Proposed Residential Units

28 Fisher Rd, Dee Why

Traffic Impact Assessment

Prepared by

Northern Transport Planning and Engineering Pty Ltd



A.B.N. 79 056 088 629

April 2021

203131

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QUALITY ASSURANCE

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This document has been authorised by Ron Brown BE, MEngSc

MBrown 10th April 2021

1 INTRODUCTION

This report deals with an assessment of the Traffic Impact of a redevelopment of an existing Church and Community Hall at 28 Fisher St Dee Why.

The development will consist of the following components:

| Church and Conference Hall | 236 m2 |
|----------------------------|--------|
| Café | 63 m2 |
| Boarding House Units | 70 |

The intention for the residential portions of this development is to provide accommodation for specialist boarding house residents managed by a Social Housing Provider. These residents will include NDIA capable residents as well as a range of sub-acute mental persons and crisis care accommodation for boarding house facilities.

The area fronting Fisher Rd will accommodate 52 Boarding House Units. A typical floor is broken into to groupings of 6 or 7 units each and these groupings all have a nurse/manager station.

The area fronting Francis St will accommodate 28 Boarding House Units +1 Manager. A typical floor is broken into to groupings of 6.

A total of 53 rooms (65%) will be set up for full physical accessibility to the highest level of NDIS and to AS 1428.1 and platinum level liveable housing design guidelines. The remaining 28 rooms (35%) will be set up with ambulant bathroom facilities

2 SURROUNDING ENVIRONMENT AND LAND USE

The site is located in the developed Commercial Centre of Dee Why with access to both Fisher Road and Francis Street.

The building fronting Fisher Road is currently being used by the New Life Chinese Christian Church. The Hall is also used by other community groups such as the Point break Drama and Acting School.

Commercial and Retail facilities are located either side of the site along Fisher St.

3 SITE LAYOUT

The ground floor layout of the proposed development is detailed in Figure 3-1 below:

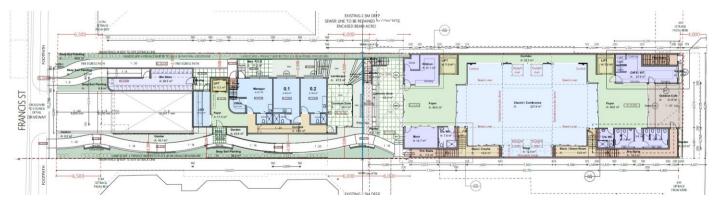


Figure 3-1: Ground Floor Plan – 28 Fisher Rd, Dee Why

4 ACCESS AND PARKING LAYOUT

Vehicles will be able to access the site via a driveway off Francis St this driveway is proposed to provide 1:20 slope within 6m of property line, a straight ramp with a slope of 1:4 will then provide access to the car park. The driveway leads to an under-cover parking area that will accommodate a total of 34 vehicles (including 10 disabled car parking spaces) and 20 motorbikes as shown in Figures 4-1 and 4-2 below:

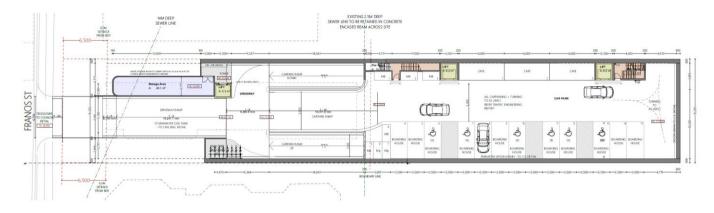


Figure 4-1: Under-cover Parking Area Level B1

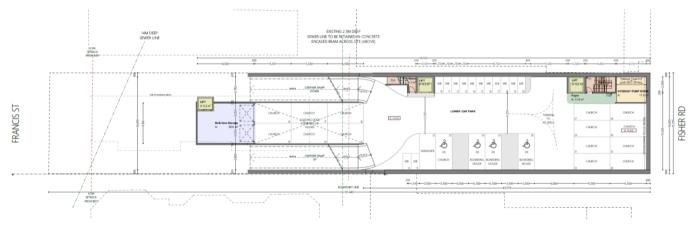


Figure 4-2: Under-cover Parking Area Level B2 Discussion

The parking spaces to be provided are detailed below:

| Level | (| Cars | Motorcycles | Bicycles |
|-------|------------|---------|-------------|----------|
| | Individual | Stacked | | |
| B1 | 15 | 0 | 7 | 8 |
| B2 | 5 | 14 | 13 | 0 |
| Total | 20 | 14 | 20 | 8 |

The Category 1 Driveway will be 6.1m wide incorporating combined in/out movements in accordance with Table 3.2 AS NZS 2890.1:2004. However, the width reduces to 5.3 m at the bottom of the ramp. Vehicle turning paths presented in Section 8 of this Report indicate that two-way traffic flow will not be possible in this area. A mirror will be installed on the column next to parking bay 1 to allow vehicles leaving the site to observe and give way to vehicles entering the site.

The parking bays comply with User Class 1A (per Table 1.1 AS NZS 2890.1: 2004). The layout will provide aisle widths of 5.5m and parking bays that are 2.5m wide and 5.4m long (per Figure 2.2 AS NZS 2890.1:2004).

5 PARKING REQUIREMENT

a. Boarding House Units

The Boarding House Units are being developed under the State Environmental Planning Policy – (Affordable Rental Housing 2009). The parking requirements for a development with a Social Housing Provider is set at 0.2 spaces per boarding room in an accessible location such as Dee Why plus at least one parking space for each person employed in connection with the Boarding House Units.

Based on these requirements to 70 Boarding House Units will require:

70 Units0.2 spaces per Unit14 parking spaces

The site will have one full time manager and up to 5 staff providing support as required.

Therefore the parking requirement for the Boarding House Units will be 20 parking spaces. The 14 resident parking spaces will be free standing while the 6 parking spaces required for staff will be allocated the 6 stack parking spaces under the ramp. Us e of these stacked parking spaces will be managed by staff.

b. Café

Northern Beaches Council's DCP sets out the following Parking Requirements:

Retail/Commercial Shops Dee Why Town Centre 4.2 spaces per 100 m2

Accordingly, the 63 m2 Café would require 2.65. It is considered that due to the proximity of the proposed Café to existing commercial activity the majority of patrons will arrive on foot from the nearby residential developments and adjacent Commercial / Retail developments. Therefore it is expected that the Café will only require 1 space to accommodate the Manager/Operator of the Café. However, 3 spaces have been allocated to meet Council's requirement.

c. Church / Conference Centre

Observations pre-covid-19 of off-street parking activity in the existing parking area at the rear of the site are presented in Appendix A of this report.

These observations indicate that the car park at the rear is being used largely by nearby businesses. This arrangement will be terminated during construction and following completion of the development.

The observations suggest that the Church generates between 10 and 15 off-street parking spaces during activities held in the Church/Conference Hall area.

It is expected that the proposed Multi Purpose Conference Centre will generate similar parking demand.

The "DCP Amendments for Dee Why Town Centre Masterplan" does not set down a parking requirement for Places of Worship. However, it is considered that the rate of 1 parking space per 40m2 used for Business premises would be appropriate. Based on this rate the 236m2 Hall/Conference area would generate a requirement for 6 parking spaces.

Therefore the allocation of 16 tandem car parking spaces to be managed by the Church will exceed the site parking requirements by 10 spaces.

d. Overall

The overall parking requirement for the site is 23 spaces

As noted above it is proposed that a total of 33 parking spaces will be provided on the site which will exceed the site parking requirement by 10 parking spaces.

6 GARBAGE COLLECTION

Garbage zone space allocation is adjacent to the lift at Francis St.

The proposal is to have a private contractor pick up the bins that will be individually wheeled out to a truck waiting of Francis St.

7 SIGHT DISTANCE

The sight distance available from the proposed driveway is 48m as illustrated in Figure 7-1 below:



Figure 7-1: Sight Distance Available from Proposed Access Driveway

The view of the driver leaving the driveway confirming that this is site distance is illustrated in Figure 7-2 below:



Figure 7-2: Drivers View to the north from Existing Driveway

The speed limit on Francis Street is 50kph. The sight distance requirement set out in Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections, is 48m for a Road Design Speed of 50kph and Reaction Time 1.5sec.

It is also noted that the 85th percentile speed of Southbound traffic on Francis Street 30m north of the proposed driveway is 40.32kph based on an Automatic Vehicle Count carried out by NTPE in October 2020.

Based on the 85th percentile speed the site distance requirement would be 34m. A full report on the Automatic vehicle survey is attached as Appendix B.

8 EXISTING TRAFFIC

NTPE carried out a survey of traffic flows at the access the existing driveway off Francis St on the 20th October 2020. The results of this survey are presented in Figure 8-1 below:

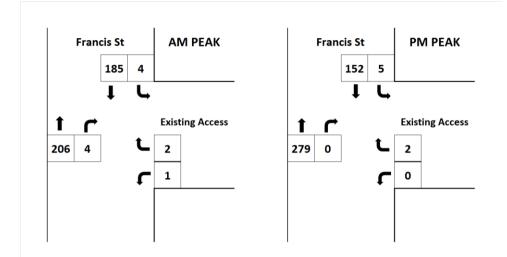


Figure 8-1: Existing Traffic Flows at Site Access off Francis St – 20th October 2020

9 PREDICTED TRAFFIC GENERATION

The proposed development is located adjacent to a major commercial area with easy access by foot to services and shops. Accordingly it is expected that traffic generation from the proposed development will be low.

Transport for NSW Guidelines provide the following trip rates for High Density Residential development in the greater Sydney Area:

AM Peak Hour 0.19 trips per Hour PM Peak Hour0.15 trips per Hour

Accordingly the number of trips generated by the Boarding House Units is expected to be 13.3 AM Peak Hour Trips and 10.5 PM Peak Hour Trips.

The Church component is expected to generate trips outside the normal peak hours. However, the office component of the Church can be treated as a Commercial Business with a Peak Hour trip generation rate of 2 trips per 100 m2. Accordingly, it is predicted the Church would generate up to 4.72 Peak Hour Trips.

The trip rate for the Café is estimated to be 12.3 trips per 100m2. Accordingly it is predicted that the Café will generate up to 3.2 Peak Hour Trips. However, as noted earlier it is expected that this trips will be walking trips.

Therefore, the total trip generation from the site is estimated to be 21.2 or 22 trips. However, given the proximity of the development to surrounding commercial/retail businesses it is expected that up to 25% of these trips will be walking trips leaving a trip generation of 16 trips which is only 5 more than the existing site development.

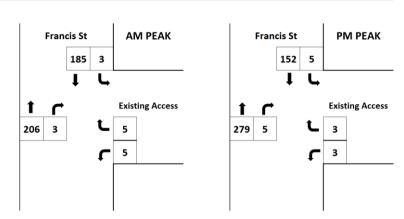


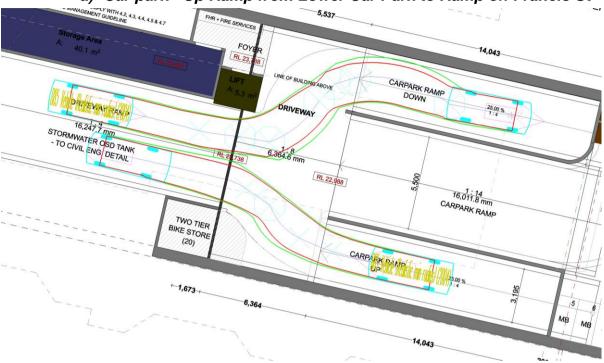
Figure 9-1: Predicted Peak Hour Vehicle movements

Discussion

As shown in Figure 9-1 the predicted traffic flows with the proposed development will only be marginally greater than the AM Peak Hour Trip Generation for the existing site activities.

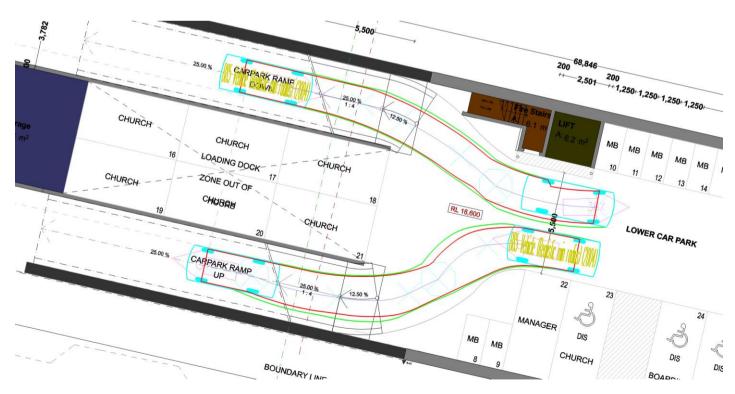
10 INDIVIDUAL VEHICLE TURNING PATHS

Critical vehicle turning paths are presented in Figures 10-1, 10-2, 10-3, 10-4, 10-5 and 10-6 below:



a) Car park - Up Ramp from Lower Car Park to Ramp off Francis St

Figure 10-1: Leaving Lower Car Park – Down & Up Ramp



b) Lower Car Park – Down & Up Ramps

Figure 10-2: Car park to Lower Car Park – Down & Up Ramp

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c) Lower Car Park - Stacked Parking between Ramps

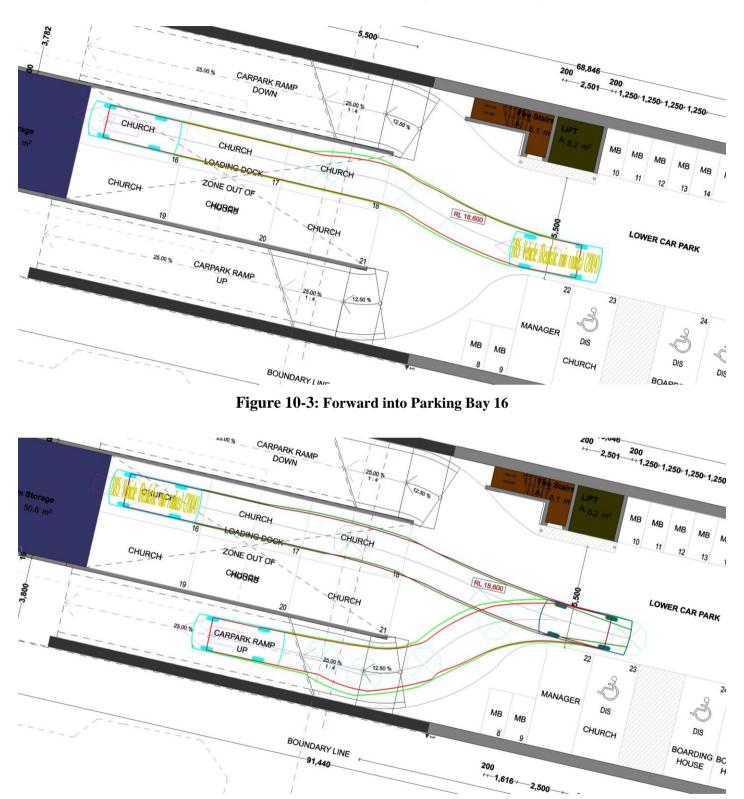


Figure 10-4: Reverse Out of Parking Bay 16

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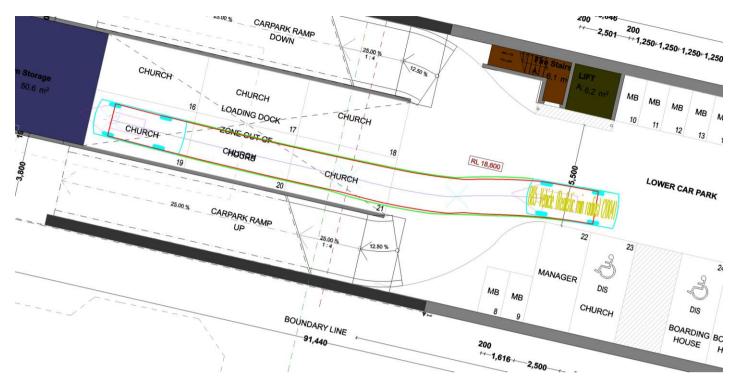


Figure 10-5: Forward into Parking Bay 19

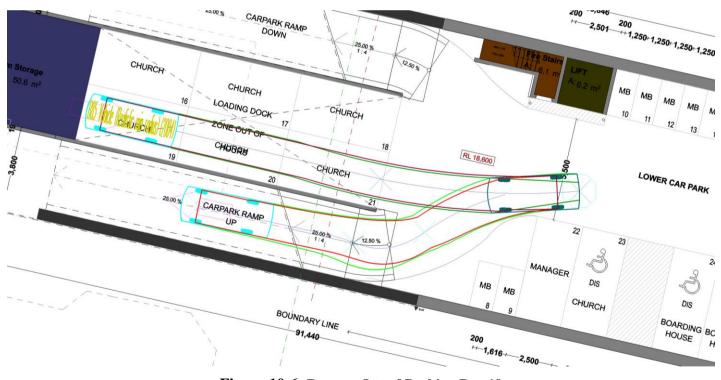


Figure 10-6: Reverse Out of Parking Bay 19

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Discussion

This sample group of vehicle turning paths demonstrate that a B85 vehicle will be able to access all of the parking spaces provided on the site. Turning bays are also provided at the end of each parking level.

The Loading Bay area has also been provided to cater for service vehicles. While, it is acknowledged that the service vehicle will partially block the aisle it is considered that this will have a negligible impact on other vehicle movements to and from the site.

11 RECOMMENDATION

Based on this assessment of parking and access arrangements it is considered that the proposed development will meet the requirements specified by Council and the State Government for Affordable Rental Accommodation.

The development will exceed parking requirements by 10 spaces.

The parking layout conforms with AS / NZS 2890.1:2004 design requirements.

Adequate site distance is available from the existing access driveway.

It is therefore recommended that the proposed development be approved.

Proposed Residential Units 28 Fisher Rd, Dee Why

Appendix A

Observed Parking Demand for Activities on Existing Site

Observations of Existing Parking Activity on Site

A summary of the parking activity observed for the existing 25 space car park at the rear of the property before the Covid -19 lockdowns is presented below:

1) Monday to Friday: 6am - 8am Early Morning Prayer – Koreans – 3 Cars, Music/Training/Workout Classes, Breakfasts for poor and special events - 10 Visitor Cars (These were in the past and are periodic)

2) Monday to Friday: 8am - 4pm

Northern Beaches Engineers/Miscellaneous next door to church: 18 Cars maximum (Note: Obviously we won't be doing this from when construction starts and built)

Community Connect: 2 Cars maximum

We were hoping Community Connect would be able to continue with us. This may not be possible in the short term if we can't secure more offices in the latest plans.

Staff: Russ Ixer, Shelagh Ryan, Greg Stigter, Admin/maintenance/NLBC Personnel (3 max): 6 Cars maximum.

3) Monday to Thursday: 4pm till late

Point Break Drama: 3 (Staff) Cars maximum Night Time Church Meetings: 3 Staff Cars, 15 Visitor Cars (18 Cars maximum). Note: At night-time people can park on the Fisher Road.

Parent Drop Offs. (Question for Council: Can we have 'drop and go' areas on the street on Francis Street and Fisher Road? Plus, designated areas on Fisher Road for Emergencies and Wedding/Funeral Car?

4) Friday: 4pm till late, Saturday: Early Morning/Day/Night

Youth Group Meetings: Parent Drop Offs Conferences/Dinners/Shows (10 times a year): 26 Cars maximum Breakfasts (6 times a year): 26 Cars maximum

5) **Sundays** (note on Sundays that parking on surrounding streets is relatively easy. Plus folk from all services also walk and travel by bus)

a) Early Morning Korean Service: 7 - 8am - 5 Cars maximum

b) NLBC: **9am - 12noon** - NLBC – 15 Cars maximum, we park in the street as well to leave room for New Life Chinese Church

c) New Life Chinese Church Service/Lunch: 9:30am – 1:30pm - 10 Cars maximum. The

d) Yeong Seong Baptist Church (Korean) Service/Lunch: **12noon - 3:30pm** – 15 Cars maximum, by necessity they also park on the street and walk/bus

e) H3O Baptist Church – 20 Cars maximum

Appendix B

Automatic Count Report Data

Northern Transport Planning and Engineering Pty Ltd ABN 79 056 088 629 Weekly Vehicle Counts Northbound (Virtual Week)

| VirtWe | eklyVehicle- | 307 |
|--------|--------------|-----|
| | | |

| ······· | + - |
|--------------|--|
| Site: | 213206.0.1NS |
| Description: | !Francis St <50> |
| Filter time: | 14:32 - 14:32 20 October, 2020 => 14:26 - 14:26 27 October, 2020 |
| Scheme: | Vehicle classification (AustRoads94) |
| Filter: | Cls(1-13) Dir(N) Sp(0,160) Headway(>0) Span(0 - 100) Lane(0-16) |

| | Mon | Tue | Wed | Thu | Fri | <u>Sat</u> | Sun | Average 1 - 5 | es 1 - 7 |
|-----------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------|------------------|-------------|
| Hour | | | | | | | | _ | |
| 0000-0100 | 9.0 | 6.0 | 9.0 | 3.0 | 22.0 | 15.0 | 11.0 | 9.8 | 10.7 |
| 0100-0200 | 8.0 | 4.0 | 2.0 | 5.0 | 5.0 | 14.0 | 6.0 | 4.8 | 6.3 |
| 0200-0300 | 5.0 | 2.0 | 2.0 | 2.0 | 1.0 | 3.0 | 6.0 | 2.4 | 3.0 |
| 0300-0400 | 2.0 | 1.0 | 1.0 | 1.0 | 4.0 | 3.0 | 4.0 | 1.8 | 2.3 |
| 0400-0500 | 7.0 | 6.0 | 8.0 | 10.0 | 7.0 | 7.0 | 6.0 | 7.6 | 7.3 |
| 0500-0600 | 33.0 | 35.0 | 43.0 | 35.0 | 36.0 | 21.0 | 14.0 | 36.4 | 31.0 |
| 0600-0700 | 90.0 | 77.0 | 80.0 | 101.0 | 96.0 | 39.0 | 26.0 | 88.8 | 72.7 |
| 0700-0800 | 134.0 | 125.0 | 137.0 | 142.0 | 129.0 | 67.0 | 36.0 | 133.4 | 110.0 |
| 0800-0900 | 214.0 | 188.0 | 224.0 | 204.0 | 191.0 | 124.0 | 62.0 | 204.2 | 172.4 |
| 0900-1000 | 198.0 | 170.0 | 170.0 | 159.0 | 164.0 | 203.0 | 116.0 | 172.2 | 168.6 |
| 1000-1100 | 186.0 | 174.0 | 189.0 | 168.0 | 187.0 | 240.0 | 150.0 | 180.8 | 184.9 |
| 1100-1200 | 189.0 | 180.0 | 196.0 | 177.0 | 197.0 | 240.0 | 215.0 | 187.8 | 199.1 |
| 1200-1300 | 196.0 | 175.0 | 220.0 | 206.0 | 227.0 | 277.0 | 206.0 | 204.8 | 215.3 |
| 1300-1400 | 216.0 | 177.0 | 216.0 | 196.0 | 200.0 | 243.0 | 188.0 | 201.0 | 205.1 |
| 1400-1500 | 220.0 | 96.0 | 210.0 | 203.0 | 215.0 | 211.0 | 160.0 | 173.3 | 176.4 |
| 1500-1600 | 224.0 | 220.0 | 256.0 | 243.0 | 278.0 | 199.0 | 159.0 | 244.2 | 225.6 |
| 1600-1700 | 274.0 | 279.0 | 283.0 | 287.0 | 264.0 | 182.0 | 141.0 | 277.4 | 244.3 |
| 1700-1800 | 301.0 | 307.0 | 297.0 | 281.0 | 290.0 | 174.0 | 136.0 | 295.2 | 255.1 |
| 1800-1900 | 167.0 | 230.0 | 239.0 | 261.0 | 184.0 | 135.0 | 94.0 | 216.2 | 187.1 |
| 1900-2000 | 100.0 | 142.0 | 164.0 | 148.0 | 141.0 | 79.0 | 58.0 | 139.0 | 118.9 |
| 2000-2100 | 65.0 | 92.0 | 83.0 | 108.0 | 94.0 | 74.0 | 41.0 | 88.4 | 79.6 |
| 2100-2200 | 26.0 | 41.0 | 47.0 | 114.0 | 72.0 | 41.0 | 42.0 | 60.0 | 54.7 |
| 2200-2300 | 18.0 | 15.0 | 26.0 | 76.0 | 42.0 | 39.0 | 37.0 | 35.4 | 36.1 |
| 2300-2400 | 8.0 | 10.0 | 18.0 | 36.0 | 19.0 | 16.0 | 9.0 | 18.2 | 16.6 |
| Totals | | | | | | | | | |
| 0700-1900 | 2519.0 | 2321.0 | 2637.0 | 2527.0 | 2526.0 | 2295.0 | 1663.0 | 2490.5 | 2343.9 |
| 0600-2200 | 2800.0 | 2673.0 | 3011.0 | 2998.0 | 2929.0 | 2528.0 | 1830.0 | 2866.7 | 2669.8 |
| 0600-0000 | 2826.0 | 2698.0 | 3055.0 | 3110.0 | 2990.0 | 2583.0 | 1876.0 | 2920.3 | 2722.5 |
| 0000-0000 | 2890.0 | 2752.0 | 3120.0 | 3166.0 | 3065.0 | 2646.0 | 1923.0 | 2983.1 | 2783.1 |
| | 2000.0 | 2,02.0 | 0120.0 | 0100.0 | 0000.0 | 2010.0 | 1920.0 | 2000.2 | 2,00,12 |
| AM Peak | 0800 | 0800 | 0800 | 0800 | 1100 | 1100 | 1100 | | |
| | 214.0 | 188.0 | 224.0 | 204.0 | 197.0 | 240.0 | 215.0 | | |
| PM Peak | 1700 301.0 | 1700 307.0 | 1700 297.0 | 1600 287.0 | 1700 290.0 | 1200 277.0 | 1200 206.0 | | |

* - No data.

Northern Transport Planning and Engineering Pty Ltd ABN 79 056 088 629 Weekly Vehicle Counts Southbound (Virtual Week)

VirtWeeklyVehicle-308

| Site: | 213206.0.1NS |
|--------------|--|
| Description: | !Francis St <50> |
| Filter time: | 14:32 - 14:32 20 October, 2020 => 14:26 - 14:26 27 October, 2020 |
| Scheme: | Vehicle classification (AustRoads94) |
| Filter: | Cls(1-13) Dir(S) Sp(0,160) Headway(>0) Span(0 - 100) Lane(0-16) |

| | Mon | Tue | Wed | Thu | Fri | Sat | Sun | Average 1 - 5 | es 1 - 7 |
|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|------------------|-------------|
| Hour | | | | | | | | | |
| 0000-0100 | 4.0 | 5.0 | 1.0 | 4.0 | 11.0 | 21.0 | 7.0 | 5.0 | 7.6 |
| 0100-0200 | 7.0 | 4.0 | 3.0 | 4.0 | 2.0 | 18.0 | 10.0 | 4.0 | 6.9 |
| 0200-0300 | 0.0 | 5.0 | 4.0 | 1.0 | 6.0 | 3.0 | 8.0 | 3.2 | 3.9 |
| 0300-0400 | 4.0 | 3.0 | 1.0 | 2.0 | 3.0 | 5.0 | 4.0 | 2.6 | 3.1 |
| 0400-0500 | 3.0 | 6.0 | 6.0 | 5.0 | 3.0 | 5.0 | 3.0 | 4.6 | 4.4 |
| 0500-0600 | 20.0 | 20.0 | 30.0 | 32.0 | 29.0 | 13.0 | 11.0 | 26.2 | 22.1 |
| 0600-0700 | 46.0 | 60.0 | 50.0 | 56.0 | 58.0 | 25.0 | 15.0 | 54.0 | 44.3 |
| 0700-0800 | 100.0 | 95.0 | 89.0 | 97.0 | 80.0 | 64.0 | 33.0 | 92.2 | 79.7 |
| 0800-0900 | 161.0 | 136.0 | 186.0 | 159.0 | 158.0 | 122.0 | 79.0 | 160.0 | 143.0 |
| 0900-1000 | 179.0 | 168.0 | 166.0 | 156.0 | 139.0 | 128.0 | 103.0 | 161.6 | 148.4 |
| 1000-1100 | 131.0 | 129.0 | 131.0 | 123.0 | 154.0 | 192.0 | 138.0 | 133.6 | 142.6 |
| 1100-1200 | 146.0 | 139.0 | 150.0 | 124.0 | 134.0 | 196.0 | 139.0 | 138.6 | 146.9 |
| 1200-1300 | 127.0 | 126.0 | 127.0 | 146.0 | 145.0 | 180.0 | 144.0 | 134.2 | 142.1 |
| 1300-1400 | 142.0 | 105.0 | 127.0 | 124.0 | 148.0 | 149.0 | 114.0 | 129.2 | 129.9 |
| 1400-1500 | 108.0 | 58.5 | 140.0 | 151.0 | 126.0 | 149.0 | 125.0 | 107.0 | 114.5 |
| 1500-1600 | 153.0 | 175.0 | 179.0 | 154.0 | 197.0 | 109.0 | 132.0 | 171.6 | 157.0 |
| 1600-1700 | 171.0 | 164.0 | 180.0 | 158.0 | 165.0 | 109.0 | 107.0 | 167.6 | 150.6 |
| 1700-1800 | 170.0 | 169.0 | 160.0 | 195.0 | 152.0 | 118.0 | 112.0 | 169.2 | 153.7 |
| 1800-1900 | 124.0 | 138.0 | 139.0 | 184.0 | 152.0 | 129.0 | 88.0 | 147.4 | 136.3 |
| 1900-2000 | 81.0 | 107.0 | 109.0 | 116.0 | 148.0 | 90.0 | 79.0 | 112.2 | 104.3 |
| 2000-2100 | 54.0 | 81.0 | 90.0 | 76.0 | 89.0 | 77.0 | 64.0 | 78.0 | 75.9 |
| 2100-2200 | 47.0 | 50.0 | 58.0 | 96.0 | 72.0 | 79.0 | 51.0 | 64.6 | 64.7 |
| 2200-2300 | 21.0 | 30.0 | 38.0 | 40.0 | 48.0 | 47.0 | 46.0 | 35.4 | 38.6 |
| 2300-2400 | 11.0 | 18.0 | 18.0 | 30.0 | 23.0 | 29.0 | 19.0 | 20.0 | 21.1 |
| Totals | | | | | | | | | |
| 0700-1900 | 1712.0 | 1602.5 | 1774.0 | 1771.0 | 1750.0 | 1645.0 | 1314.0 | 1712.2 | 1644.6 |
| 0600-2200 | 1940.0 | 1900.5 | 2081.0 | 2115.0 | 2117.0 | 1916.0 | 1523.0 | 2021.0 | 1933.8 |
| 0600-0000 | 1972.0 | 1948.5 | 2137.0 | 2185.0 | 2188.0 | 1992.0 | 1588.0 | 2076.4 | 1993.5 |
| 0000-0000 | 2010.0 | 1991.5 | 2182.0 | 2233.0 | 2242.0 | 2057.0 | 1631.0 | 2122.0 | 2041.5 |
| AM Peak | 0900 179.0 | 0900 168.0 | 0800 186.0 | 0800 159.0 | 0800 158.0 | 1100 196.0 | 1100 139.0 | | |
| | | | | | | | | | |
| PM Peak | 1600 171.0 | 1500 175.0 | 1600 180.0 | 1700 195.0 | 1500 197.0 | 1200 180.0 | 1200 144.0 | | |

* - No data.

Northern Transport Planning and Engineering Pty Ltd ABN 79 056 088 629 Speed Statistics by Hour NorthBound

| SpeedStatHour-315 | |
|-------------------|--|
| Site: | 213206.0.1NS |
| Description: | !Francis St <50> |
| Filter time: | 14:32 - 14:32 20 October, 2020 => 14:26 - 14:26 27 October, 2020 |
| Scheme: | Vehicle classification (AustRoads94) |
| Filter: | Cls(1-13) Dir(N) Sp(0,160) Headway(>4) Span(0 - 100) Lane(0-16) |

Vehicles = 15974

Posted speed limit = 50 km/h, Exceeding = 324 (2.028%), Mean Exceeding = 52.94 km/h Maximum = 91.4 km/h, Minimum = 5.1 km/h, Mean = 37.2 km/h 85% Speed = 43.74 km/h, 95% Speed = 47.52 km/h, Median = 37.62 km/h 20 km/h Pace = 28 - 48, Number in Pace = 13888 (86.94%) Variance = 46.59, Standard Deviation = 6.83 km/h

Hour Bins (Partial days)

| Time | Bin | Min | Max | Mean | Median | 85% | 95% | >PSL 50 km/h |
|------|--------------|------|------|------|--------|------|------|-----------------|
| | | | | | | | | 50 Km/11 |
| 0000 | 73 0.457% | 8.6 | 53.0 | 36.1 | 36.9 | 43.7 | 48.7 | 3 4.110% |
| 0100 | 43 0.269% | 18.2 | 56.0 | 34.2 | 33.7 | 43.9 | 46.8 | 1 2.326% |
| 0200 | 21 0.131% | 13.3 | 52.8 | 36.0 | 36.7 | 48.4 | 52.5 | 1 4.762% |
| 0300 | 16 0.100% | 12.7 | 49.5 | 35.3 | 36.3 | 45.6 | 49.5 | 0 0.000% |
| 0400 | 51 0.319% | 17.8 | 50.1 | 36.3 | 36.7 | 43.6 | 47.7 | 1 1.961% |
| 0500 | 211 1.321% | 9.9 | 57.6 | 37.2 | 38.0 | 44.8 | 48.9 | 6 2.844% |
| 0600 | 473 2.961% | 13.7 | 54.8 | 37.2 | 37.8 | 44.5 | 49.0 | 16 3.383% |
| 0700 | 673 4.213% | 15.2 | 60.8 | 38.7 | 39.1 | 44.6 | 48.3 | 15 2.229% |
| 0800 | 976 6.110% | 13.9 | 57.5 | 37.5 | 38.0 | 43.9 | 47.3 | 20 2.049% |
| 0900 | 974 6.097% | 6.8 | 59.9 | 37.6 | 38.1 | 43.9 | 47.3 | 21 2.156% |
| 1000 | 1065 6.667% | 12.7 | 57.5 | 37.5 | 38.0 | 43.8 | 47.2 | 17 1.596% |
| 1100 | 1114 6.974% | 10.4 | 61.4 | 37.1 | 37.3 | 43.2 | 47.5 | 30 2.693% |
| 1200 | 1192 7.462% | 14.4 | 56.6 | 37.5 | 38.0 | 44.3 | 48.1 | 28 2.349% |
| 1300 | 1148 7.187% | 6.3 | 66.0 | 37.2 | 37.6 | 44.3 | 47.7 | 31 2.700% |
| 1400 | 1131 7.080% | 13.6 | 91.4 | 37.4 | 38.0 | 43.0 | 46.7 | 17 1.503% |
| 1500 | 1208 7.562% | 13.8 | 61.3 | 37.2 | 37.6 | 43.6 | 47.0 | 18 1.490% |
| 1600 | 1307 8.182% | 8.9 | 60.1 | 37.8 | 38.2 | 44.5 | 47.9 | 27 2.066% |
| 1700 | 1334 8.351% | 11.4 | 63.4 | 37.4 | 37.8 | 44.1 | 47.7 | 23 1.724% |
| 1800 | 1046 6.548% | 6.5 | 62.5 | 36.5 | 36.9 | 43.2 | 47.5 | 19 1.816% |
| 1900 | 720 4.507% | 6.9 | 57.1 | 35.7 | 36.0 | 42.7 | 47.0 | 11 1.528% |
| 2000 | 499 3.124% | 12.2 | 56.6 | 34.9 | 35.3 | 41.9 | 45.7 | 9 1.804% |
| 2100 | 348 2.179% | 5.1 | 56.5 | 35.7 | 36.4 | 42.5 | 47.1 | 4 1.149% |
| 2200 | 240 1.502% | 18.8 | 54.0 | 36.8 | 36.9 | 43.2 | 47.1 | 3 1.250% |
| 2300 | 111 0.695% | 13.2 | 65.4 | 35.9 | 36.4 | 42.7 | 47.3 | 3 2.703% |
| | 15974 100.0% | 5.1 | 91.4 | 37.2 | 37.6 | 43.7 | 47.5 | 324 2.028% |

Northern Transport Planning and Engineering Pty Ltd ABN 79 056 088 629 Speed Statistics by Hour Southbound

| SpeedStatHour-316 | |
|-------------------|--|
| Site: | 213206.0.1NS |
| Description: | !Francis St <50> |
| Filter time: | 14:32 - 14:32 20 October, 2020 => 14:26 - 14:26 27 October, 2020 |
| Scheme: | Vehicle classification (AustRoads94) |
| Filter: | Cls(1-13) Dir(S) Sp(0,160) Headway(>0) Span(0 - 100) Lane(0-16) |

Vehicles = 14405

Posted speed limit = 50 km/h, Exceeding = 88 (0.611%), Mean Exceeding = 53.21 km/h Maximum = 64.2 km/h, Minimum = 0.4 km/h, Mean = 34.4 km/h 85% Speed = 40.32 km/h, 95% Speed = 43.74 km/h, Median = 35.10 km/h 20 km/h Pace = 25 - 45, Number in Pace = 12795 (88.82%) Variance = 42.71, Standard Deviation = 6.54 km/h

Hour Bins (Partial days)

| Time | Bin | Min | Max | Mean | Median | 85% | 95% ' | >PSL |
|------|--------------|------|------|------|--------|------|------------|-----------|
| | | | | | | | | 50 km/h |
| 0000 | 53 0.368% | 21.7 | 52.3 | 37.7 | 37.4 | 44.4 | 47.4 | 1 1.887% |
| 0100 | 48 0.333% | 13.4 | 49.2 | 35.9 | 36.7 | 42.1 | 46.7 | 0 0.000% |
| 0200 | 27 0.187% | 22.8 | 57.0 | 35.9 | 35.5 | 41.8 | 53.9 | 1 3.704% |
| 0300 | 22 0.153% | 21.3 | 52.6 | 35.8 | 37.1 | 44.8 | 51.6 | 1 4.545% |
| 0400 | 31 0.215% | 21.5 | 43.0 | 34.3 | 34.2 | 40.4 | 42.2 | 0 0.000% |
| 0500 | 155 1.076% | 16.8 | 51.9 | 36.5 | 38.0 | 43.3 | 46.7 | 2 1.290% |
| 0600 | 310 2.152% | 13.9 | 50.6 | 36.3 | 36.9 | 42.4 | 45.4 | 2 0.645% |
| 0700 | 558 3.874% | 11.2 | 50.1 | 35.7 | 36.5 | 41.4 | 44.8 | 2 0.358% |
| 0800 | 1001 6.949% | 3.9 | 57.1 | 35.2 | 35.8 | 40.5 | 43.4 | 5 0.500% |
| 0900 | 1039 7.213% | 3.0 | 50.8 | 34.2 | 34.9 | 40.7 | 43.2 | 2 0.192% |
| 1000 | 998 6.928% | 10.2 | 60.7 | 34.3 | 34.9 | 40.1 | 43.6 | 4 0.401% |
| 1100 | 1028 7.136% | 7.6 | 57.3 | 34.0 | 34.7 | 40.1 | 43.7 | 4 0.389% |
| 1200 | 995 6.907% | 4.8 | 54.1 | 34.1 | 34.7 | 40.3 | 43.9 | 7 0.704% |
| 1300 | 909 6.310% | 2.4 | 64.2 | 34.3 | 34.9 | 40.3 | 44.0 | 4 0.440% |
| 1400 | 916 6.359% | 10.4 | 57.6 | 34.6 | 35.1 | 39.8 | 42.7 | 3 0.328% |
| 1500 | 1099 7.629% | 5.3 | 55.2 | 34.1 | 34.6 | 39.4 | 42.7 | 6 0.546% |
| 1600 | 1054 7.317% | 4.1 | 54.1 | 34.9 | 35.3 | 40.7 | 43.8 | 6 0.569% |
| 1700 | 1076 7.470% | 0.4 | 57.7 | 34.6 | 35.3 | 40.7 | 44.1 | 9 0.836% |
| 1800 | 954 6.623% | 6.1 | 58.4 | 33.3 | 34.0 | 39.2 | 42.4 | 3 0.314% |
| 1900 | 730 5.068% | 2.1 | 58.0 | 33.8 | 34.7 | 40.5 | 44.1 | 10 1.370% |
| 2000 | 531 3.686% | 9.1 | 60.5 | 33.9 | 34.9 | 40.3 | 43.6 | 2 0.377% |
| 2100 | 453 3.145% | 5.1 | 56.6 | 34.3 | 34.7 | 40.7 | 44.5 | 5 1.104% |
| 2200 | 270 1.874% | 3.9 | 63.7 | 34.7 | 35.4 | 41.5 | 45.3 | 6 2.222% |
| 2300 | 148 1.027% | 18.6 | 53.2 | 35.9 | 36.0 | 41.7 | 47.0 | 3 2.027% |
| | 14405 100.0% | 0.4 | 64.2 | 34.4 | 35.1 | 40.3 | 43.7 | 88 0.611% |