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 8 | T1 | 631 | 5.0 | 0.538 | 4.5 | LOS A | 4.7 | 34.3 | 0.54 | 0.15 | 0.83 | 50.7 |
| 9 | R2 | 133 | 5.0 | 0.538 | 12.2 | LOS B | 4.7 | 34.3 | 0.54 | 0.15 | 0.83 | 47.8 |
| Approach | | 763 | 5.0 | 0.538 | 5.8 | NA | 4.7 | 34.3 | 0.54 | 0.15 | 0.83 | 50.2 |
| West: Buckingham Street (W) | | | | | | | | | | | | |
| 10 | L2 | 151 | 5.0 | 0.404 | 17.5 | LOS C | 1.8 | 13.5 | 0.78 | 0.99 | 1.06 | 37.8 |
| 12 | R2 | 28 | 5.0 | 0.209 | 33.5 | LOS D | 0.7 | 4.8 | 0.91 | 0.97 | 0.96 | 37.8 |
| Approach | | 179 | 5.0 | 0.404 | 20.0 | LOS C | 1.8 | 13.5 | 0.80 | 0.98 | 1.04 | 37.8 |
| All Vehicles | | 1851 | 5.0 | 0.538 | 4.6 | NA | 4.7 | 34.3 | 0.30 | 0.18 | 0.44 | 52.2 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [BuAp_AMFu]

Burnley Street/Appleton Street
AM Peak Future Case Conditions
Site Category: (None)
Stop (Two-Way)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 2 | T1 | 558 | 5.0 | 0.297 | 0.0 | LOS A | 0.0 | 0.2 | 0.01 | 0.00 | 0.01 | 59.9 |
| 3 | R2 | 1 | 5.0 | 0.297 | 13.0 | LOS B | 0.0 | 0.2 | 0.01 | 0.00 | 0.01 | 57.4 |
| Approach | | 559 | 5.0 | 0.297 | 0.1 | NA | 0.0 | 0.2 | 0.01 | 0.00 | 0.01 | 59.9 |
| East: Appleton Street (E) | | | | | | | | | | | | |
| 4 | L2 | 81 | 5.0 | 0.231 | 18.0 | LOS C | 0.8 | 6.2 | 0.75 | 1.02 | 0.81 | 46.1 |
| 6 | R2 | 1 | 5.0 | 0.231 | 29.9 | LOS D | 0.8 | 6.2 | 0.75 | 1.02 | 0.81 | 45.7 |
| Approach | | 82 | 5.0 | 0.231 | 18.2 | LOS C | 0.8 | 6.2 | 0.75 | 1.02 | 0.81 | 46.1 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 7 | L2 | 4 | 5.0 | 0.446 | 5.7 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 58.0 |
| 8 | T1 | 838 | 5.0 | 0.446 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.8 |
| Approach | | 842 | 5.0 | 0.446 | 0.1 | NA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.8 |
| All Vehicles | | 1483 | 5.0 | 0.446 | 1.1 | NA | 0.8 | 6.2 | 0.04 | 0.06 | 0.05 | 58.9 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [BuAp_PMFu]

Burnley Street/Appleton Street
PM Peak Future Case Conditions
Site Category: (None)
Stop (Two-Way)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 2 | T1 | 903 | 5.0 | 0.479 | 0.0 | LOS A | 0.0 | 0.2 | 0.00 | 0.00 | 0.00 | 60.0 |
| 3 | R2 | 1 | 5.0 | 0.479 | 12.0 | LOS B | 0.0 | 0.2 | 0.00 | 0.00 | 0.00 | 57.4 |
| Approach | | 904 | 5.0 | 0.479 | 0.0 | NA | 0.0 | 0.2 | 0.00 | 0.00 | 0.00 | 60.0 |
| East: Appleton Street (E) | | | | | | | | | | | | |
| 4 | L2 | 124 | 5.0 | 0.280 | 14.6 | LOS B | 1.1 | 8.4 | 0.66 | 1.03 | 0.76 | 47.5 |
| 6 | R2 | 5 | 5.0 | 0.280 | 38.7 | LOS E | 1.1 | 8.4 | 0.66 | 1.03 | 0.76 | 47.1 |
| Approach | | 129 | 5.0 | 0.280 | 15.6 | LOS C | 1.1 | 8.4 | 0.66 | 1.03 | 0.76 | 47.5 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 7 | L2 | 12 | 5.0 | 0.349 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 57.9 |
| 8 | T1 | 647 | 5.0 | 0.349 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 59.8 |
| Approach | | 659 | 5.0 | 0.349 | 0.1 | NA | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 59.8 |
| All Vehicles | | 1693 | 5.0 | 0.479 | 1.3 | NA | 1.1 | 8.4 | 0.05 | 0.08 | 0.06 | 58.7 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [BuHi_AMFu]

Burnley Street/Highett Street
AM Peak Future Case Conditions
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 304 | 5.0 | 0.237 | 11.7 | LOS B | 5.9 | 43.3 | 0.37 | 0.68 | 0.37 | 49.0 |
| 2 | T1 | 442 | 5.0 | 0.761 | 26.2 | LOS C | 18.8 | 137.2 | 0.76 | 0.69 | 0.79 | 41.9 |
| Approach | | 746 | 5.0 | 0.761 | 20.3 | LOS C | 18.8 | 137.2 | 0.60 | 0.69 | 0.62 | 44.6 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 8 | T1 | 612 | 5.0 | 0.770 | 8.9 | LOS A | 16.0 | 116.8 | 0.49 | 0.44 | 0.49 | 52.3 |
| 9 | R2 | 242 | 5.0 | 0.401 | 16.7 | LOS B | 5.2 | 37.7 | 0.68 | 0.77 | 0.68 | 45.5 |
| Approach | | 854 | 5.0 | 0.770 | 11.1 | LOS B | 16.0 | 116.8 | 0.55 | 0.54 | 0.55 | 50.2 |
| West: Highett Street (W) | | | | | | | | | | | | |
| 10 | L2 | 58 | 5.0 | 0.745 | 55.4 | LOS E | 16.2 | 118.6 | 0.99 | 0.87 | 1.06 | 30.9 |
| 12 | R2 | 226 | 5.0 | 0.745 | 55.3 | LOS E | 16.2 | 118.6 | 0.99 | 0.87 | 1.06 | 30.8 |
| Approach | | 284 | 5.0 | 0.745 | 55.4 | LOS E | 16.2 | 118.6 | 0.99 | 0.87 | 1.06 | 30.8 |
| All Vehicles | | 1884 | 5.0 | 0.770 | 21.4 | LOS C | 18.8 | 137.2 | 0.63 | 0.65 | 0.65 | 43.8 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P3 | North Full Crossing | 53 | 43.4 | LOS E | 0.2 | 0.2 | 0.85 | 0.85 |
| P4 | West Full Crossing | 53 | 20.5 | LOS C | 0.1 | 0.1 | 0.58 | 0.58 |
| All Pedestrians | | 105 | 32.0 | LOS D | | | 0.72 | 0.72 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 101 [BuHi_PMFu]

Burnley Street/Highett Street
PM Peak Future Case Conditions
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 258 | 5.0 | 0.178 | 8.3 | LOS A | 3.3 | 24.0 | 0.24 | 0.64 | 0.24 | 51.4 |
| 2 | T1 | 623 | 5.0 | 0.855 | 30.6 | LOS C | 30.3 | 221.2 | 0.78 | 0.78 | 0.88 | 39.9 |
| Approach | | 881 | 5.0 | 0.855 | 24.1 | LOS C | 30.3 | 221.2 | 0.62 | 0.74 | 0.69 | 42.7 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 8 | T1 | 581 | 5.0 | 0.754 | 10.7 | LOS B | 16.5 | 120.2 | 0.53 | 0.48 | 0.53 | 51.0 |
| 9 | R2 | 192 | 5.0 | 0.491 | 21.6 | LOS C | 4.5 | 33.1 | 0.80 | 0.79 | 0.80 | 42.9 |
| Approach | | 773 | 5.0 | 0.754 | 13.4 | LOS B | 16.5 | 120.2 | 0.60 | 0.55 | 0.60 | 48.7 |
| West: Highett Street (W) | | | | | | | | | | | | |
| 10 | L2 | 128 | 5.0 | 0.847 | 58.9 | LOS E | 23.5 | 171.8 | 1.00 | 0.93 | 1.16 | 30.0 |
| 12 | R2 | 252 | 5.0 | 0.847 | 58.8 | LOS E | 23.5 | 171.8 | 1.00 | 0.93 | 1.16 | 29.9 |
| Approach | | 380 | 5.0 | 0.847 | 58.9 | LOS E | 23.5 | 171.8 | 1.00 | 0.93 | 1.16 | 30.0 |
| All Vehicles | | 2034 | 5.0 | 0.855 | 26.5 | LOS C | 30.3 | 221.2 | 0.68 | 0.71 | 0.75 | 41.3 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P3 | North Full Crossing | 53 | 40.1 | LOS E | 0.1 | 0.1 | 0.82 | 0.82 |
| P4 | West Full Crossing | 53 | 16.6 | LOS B | 0.1 | 0.1 | 0.53 | 0.53 |
| All Pedestrians | | 105 | 28.3 | LOS C | | | 0.67 | 0.67 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 101 [BuBr_AMFu]

Burnley Street/Bridge Road
AM Peak Future Case Conditions
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site Practical Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 63 | 5.0 | 1.019 | 115.8 | LOS F | 37.2 | 271.6 | 1.00 | 1.36 | 1.72 | 21.0 |
| 2 | T1 | 341 | 5.0 | 1.019 | 110.2 | LOS F | 37.2 | 271.6 | 1.00 | 1.36 | 1.72 | 21.2 |
| 3 | R2 | 112 | 5.0 | 0.521 | 38.9 | LOS D | 4.5 | 33.1 | 0.99 | 0.78 | 0.99 | 36.0 |
| Approach | | 516 | 5.0 | 1.019 | 95.5 | LOS F | 37.2 | 271.6 | 1.00 | 1.24 | 1.56 | 23.2 |
| East: Bridge Road (E) | | | | | | | | | | | | |
| 4 | L2 | 100 | 5.0 | 1.003 | 99.0 | LOS F | 58.4 | 426.6 | 1.00 | 1.30 | 1.54 | 23.3 |
| 5 | T1 | 1039 | 5.0 | 1.003 | 96.4 | LOS F | 58.4 | 426.6 | 1.00 | 1.32 | 1.58 | 23.2 |
| 6 | R2 | 245 | 5.0 | 0.680 | 29.3 | LOS C | 8.5 | 62.1 | 0.93 | 0.83 | 0.94 | 39.9 |
| Approach | | 1384 | 5.0 | 1.003 | 84.7 | LOS F | 58.4 | 426.6 | 0.99 | 1.23 | 1.46 | 25.0 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 7 | L2 | 127 | 5.0 | 0.170 | 28.9 | LOS C | 4.6 | 33.7 | 0.66 | 0.74 | 0.66 | 39.8 |
| 8 | T1 | 420 | 5.0 | 1.083 | 152.8 | LOS F | 45.7 | 333.4 | 1.00 | 1.56 | 2.01 | 16.9 |
| 9 | R2 | 216 | 5.0 | 0.463 | 35.6 | LOS D | 9.5 | 69.0 | 0.80 | 0.78 | 0.82 | 37.2 |
| 9u | U | 1 | 5.0 | 0.463 | 36.8 | LOS D | 9.5 | 69.0 | 0.80 | 0.78 | 0.82 | 36.9 |
| Approach | | 764 | 5.0 | 1.083 | 98.9 | LOS F | 45.7 | 333.4 | 0.89 | 1.20 | 1.45 | 22.5 |
| West: Bridge Road (W) | | | | | | | | | | | | |
| 10 | L2 | 69 | 5.0 | 0.255 | 32.5 | LOS C | 5.2 | 37.8 | 0.71 | 0.67 | 0.71 | 39.4 |
| 11 | T1 | 473 | 5.0 | 0.782 | 36.3 | LOS D | 20.9 | 152.6 | 0.86 | 0.80 | 0.92 | 37.5 |
| 12 | R2 | 65 | 5.0 | 0.312 | 59.5 | LOS E | 3.6 | 26.3 | 0.96 | 0.76 | 0.96 | 29.9 |
| Approach | | 607 | 5.0 | 0.782 | 38.3 | LOS D | 20.9 | 152.6 | 0.86 | 0.78 | 0.90 | 36.7 |
| All Vehicles | | 3272 | 5.0 | 1.083 | 81.1 | LOS F | 58.4 | 426.6 | 0.94 | 1.14 | 1.37 | 25.5 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 53 | 31.6 | LOS D | 0.1 | 0.1 | 0.73 | 0.73 |
| P2 | East Full Crossing | 53 | 46.0 | LOS E | 0.2 | 0.2 | 0.88 | 0.88 |
| P3 | North Full Crossing | 53 | 33.8 | LOS D | 0.1 | 0.1 | 0.75 | 0.75 |
| P4 | West Full Crossing | 53 | 46.0 | LOS E | 0.2 | 0.2 | 0.88 | 0.88 |
| All Pedestrians | | 211 | 39.4 | LOS D | | | 0.81 | 0.81 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

## Site: 101 [BuBr_PMFu]

Burnley Street/Bridge Road
PM Peak Future Case Conditions
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site Practical Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Burnley Street (S) | | | | | | | | | | | | |
| 1 | L2 | 83 | 5.0 | 1.065 | 143.7 | LOS F | 55.5 | 405.2 | 1.00 | 1.54 | 1.89 | 17.9 |
| 2 | T1 | 440 | 5.0 | 1.065 | 138.1 | LOS F | 55.5 | 405.2 | 1.00 | 1.54 | 1.89 | 18.1 |
| 3 | R2 | 192 | 5.0 | 0.635 | 31.2 | LOS C | 6.8 | 49.8 | 0.94 | 0.81 | 0.94 | 38.9 |
| Approach | | 715 | 5.0 | 1.065 | 110.1 | LOS F | 55.5 | 405.2 | 0.98 | 1.34 | 1.64 | 21.1 |
| East: Bridge Road (E) | | | | | | | | | | | | |
| 4 | L2 | 60 | 5.0 | 0.324 | 36.0 | LOS D | 3.0 | 22.2 | 0.74 | 0.70 | 0.74 | 37.4 |
| 5 | T1 | 458 | 5.0 | 1.059 | 131.7 | LOS F | 45.3 | 330.8 | 0.99 | 1.47 | 1.85 | 18.7 |
| 6 | R2 | 222 | 5.0 | 0.857 | 46.8 | LOS D | 10.4 | 76.3 | 1.00 | 0.92 | 1.28 | 33.5 |
| Approach | | 740 | 5.0 | 1.059 | 98.5 | LOS F | 45.3 | 330.8 | 0.97 | 1.25 | 1.59 | 22.6 |
| North: Burnley Street (N) | | | | | | | | | | | | |
| 7 | L2 | 234 | 5.0 | 0.338 | 24.5 | LOS C | 7.9 | 57.5 | 0.62 | 0.75 | 0.62 | 41.9 |
| 8 | T1 | 426 | 5.0 | 0.956 | 72.1 | LOS E | 30.7 | 224.4 | 0.92 | 1.13 | 1.37 | 27.5 |
| 9 | R2 | 194 | 5.0 | 0.352 | 26.1 | LOS C | 6.9 | 50.4 | 0.67 | 0.74 | 0.67 | 41.1 |
| Approach | | 854 | 5.0 | 0.956 | 48.6 | LOS D | 30.7 | 224.4 | 0.78 | 0.94 | 1.01 | 33.1 |
| West: Bridge Road (W) | | | | | | | | | | | | |
| 10 | L2 | 105 | 5.0 | 0.964 | 84.3 | LOS F | 36.8 | 268.8 | 1.00 | 1.19 | 1.44 | 25.6 |
| 11 | T1 | 788 | 5.0 | 0.964 | 78.7 | LOS E | 36.8 | 268.8 | 1.00 | 1.20 | 1.46 | 26.1 |
| 12 | R2 | 63 | 5.0 | 0.340 | 60.7 | LOS E | 3.7 | 26.7 | 0.97 | 0.76 | 0.97 | 29.6 |
| 12u | U | 2 | 5.0 | 0.340 | 61.9 | LOS E | 3.7 | 26.7 | 0.97 | 0.76 | 0.97 | 29.4 |
| Approach | | 959 | 5.0 | 0.964 | 78.1 | LOS E | 36.8 | 268.8 | 1.00 | 1.17 | 1.42 | 26.2 |
| All Vehicles | | 3267 | 5.0 | 1.065 | 82.0 | LOS F | 55.5 | 405.2 | 0.93 | 1.16 | 1.40 | 25.3 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 53 | 40.1 | LOS E | 0.1 | 0.1 | 0.82 | 0.82 |
| P2 | East Full Crossing | 53 | 37.7 | LOS D | 0.1 | 0.1 | 0.79 | 0.79 |
| P3 | North Full Crossing | 53 | 42.6 | LOS E | 0.2 | 0.2 | 0.84 | 0.84 |
| P4 | West Full Crossing | 53 | 37.7 | LOS D | 0.1 | 0.1 | 0.79 | 0.79 |
| All Pedestrians | | 211 | 39.5 | LOS D | | | 0.81 | 0.81 |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# Appendix C **Parking Survey Results**

# Car Park Occupancy Survey Results - Thursday 14 April 2016

BVY TRAFFIC SURVEY ABN 18 434 565 435
Quality data services proven since 2000 Phone: 1300 882 936 * Fax: 1300 882 932

QUALITY ENDORSED COMPANY BY AS/NZS ISO 9001:2008
OH&S SYSTEM CERTIFIED TO AS/NZS ISO 4801:2001

## Parking Occupancy Survey

| | |
|---|---|
| ***Date:*** | Thursday, 14 April 2016 |
| ***Location:*** | Burnley St and Appleton St |
| ***Weather:*** | Fine |
| ***Customer*** | Ratio |

| Map Ref | Street | Section | Side | Restriction | Clear Way | Capacity | Parking Occupancy | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
| A | Burnley St | From Victoria Garden Sc To Doonside St | W | Unrestricted | No Stopping 7:30am-9:30am; 4:30pm-6:30pm Mon-Fri | 4 | 4 | 3 | 3 | 3 | 3 | 2 | 0 | 0 | 1 | 2 |
| | | | | 2P 7am-6pm Mon-Fri | | 10 | 8 | 9 | 9 | 8 | 9 | 8 | 7 | 7 | 8 | 8 |
| | | | | No Standing, Car Share Vehicles Only | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| B | | | E | 1P 8am-5pm | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| | | | | Pemit Zone Car Share | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | | | 1/4P 8am-5pm | | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| | | | | 1P 8am-5pm | | 5 | 3 | 4 | 3 | 4 | 4 | 3 | 3 | 3 | 2 | 2 |
| C | | From Doonside St To Appleton St | W | Unrestricted | | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 8 | 7 | 6 |
| D | | | E | 1P 8am-5pm Mon-Fri; 8:30am-12:30pm Sat | | 10 | 10 | 10 | 10 | 9 | 10 | 10 | 9 | 8 | 8 | 7 |
| E | | From Appleton St To North St | W | Unrestricted | | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 1 | 1 |
| | | From North St To Somerset St | W | 1P 8am-5pm Mon-Fri; 8:30am-12:30pm Sat | | 4 | 3 | 4 | 3 | 1 | 4 | 3 | 2 | 3 | 2 | 2 |
| F | | From Appleton St To North St | E | 2P 7am-7pm Mon-Sat | | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 |
| G | | From Somerset St To Highett St | W | No Stopping | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | | From North St To Somerset St | E | 1P 8am-5pm Mon-Fri; 8:30am-12:30pm Sat | | 3 | 2 | 3 | 3 | 2 | 3 | 3 | 2 | 2 | 1 | 1 |
| | | From Somerset St To Highett St | E | 1P 8am-5pm Mon-Fri; 8:30am-12:30pm Sat | | 5 | 4 | 5 | 4 | 3 | 4 | 4 | 3 | 4 | 3 | 2 |
| I | | From Highett St To Blazey St | W | Unrestricted | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 |
| J | | | E | 1P 7am-7pm Mon-Sat | | 4 | 2 | 3 | 3 | 2 | 3 | 3 | 2 | 1 | 2 | 2 |
| K | Doonside St | From Burnley St To David St | N | 1/2P 7am-7pm Mon-Fri | | 3 | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 0 | 0 |
| | | | | Unrestricted | | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 |
| | | | | 1/4P 8am-6pm Mon-Sat | | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 |
| | | | | Unrestricted | | 18 | 18 | 18 | 18 | 18 | 18 | 17 | 15 | 10 | 6 | 3 |

**Car Park Occupancy Survey Results - Thursday 14 April 2016**

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | | | S | Unrestricted | | 23 | 23 | 23 | 23 | 23 | 23 | 22 | 20 | 15 | 7 | 4 |
| M | Appleton St | From Burnley St To David St | N | Unrestricted | | 27 | 27 | 27 | 27 | 27 | 27 | 26 | 24 | 14 | 10 | 7 |
| N | | | S | Permit Zone | | 18 | 9 | 10 | 10 | 9 | 9 | 8 | 10 | 8 | 6 | 5 |
| | | | | Unrestricted | | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 3 | 2 | 1 | 1 |
| O | North St | From Burnley St To Vaughan St | N | 2P 7am-6pm Mon-Fri | | 12 | 8 | 8 | 9 | 9 | 8 | 8 | 7 | 8 | 9 | 10 |
| P | | | S | 2P 7am-6pm Mon-Fri; Pemit Zone All Other Times | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |
| | | | | Permit Zone | | 15 | 13 | 13 | 12 | 12 | 10 | 10 | 12 | 13 | 14 | 14 |
| Q | | From Vaughan St To Clark St | N | Unrestricted | | 11 | 11 | 11 | 11 | 10 | 10 | 9 | 8 | 6 | 3 | 1 |
| | | | | Loading Zone 4:30am-6:30am | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| R | | | S | Unrestricted | | 13 | 13 | 13 | 13 | 13 | 13 | 11 | 9 | 6 | 4 | 2 |
| S | | From Clark St To River St | N | Loading Zone 7am-5pm Mon-Fri | | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | Unrestricted | No Parking 7am-5pm Mon-Fri | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| | | | | Unrestricted | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 2 |
| T | | | S | Unrestricted | | 10 | 9 | 9 | 9 | 9 | 9 | 9 | 6 | 4 | 3 | 2 |
| U | David St | From Doonside St To End (North) | W | 1P 7am-7pm | | 7 | 6 | 7 | 7 | 6 | 6 | 5 | 4 | 2 | 1 | 0 |
| V | | | E | Unrestricted | | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 8 | 5 | 3 | 1 |
| W | | From Doonside St To Appleton St | W | 2P 7am-7pm Mon-Fri | | 13 | 13 | 12 | 13 | 12 | 10 | 9 | 7 | 4 | 2 | 1 |
| X | | | E | 2P 7am-7pm Mon-Fri | | 9 | 9 | 9 | 9 | 8 | 8 | 7 | 6 | 3 | 1 | 0 |
| Y | Appleton St | From David St To Clark St | N | 2P 7am-7pm Mon-Fri | | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 |
| | | | | Unrestricted | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Z | | | S | Unrestricted | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | | | 2P 7am-6pm Mon-Fri; Pemit Zone All Other Times | | 6 | 5 | 5 | 5 | 5 | 4 | 4 | 5 | 6 | 6 | 6 |
| AA | Clark St | From North St To Appleton St | W | Unrestricted | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 3 | 2 |
| BB | | | E | Unrestricted | | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 2 | 1 | 2 |
| CC | Buckingham St | From Burnley St To Davison St | N | 2P 7am-6pm Mon-Fri | | 3 | 3 | 2 | 3 | 3 | 2 | 3 | 2 | 2 | 1 | 1 |
| | | | | Loading Zone 15mins | | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | | | | 2P 7am-6pm Mon-Fri | | 9 | 7 | 7 | 6 | 5 | 7 | 6 | 5 | 4 | 3 | 2 |
| DD | | From Burnley St To Davison St | S | Permit Zone | | 21 | 8 | 9 | 11 | 10 | 10 | 9 | 9 | 8 | 9 | 10 |
| | | | | P Disabled | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Car Park Occupancy Survey Results - Thursday 14 April 2016

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EE | Kent St | From Burnley St To Davison St | N | Pemit Zone Mon-Fri | | 8 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| | | | | 2P 7am-6pm Mon-Fri; Pemit Zone All Other Times | | 6 | 4 | 4 | 4 | 4 | 5 | 4 | 3 | 2 | 1 | 1 |
| | | | Middle | Unrestricted | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 2 | 2 | 1 |
| FF | | From Burnley St To Davison St | S | P10mins 8am-9:30am; 3pm-4pm School Days | | 10 | 3 | 3 | 2 | 2 | 7 | 4 | 2 | 2 | 1 | 1 |
| | | | | P 2mins 8am-9:30am; 3pm-4pm School Days | | 4 | 0 | 1 | 1 | 0 | 3 | 2 | 1 | 1 | 1 | 1 |
| GG | Somerset St | From Burnley St To Davison St | N | 2P 7am-6pm Mon-Fri | | 6 | 4 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 3 | 2 |
| | | | | 8P 7am-6pm Mon-Fri | | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 9 | 7 | 5 | 4 |
| HH | | | S | 2P 7am-6pm Mon-Fri; Pemit Zone All Other Times | | 9 | 3 | 4 | 4 | 3 | 6 | 5 | 4 | 4 | 5 | 6 |
| II | Buckingham St | From Davison St To Leslie St | N | Pemit Zone All Other Times | No Standing 8am-9:30am; 3pm-4:15pm School Days | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | From Leslie St To Gardner St | N | Permit Zone | | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| JJ | | From Davison St To Leslie St | S | P 2mins 8am-9:30am; 3pm-4:15pm School Days | | 6 | 3 | 2 | 3 | 2 | 4 | 3 | 1 | 1 | 0 | 0 |
| | | From Leslie St To Gardner St | S | 8P 7am-6pm Mon-Fri | | 7 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 4 | 3 | 2 |
| KK | Kent St | From Davison St To Gardner St | N | P 2mins 8am-9:30am; 3pm-4pm School Days | | 3 | 2 | 1 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 0 |
| | | | | 8P 7am-6pm Mon-Fri | | 10 | 10 | 10 | 9 | 8 | 10 | 8 | 6 | 5 | 6 | 4 |
| | | | | 2P Disabled 7am-6pm Mon-Fri | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | Middle | Pemit Zone All Other Times | No Standing 7am-6pm Mon-Fri | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| LL | | | S | P 2mins 8am-9:30am; 3pm-4:15pm School Days | | 2 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 0 |
| | | | | 2P 7am-6pm Mon-Fri; Pemit Zone All Other Times | | 9 | 5 | 5 | 5 | 4 | 8 | 7 | 6 | 6 | 7 | 7 |
| | | | | P Disabled | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| MM | Davison St | From Kent St To Buckingham St | W | Permit Zone | | 8 | 8 | 8 | 7 | 7 | 8 | 6 | 4 | 3 | 2 | 2 |
| | | | | P Disabled | | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| NN | | | E | 2P 7am-6pm Mon-Fri; Pemit Zone All Other Times | | 5 | 3 | 4 | 4 | 3 | 5 | 4 | 4 | 4 | 3 | 2 |
| OO | | From Somerset St To Kent St | W | 2P 7am-6pm Mon-Fri; Pemit Zone All Other Times | | 5 | 4 | 4 | 4 | 4 | 4 | 3 | 2 | 2 | 1 | 1 |
| | | | | Unrestricted | No Standing 8am-9:30am; 3pm-4pm Mon-Fri | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PP | | | E | 1/4P 8am-9:30am; 3pm-4pm Mon-Fri | | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 3 | 2 | 1 | 0 |
| | | | | No Standing, Bus Stopping Less Than 15mins Excepted | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | 1/4P 8am-9:30am; 3pm-4pm Mon-Fri | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| QQ | | From Buckingham St To Speed Hump | W | 2P 7am-11pm Mon-Fri | | 10 | 4 | 5 | 6 | 6 | 5 | 4 | 6 | 7 | 8 | 9 |
| RR | | | E | Loading Zone 7am-6pm Mon-Fri; Pemit Zone All Other Times | | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |

**Car Park Occupancy Survey Results - Thursday 14 April 2016**

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Permit Zone | | 6 | 5 | 6 | 6 | 6 | 6 | 5 | 5 | 4 | 4 | 3 |
| **PUBLIC CAPACITY** | | | | | | | **377** | **377** | **377** | **377** | **342** | **369** | **377** | **338** | **345** | **345** |
| **PUBLIC OCCUPANCIES** | | | | | | | **309** | **315** | **313** | **292** | **301** | **289** | **250** | **180** | **138** | **106** |
| **PUBLIC VACANCIES** | | | | | | | **68** | **62** | **64** | **85** | **41** | **80** | **127** | **158** | **207** | **239** |
| **PUBLIC % OCCUPANCIES** | | | | | | | **82%** | **84%** | **83%** | **77%** | **88%** | **78%** | **66%** | **53%** | **40%** | **31%** |

*not available for public parking*

# Car Park Occupancy Survey Results - Saturday 16 April 2016

BVY TRAFFIC SURVEY ABN 18 434 565 435
Quality data services proven since 2000 Phone: 1300 882 936 * Fax: 1300 882 932

QUALITY ENDORSED COMPANY BY AS/NZS ISO 9001:2008
OH&S SYSTEM CERTIFIED TO AS/NZS ISO 4801:2001

## Parking Occupancy Survey

| | |
|---|---|
| ***Date:*** | Saturday, 16 April 2016 |
| ***Location:*** | Burnley St and Appleton St |
| ***Weather:*** | Fine |
| ***Customer*** | Ratio |

| Map Ref | Street | Section | Side | Restriction | Clear Way | Capacity | Parking Occupancy | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
| A | Burnley St | From Victoria Garden Sc To Doonside St | W | Unrestricted | No Stopping 7:30am-9:30am; 4:30pm-6:30pm Mon-Fri | 4 | 4 | 4 | 4 | 3 | 3 | 4 | 3 | 2 | 3 | 3 |
| | | | | 2P 7am-6pm Mon-Fri | | 10 | 8 | 8 | 9 | 9 | 9 | 9 | 8 | 7 | 8 | 7 |
| | | | | No Standing, Car Share Vehicles Only | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| B | | | E | 1P 8am-5pm | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| | | | | Pemit Zone Car Share | | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | 1/4P 8am-5pm | | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| | | | | 1P 8am-5pm | | 5 | 3 | 4 | 3 | 4 | 4 | 3 | 3 | 2 | 2 | 1 |
| C | | From Doonside St To Appleton St | W | Unrestricted | | 9 | 6 | 7 | 8 | 8 | 6 | 5 | 5 | 4 | 4 | 3 |
| D | | | E | 1P 8am-5pm Mon-Fri; 8:30am-12:30pm Sat | | 10 | 6 | 7 | 8 | 8 | 9 | 9 | 9 | 8 | 7 | 6 |
| E | | From Appleton St To North St | W | Unrestricted | | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 2 |
| | | From North St To Somerset St | W | 1P 8am-5pm Mon-Fri; 8:30am-12:30pm Sat | | 4 | 1 | 2 | 3 | 2 | 1 | 0 | 1 | 2 | 3 | 3 |
| F | | From Appleton St To North St | E | 2P 7am-7pm Mon-Sat | | 2 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| G | | From Somerset St To Highett St | W | No Stopping | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | | From North St To Somerset St | E | 1P 8am-5pm Mon-Fri; 8:30am-12:30pm Sat | | 3 | 3 | 3 | 3 | 2 | 2 | 0 | 1 | 2 | 1 | 1 |
| | | From Somerset St To Highett St | E | 1P 8am-5pm Mon-Fri; 8:30am-12:30pm Sat | | 5 | 4 | 5 | 4 | 4 | 3 | 2 | 3 | 4 | 3 | 2 |
| I | | From Highett St To Blazey St | W | Unrestricted | | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 |
| J | | | E | 1P 7am-7pm Mon-Sat | | 4 | 1 | 2 | 3 | 2 | 2 | 0 | 1 | 2 | 2 | 1 |
| K | Doonside St | From Burnley St To David St | N | 1/2P 7am-7pm Mon-Fri | | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 0 | 0 |
| | | | | Unrestricted | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| | | | | 1/4P 8am-6pm Mon-Sat | | 2 | 0 | 1 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| | | | | Unrestricted | | 18 | 17 | 18 | 18 | 18 | 18 | 16 | 14 | 8 | 6 | 4 |

**Car Park Occupancy Survey Results - Saturday 16 April 2016**

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | | | S | Unrestricted | | 23 | 22 | 22 | 21 | 20 | 18 | 14 | 12 | 8 | 5 | 3 |
| M | Appleton St | From Burnley St To David St | N | Unrestricted | | 27 | 15 | 15 | 15 | 14 | 13 | 12 | 10 | 8 | 6 | 5 |
| N | | | S | Permit Zone | | 18 | 4 | 6 | 7 | 6 | 5 | 4 | 5 | 5 | 4 | 4 |
| | | | | Unrestricted | | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| O | North St | From Burnley St To Vaughan St | N | 2P 7am-6pm Mon-Fri | | 12 | 12 | 11 | 12 | 10 | 11 | 11 | 10 | 10 | 11 | 11 |
| P | | | S | 2P 7am-6pm Mon-Fri; Pemit Zone All Other Times | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 |
| | | | | Permit Zone | | 15 | 15 | 15 | 14 | 13 | 14 | 14 | 13 | 12 | 14 | 14 |
| Q | | From Vaughan St To Clark St | N | Unrestricted | | 11 | 6 | 6 | 6 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| | | | | Loading Zone 4:30am-6:30am | | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| R | | | S | Unrestricted | | 13 | 6 | 7 | 8 | 8 | 7 | 6 | 6 | 4 | 2 | 1 |
| S | | From Clark St To River St | N | Loading Zone 7am-5pm Mon-Fri | | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | Unrestricted | No Parking 7am-5pm Mon-Fri | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 |
| | | | | Unrestricted | | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 |
| T | | | S | Unrestricted | | 10 | 7 | 7 | 7 | 7 | 6 | 6 | 5 | 4 | 4 | 3 |
| U | David St | From Doonside St To End (North) | W | 1P 7am-7pm | | 7 | 7 | 7 | 7 | 6 | 6 | 6 | 4 | 2 | 1 | 0 |
| V | | | E | Unrestricted | | 9 | 7 | 7 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 1 |
| W | | From Doonside St To Appleton St | W | 2P 7am-7pm Mon-Fri | | 13 | 11 | 10 | 12 | 12 | 11 | 10 | 8 | 4 | 2 | 1 |
| X | | | E | 2P 7am-7pm Mon-Fri | | 9 | 8 | 9 | 9 | 8 | 8 | 7 | 5 | 3 | 2 | 1 |
| Y | Appleton St | From David St To Clark St | N | 2P 7am-7pm Mon-Fri | | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 2 | 2 |
| | | | | Unrestricted | | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Z | | | S | Unrestricted | | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| | | | | 2P 7am-6pm Mon-Fri; Pemit Zone All Other Times | | 6 | 4 | 5 | 5 | 5 | 4 | 4 | 3 | 4 | 5 | 6 |
| AA | Clark St | From North St To Appleton St | W | Unrestricted | | 5 | 3 | 4 | 4 | 4 | 3 | 3 | 2 | 2 | 1 | 1 |
| BB | | | E | Unrestricted | | 4 | 2 | 3 | 3 | 2 | 1 | 0 | 0 | 0 | 1 | 1 |
| CC | Buckingham St | From Burnley St To Davison St | N | 2P 7am-6pm Mon-Fri | | 3 | 1 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 1 | 1 |
| | | | | Loading Zone 15mins | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | 2P 7am-6pm Mon-Fri | | 9 | 7 | 7 | 6 | 5 | 5 | 4 | 4 | 3 | 2 | 2 |
| DD | | From Burnley St To Davison St | S | Permit Zone | | 21 | 11 | 10 | 10 | 11 | 10 | 9 | 8 | 9 | 10 | 11 |
| | | | | P Disabled | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Car Park Occupancy Survey Results - Saturday 16 April 2016

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EE | Kent St | From Burnley St To Davison St | N | Pemit Zone Mon-Fri | | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | 2P 7am-6pm Mon-Fri; Pemit Zone All Other Times | | 6 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| | | | Middle | Unrestricted | | 4 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 0 |
| FF | | From Burnley St To Davison St | S | P10mins 8am-9:30am; 3pm-4pm School Days | | 10 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 1 | 1 | 1 |
| | | | | P 2mins 8am-9:30am; 3pm-4pm School Days | | 4 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 0 |
| GG | Somerset St | From Burnley St To Davison St | N | 2P 7am-6pm Mon-Fri | | 6 | 4 | 3 | 2 | 2 | 3 | 3 | 2 | 3 | 3 | 2 |
| | | | | 8P 7am-6pm Mon-Fri | | 10 | 6 | 6 | 6 | 5 | 4 | 3 | 4 | 5 | 5 | 4 |
| HH | | | S | 2P 7am-6pm Mon-Fri; Pemit Zone All Other Times | | 9 | 6 | 6 | 5 | 6 | 7 | 8 | 6 | 5 | 7 | 7 |
| II | Buckingham St | From Davison St To Leslie St | N | Pemit Zone All Other Times | No Standing 8am-9:30am; 3pm-4:15pm School Days | 3 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 0 |
| | | From Leslie St To Gardner St | N | Permit Zone | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| JJ | | From Davison St To Leslie St | S | P 2mins 8am-9:30am; 3pm-4:15pm School Days | | 6 | 5 | 4 | 3 | 2 | 3 | 3 | 2 | 2 | 1 | 0 |
| | | From Leslie St To Gardner St | S | 8P 7am-6pm Mon-Fri | | 7 | 7 | 7 | 7 | 6 | 6 | 5 | 5 | 4 | 3 | 2 |
| KK | Kent St | From Davison St To Gardner St | N | P 2mins 8am-9:30am; 3pm-4pm School Days | | 3 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 0 | 0 |
| | | | | 8P 7am-6pm Mon-Fri | | 10 | 6 | 7 | 8 | 8 | 9 | 9 | 8 | 7 | 6 | 5 |
| | | | | 2P Disabled 7am-6pm Mon-Fri | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | Middle | Pemit Zone All Other Times | No Standing 7am-6pm Mon-Fri | 6 | 0 | 0 | 1 | 2 | 3 | 3 | 2 | 2 | 1 | 1 |
| LL | | | S | P 2mins 8am-9:30am; 3pm-4:15pm School Days | | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | 1 |
| | | | | 2P 7am-6pm Mon-Fri; Pemit Zone All Other Times | | 9 | 7 | 7 | 8 | 8 | 7 | 6 | 6 | 5 | 6 | 7 |
| | | | | P Disabled | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MM | Davison St | From Kent St To Buckingham St | W | Permit Zone | | 8 | 0 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 |
| | | | | P Disabled | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NN | | | E | 2P 7am-6pm Mon-Fri; Pemit Zone All Other Times | | 5 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 2 |
| OO | | From Somerset St To Kent St | W | 2P 7am-6pm Mon-Fri; Pemit Zone All Other Times | | 5 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 0 |
| | | | | Unrestricted | No Standing 8am-9:30am; 3pm-4pm Mon-Fri | 3 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| PP | | | E | 1/4P 8am-9:30am; 3pm-4pm Mon-Fri | | 4 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| | | | | No Standing, Bus Stopping Less Than 15mins Excepted | | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| | | | | 1/4P 8am-9:30am; 3pm-4pm Mon-Fri | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| QQ | | From Buckingham St To Speed Hump | W | 2P 7am-11pm Mon-Fri | | 10 | 9 | 8 | 9 | 8 | 9 | 9 | 8 | 7 | 8 | 9 |
| RR | | | E | Loading Zone 7am-6pm Mon-Fri; Pemit Zone All Other Times | | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

**Car Park Occupancy Survey Results - Saturday 16 April 2016**

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Permit Zone | | 6 | 3 | 4 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 4 |
| **PUBLIC CAPACITY** | | | | | | | **350** | **350** | **350** | **350** | **350** | **350** | **351** | **353** | **353** | **353** |
| **PUBLIC OCCUPANCIES** | | | | | | | **241** | **249** | **253** | **234** | **221** | **196** | **173** | **146** | **124** | **100** |
| **PUBLIC VACANCIES** | | | | | | | **109** | **101** | **97** | **116** | **129** | **154** | **178** | **207** | **229** | **253** |
| **PUBLIC % OCCUPANCIES** | | | | | | | **69%** | **71%** | **72%** | **67%** | **63%** | **56%** | **49%** | **41%** | **35%** | **28%** |

*not available for public parking*