STOCKLAND

PLANNING PROPOSAL FOR PROPOSED MIXED USE DEVELOPMENT, 355-375 CHURCH STREET, NORTH PARRAMATTA

TRANSPORT REPORT

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COLSTON BUDD ROGERS & KAFES PTY LTD
ACN 002 334 296
Level 18 Tower A
Zenith Centre
821 Pacific Highway
CHATSWOOD NSW 2067

Telephone: (02) 9411 2411
Facsimile: (02) 9411 2422
Email: cbrk@cbrk.com.au

REF: 10884/8

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1. INTRODUCTION

1.1 Colston Budd Rogers & Kafes Pty Ltd has been retained by Stockland to prepare a report on the transport aspects of a planning proposal for a proposed mixed use development at 355-375 Church Street, North Parramatta. The site is located on the north western corner of the intersection of Church Street and Victoria Road, as shown on Figure 1.

1.2 The planning proposal for the site involves the relocation of McDonald's to the southern eastern part of the site (with some 220 seats and a drive through) and a mixed use building (ground/first floor retail/commercial with residential above) with a potential 5% bonus FSR (as per the LEP discretionary High Performance Building clause). Access is proposed from Victoria Road (entry only) and Ross Street (entry and exit). The planning proposal does not include the existing commercial building located on the north eastern corner of the block which is on a separate site.

1.3 In mid-2015 a development application (DA) was submitted to Council to construct a new standalone McDonalds's on the south eastern part of the site and subdivide the balance of the site. The DA also sought 'concept' approval for a residential building envelope on the balance of the land, comprising a 76 dwelling mixed use development with ground floor retail. The DA was withdrawn following feedback from Parramatta Council and the Joint Regional Planning Panel (consent authority) that the proposed scheme was an under development of a key gateway site to Parramatta.

1.4 With respect to access, no objections were raised by Council or RMS on the proposed entry only from Victoria Road (left and right turns in) and Ross Street (all movements)

1.5 A planning proposal for the site was submitted in 2018. Following submission. Council and Transport for NSW raised matters with respect to parking provision and traffic effects of the Parramatta Light Rail project. The 2018 proposal provided residential parking at the City of Sydney Category B parking rates. Council has indicated that residential parking should be provided at the lower City of Sydney Category A parking rates until Council's Integrated Transport Plan (ITS) is completed. It is understood that as part of the ITP, a review of appropriate parking rates within Parramatta CBD is being undertaken with the potential to provide higher parking rates in areas located further from the centre of the CBD (bus/rail interchange) such as the subject site. The proposal has been amended to provide residential parking at the Category A parking rates (as requested by Council). The report has been updated to reflect this parking provision and the potential 5% bonus FSR (as per the LEP discretionary High Performance Building clause).

1.6 Transport for NSW (TfNSW) has requested that, as part of the planning proposal, additional information on the impact of the planning proposal on the Parramatta Light Rail (PLR) be provided as set out below:

- A traffic impact assessment (TIA) should consider the existing and future performance of key intersections providing access to the site, supported by appropriate modelling and analysis to the satisfaction of RMS and TfNSW. The TIA should include proposed measures to mitigate impacts of the proposed

development on the operation of existing and future traffic, public transport and bicycle networks including any required upgrades; and

- The TIA should include an assessment of any impacts of the development on the PLR. During the construction and operation phases of the PLR there will be intermittent, short and long term road closures, as well as material changes to the road network operations. These changes may impact pedestrian, cyclist and vehicular access routes to the proposed development and should be included in any analysis.

1.7 The traffic assessment has been updated to include the changes to the road network as a result of the PLR (in particular the changes to the intersection of Victoria Road and Church Street).

1.8 This report assesses the transport aspects of the planning proposal through the following chapters:

- Chapter 2 - describing the existing conditions; and
- Chapter 3 - assessing the transport aspects of the planning proposal.

2. EXISTING CONDITIONS

Site Location and Road Network

2.1 The subject site is located on the north western corner of the intersection of Church Street and Victoria Road, North Parramatta. The site also has frontage to Ross Street. The site is currently occupied by a McDonald's and retail/commercial uses (some 400m^2) with at grade parking (some 60 spaces). Access is provided from Victoria Road and Ross Street (movements from all directions are provided to/from both driveways). The commercial development located on the north eastern corner of the block does not form part of the site.

2.2 The surrounding land use comprises a mix of retail, commercial and residential development to the north, east and south within the northern section of Parramatta CBD. Prince Alfred Park is located to the south of the site. There are a number of schools located to the west and north-west of the site (along Villiers Street).

2.3 The road network in the vicinity of the site includes Church Street, Victoria Road, Ross Street and Villiers Street. Church Street is located along the eastern frontage of the site, travelling in a north-south direction. It is a classified road and a major access road to/from Parramatta CBD from the north. Church Street generally provides one traffic lane in each direction (plus bus lanes), widening to two lanes in each direction on both the northern and southern approaches to its intersection with Victoria Road. Church Street does not provide any kerb side parking in the vicinity of the site. Church Street forms a signal controlled intersection with

Victoria Road and a priority controlled intersection with Ross Street that only permits left in/left out movements to/from Ross Street.

2.4 Victoria Road is located along the southern frontage of the site. East of Church Street, Victoria Road is a classified road and a major access road to/from Parramatta travelling in an east-west direction between the Sydney CBD in the east and Parramatta in the west. East of Church Street, Victoria Road generally provides one bus lane and two traffic lanes in each direction. West of Church Street, Victoria Road is a local road and provides two traffic lanes in each direction with no kerb side parking. The intersection of Victoria Road and Church Street is a signal controlled intersection. West of Church Street traffic flows are lower on Victoria Road than they are to the east.

2.5 Ross Street is located along the northern frontage of the site and is a local road that provides access to the precinct west of Church Street. Ross Street provides a single traffic lane in each direction providing metered kerb side parking in the vicinity of the site. Ross Street forms a priority controlled intersection with Church Street with traffic movements limited to left turns only.

2.6 Villiers Street travels in a north-south direction to the west of the site. It is a local road that provides access to the precinct to the west of Church Street. It is generally subject to a 50 km/h speed limit except during school zone times when a 40km/h speed limit applies. Villiers Street provides a single traffic lane in each direction providing metered kerb side parking. Villiers Street forms a roundabout intersection with Ross Street and a signal controlled intersection with Victoria Road.

Traffic Flows

2.7 Traffic generated by the proposed development will have its greatest effects during weekday morning and afternoon peak periods. In order to gauge traffic conditions, counts were undertaken at the following intersections:

- Church Street/Victoria Road (signal control);
- Church Street/Ross Street (priority control);
- Victoria Road/Villiers Street (signal control);
- Villiers Street/Ross Street (roundabout);
- Ross Street/Site Access (priority control); and
- Victoria Road/Site Access (priority control).

2.8 The results of the surveys are shown in Figures 2 and 3 and summarised in Table 2.1. The surveys covered school drop off and pick up times.

2.9 Table 2.1 shows that:

- Church Street carried traffic flows of some 625 to 1,720 vehicles per hour two-way during the weekday morning and afternoon peak periods;

- Victoria Road (east of Church Street) carried some 2,280 to 2,460 vehicles per hour two-way during the weekday morning and afternoon peak periods;

- Victoria Road (west of Church Street) carried some 1,055 to 1,340 vehicles per hour two-way during the weekday morning and afternoon peak periods;

- Ross Street carried some 75 to 345 vehicles per hour two-way during the weekday morning and afternoon peak periods;

- Villiers Street carried some 495 to 745 vehicles per hour two-way during the weekday morning and afternoon peak periods; and

- The site generated some 240 to 275 vehicles per hour two-way which was split 50%/50% to the Victoria Road and Ross Street driveways. The surveys also found that some 36% of vehicles entering the site used the drive through.

Table 2.1: Existing Two-Way (Sum of Both Directions) Peak Hour Traffic Flows

Road	Morning	Afternoon
Church Street		
– north of Ross Street	1,565	1,715
– north of Victoria Road	1,535	1,720
– south of Victoria Road	665	625
Victoria Road		
– east of Church Street	2,460	2,280
– east of Site Access	1,320	1,305
– east of Villiers Street	1,330	1,340
– west of Villiers Street	1,135	1,055
Ross Street		
– east of Church Street	75	110
– east of Site Access	155	165
– east of Villiers Street	145	165
– west of Villiers Street	345	130
Villiers Street		
– north of Ross Street	650	495
– north of Victoria Road	535	510
– south of Victoria Road	680	745
Site Accesses		
– Ross Street	125	135
– Victoria Road	115	140

Intersection Operations

2.10 The capacity of the road network is largely determined by the capacity of its

intersections to cater for peak period traffic flows. The surveyed intersections have been analysed using the SIDRA computer program. SIDRA analyses intersections controlled by traffic signals, roundabouts and signs.

2.11 SIDRA provides a number of performance measures. The most useful measure provided is average delay per vehicle expressed in seconds per vehicle. Based on average delay per vehicle, SIDRA estimates the following levels of service (LOS):

- For traffic signals, the average delay per vehicle in seconds is calculated as delay/(all vehicles), for roundabouts the average delay per vehicle in seconds is selected for the movement with the highest average delay per vehicle, equivalent to the following LOS:

0 to 14	=	"A"	Good
15 to 28	=	"B"	Good with minimal delays and spare capacity
29 to 42	=	"C"	Satisfactory with spare capacity
43 to 56	=	"D"	Satisfactory but operating near capacity
57 to 70	=	"E"	At capacity and incidents will cause excessive delays. Roundabouts require other control mode.
>70	=	"F"	Unsatisfactory and requires additional capacity

- For give way and stop signs, the average delay per vehicle in seconds is selected from the movement with the highest average delay per vehicle, equivalent to following LOS:

0 to 14	=	"A"	Good
15 to 28	=	"B"	Acceptable delays and spare capacity
29 to 42	=	"C"	Satisfactory but accident study required

43 to 56	=	"D"	Near capacity and accident study required
57 to 70	=	"E"	At capacity and requires other control mode
>70	=	"F"	Unsatisfactory and requires other control mode

2.12 It should be noted that for roundabouts, give way and stop signs, in some circumstances, simply examining the highest individual average delay can be misleading. The size of the movement with the highest average delay per vehicle should also be taken into account. Thus, for example, an intersection where all movements are operating at a level of service A, except one which is at level of service E, may not necessarily define the intersection level of service as E if that movement is very small. That is, longer delays to a small number of vehicles may not justify upgrading an intersection unless a safety issue was also involved.

2.13 The SIDRA analysis found that:

- The signalised intersection of Church Street with Victoria Road operates with average delays of less than 40 seconds per vehicle during peak periods. This represents a level of service C, a satisfactory level of service;

- The signalised intersection of Victoria Road with Villiers Street operates with average delays of less than 40 seconds per vehicle during peak periods. This represents a level of service C, a satisfactory level of service;

- The roundabout intersection of Ross Street with Villiers Street operates with average delays for the highest delayed movement of less than 10 seconds per vehicle during peak periods. This represents a level of service A, a good level of service;

- The priority controlled intersection of Church Street with Ross Street operates with average delays for the highest delayed movement of less than 10 seconds per vehicle during peak periods. This represents a level of service A, a good level of service;

- The Ross Street access operates with average delays for the highest delayed movement of less than 15 seconds per vehicle during peak periods. This represents a level of service A/B, a good level of service; and

- The Victoria Road access operates with average delays for the highest delayed movement of less than 40 seconds per vehicle during peak periods. This represents a level of service C, a satisfactory level of service.

Public Transport

2.14 The site is located within the northern section of Parramatta CBD and thus has access to public transport that services the CBD. Hillsbus/Westbus and Sydney Buses operate a number of services along Church Street and Victoria Road past the site. These connect Parramatta CBD with Castle Hill, Pennant Hills, Maquarie Park, Epping, Eastwood, Norwest, Ryde and Strathfield. The site is one kilometre north of Parramatta railway station and is within walking distance of commercial, retail and other services located within the CBD. The surrounding area provides footpaths and signalised intersections within the vicinity which provides full pedestrian crossings.

2.15 The Parramatta light rail will run past the site on Church Street with the nearest stop located at Prince Alfred Square, adjacent to the site (on the corner of Victoria Road and Church Street). The light rail will connect Westmead with Carlingford

via Parramatta with stops at Westmead Hospital and the Western Sydney University campuses at Westmead and Rydalmere as shown in Figure 4.

2.16 The site therefore has good access to public transport.

3. IMPLICATIONS OF PLANNING PROPOSAL

3.1 The planning proposal for the site involves the relocation of McDonald's to the southern eastern part of the site and a mixed use building (ground level retail/commercial and first/second level commercial with residential above). Access is proposed from Victoria Road (entry only) and Ross Street (entry and exit). The concept plans for the planning proposal show the following indicative scale of development:

- McDonald's – some 900m^2 GFA/220 seats (including party room) with a drive through;
- some 400m^2 GFA of ground floor retail/commercial; and
- some 346 residential units.

3.2 At this stage the residential unit mix has not been determined. For the purposes of assessing the traffic and parking effects of the planning proposal, Stockland has advised the following mix of units:

- 35 x one bed units
- 247 x two bed units and
- 76 x three bed units.

3.3 This includes 12 units (5 x two bed and 7 x three bed) that would be permitted with the 5% increase in FSR as per the LEP discretionary High Performance Building clause.

3.4 This chapter assesses the transport aspects of the planning proposal through the following sections:

- public transport;
- cycling and pedestrian movement;
- parking provision;
- access, servicing and internal layout;
- traffic effects; and
- summary.

Public Transport

3.5 The site is close to bus services and the future light rail service along Church Street. Public transport services offer viable alternatives to travel by modes other than car particularly in the weekday morning and afternoon commuter peak periods. While the site's location provides opportunities for travel by means other than car, an appropriate level of on-site parking is required to meet travel that cannot be met by public transport, walking or cycling (such as weekly shopping trips, recreational trips or taking children to weekend sporting activities). In addition car share parking will be provided on site. To support accessibility by bicycles, appropriate bicycle parking will be provided for employees and visitors.

3.6 The planning proposal will therefore satisfy the objectives of NSW Making it Happen, A Plan for Growing Sydney, NSW Long Term Transport Masterplan, and Directions for a Greater Sydney 2017-2056, as follows:

- enabling employees, residents and visitors to readily access buses and the light rail, for journeys to work and other travel;
- improving accessibility to employment and residential by walking, cycling, and public transport;

- improving the choice of transport and reducing dependence solely on cars for travel purposes;
- moderating growth in the demand for travel and the distances travelled, especially by car;
- supporting the efficient and viable operation of public transport services
- providing an appropriate level of on-site parking, with reference to appropriate council and RMS requirements, to encourage public transport use, increase the proportion of journey to work trips by public transport;
- provide on-site parking that meet the needs of residents for travel outside of the weekday commuter peak periods;
- providing retail/employment development close to residential development and other retail, commercial and transport facilities to reduce the need for external travel;
- being located close to employment centres in Parramatta CBD, which are readily accessible by public transport; and
- providing appropriate bicycle parking on the site to increase the proportion of trips made by bicycle.

Cycling and Pedestrian Movement

3.7 The site is located within Parramatta CBD which provides employees/residents with cycling and walking opportunities to locations such as shops, restaurants, businesses and recreational facilities located within Parramatta CBD. As noted in the previous section, the future light rail will travel along Church Street past the site. Bus stops are also located within a short walking distance from the site. Figure 3.1 shows the existing cycle paths around Parramatta.

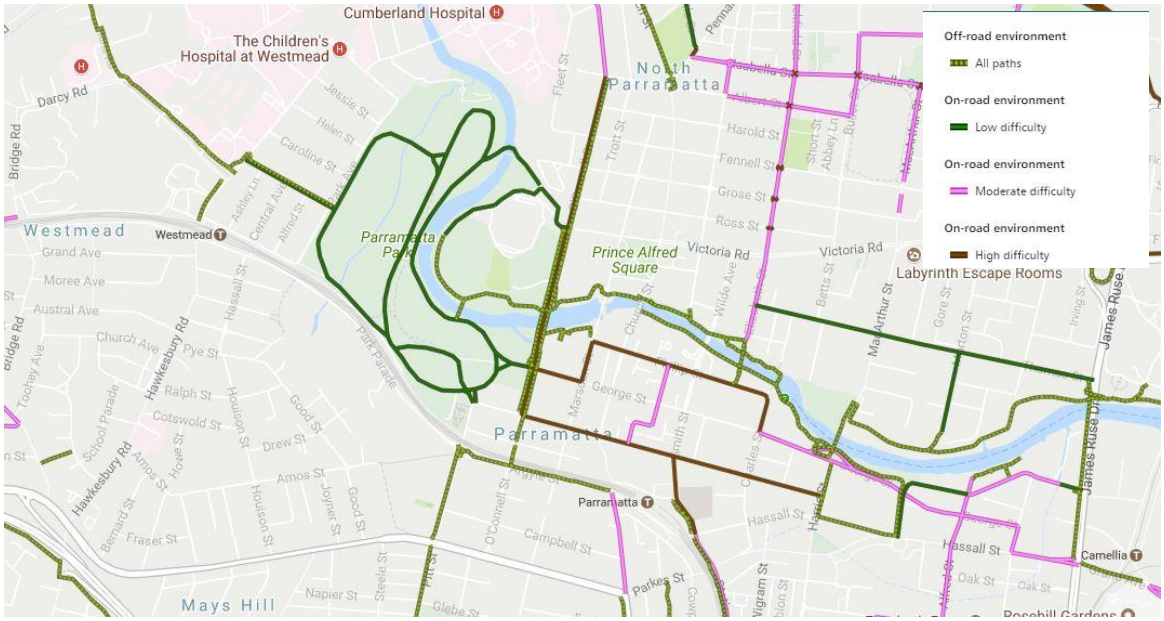

Figure 3.1: Parramatta Cycle Map
Source: Sydney Cycleways

3.8 Bicycle parking can be found throughout Parramatta CBD and the site will provide bicycle parking within the basement for residents.

3.9 Pedestrian walkways are provided around the site linking the site to local shops and amenities as stated previously. Pedestrian crossings are provided at major intersections to provide pedestrians with adequate walking paths to and from the site.

Parking Provision

3.10 For the area in which the subject site is located, Parramatta City Council has advised that the following parking rates will apply:

- residential units:;
    - 0.3 spaces per 1 bed unit;

- 0.7 spaces per 2 bed unit;
- 1.0 spaces per 3 bed unit; and
- no visitor parking:

- drive in/take away food with seating: - a maximum of 1 parking space to be provided for every 30m^2 of gross floor area or 30 parking spaces maximum, whichever is less; and

- retail/commercial (maximum) – M=(GxA)/(50xT)
  where:
  M is the maximum number of parking spaces;
  G is the gross floor area of all commercial uses in the building (excluding GFA used for the purpose of Take Away Food and Drink Premises) in square metres;
  A is the site area in square metres; and
  T is the total gross floor area of all buildings on the site in square metres.

3.11 Based upon the rates above, the residential component (some 358 units) could provide a maximum of 260 spaces, the retail/commercial component a maximum 1 space (assuming some 400m^2 retail/commercial space, 4,737m^2 site area and a total of 34,106m^2 GFA) and the McDonald's (with some 900m^2 GFA) could provide up to a maximum of 30 parking spaces.

3.12 The reference scheme supporting the planning proposal shows provision of 291 spaces comprising:

- 260 residential spaces;
- 1 retail/commercial tenant space; and
- 30 spaces for McDonald's.

3.13 Appropriate accessible, motor cycle and bicycle parking will also be provided (in accordance with the requirements of DCP 2011. Car share spaces are proposed on site.

Access, Servicing and Internal Layout

3.14 Vehicular access to the site will be maintained from Victoria Road and Ross Street, with the driveways located as far as practical to the west (to maximize the distance from the Church Street intersections).

3.15 The Ross Street driveway will provide for all movements (as per the existing situation).

3.16 The Victoria Road access will be entry only (allowing for both left and right turn entry), providing access for the McDonald's, with all vehicles entering from Victoria Road exiting to Ross Street. Thus there will be no change to vehicle queues on Victoria Road as a result of the planning proposal. Overall the intersection of the site access/Victoria Road will be improved as no vehicles will be exiting onto Victoria Road.

3.17 Both driveways will be designed to accommodate the swept path of up to 12.5 metre rigid truck and will be designed in accordance with AS2890.1-2004 and AS2890.2-2002.

3.18 With regard to the Victoria Road access, as part of the previous DA, RMS advised the following:

In relation to the McDonalds in North Parramatta, it is established as part of the proposal that;

- *Access to the McDonalds on Victoria Street will be restricted to "In only"*
- *A physical barrier will be provided on site to ensure vehicles cannot exit onto Victoria Street using this driveway.*

In this regard, Roads and Maritime raises no significant concerns to the proposed layout of the development provided access to the site is restricted to "In only"

Roads and Maritime would not require a median on Victoria Road at this stage, given the traffic generation for the McDonalds is anticipated to remain the same.

3.19 The development proposes basement, ground level and podium parking. The ground floor car park will be available for the use of McDonald's customers, commercial and car share parking. The single basement level of parking will be allocated to residents. The balance of parking will be located in podium parking levels and allocated to residents. Access to the podium/basement car park levels will be provided on the northern part of the site via two way ramps.

3.20 Car parking will be designed to comply with the requirements of AS2890.1-2004. Residential/commercial car park circulation aisles will be a minimum of 5.8 metres wide and provide parking spaces with minimum dimensions of 2.4 metres wide and 5.4 metres long. Disabled parking spaces will be 2.4 metres wide and provided with an adjacent 2.4 metre wide space thus satisfying the requirements of AS2890.6-2009. McDonald's car park circulation aisles will be a minimum of 6.6 metres wide and parking spaces will be a minimum of 2.6 metres wide by 5.4 metres long.

3.21 The McDonald's drive through (with dual order points) is designed to provide capacity for at least 10 queued vehicles behind the order pick-up point with a waiting bay. This satisfies the minimum requirements of the RMS guidelines (minimum queuing for 10 cars) with respect to queue lengths and waiting bays.

3.22 A loading dock is provided for on-site (residential and retail) garbage collection and residential deliveries/removals. All service vehicles accessing this dock will enter and exit the site in a forward direction. The loading dock will be designed to accommodate a 12.5 metre rigid truck. Deliveries will be managed through a loading dock management plan.

3.23 All vehicles will enter and depart the site in a forward direction. Details of the car park layout and service arrangements for compliance with AS2890 will be provided at DA stage (including provision of vehicle turning paths and a loading dock management plan).

Traffic Effects

3.24 Traffic generated by the development will have its greatest effects during the weekday morning and afternoon peak periods. The following traffic generation rates have been adopted for the proposed development:

- Residential - 0.19 and 0.15 vehicles per hour per unit (two way) in the weekday morning and afternoon peak hours respectively (RMS rates for high density residential development close to public transport); and

- retail/commercial – 0.3 vehicles per hour per parking space (two way) in the weekday AM and PM peak hours (based on surveys of constrained parking in CBD locations).

3.25 For McDonald's, traffic generation is likely to reduce from its current levels due to reduction in on-site parking (of some 50%) and the reduced exposure of the relocated drive through to the street. Based on the operation of the existing McDonald's, some two thirds of traffic generated is from on-site parking with the balance using the drive through. Thus reducing parking by some 50% is likely to reduce this component of the McDonald's traffic generation by some 50%. This decrease in traffic generation from on-site parking may result in a transfer of some trips to the drive through. Taking in account these factors, the existing traffic generation of McDonalds has been reduced by 30%.

3.26 Table 3.1 summarises the traffic generation of the reference scheme.

Table 3.1	**Summary of Traffic Generation**				
Component	Size	Rate		Traffic Generation (vph)	
		AM	PM	AM	PM
Existing				240	275
Residential	358 units	0.19/unit	0.15/unit	+68.0	+53.7
Retail/Commercial	1 spaces	0.3/space	0.3/space	+0.3	+0.3
McDonalds	30 spaces			-72	-82
Total				236.3	247
Change				-3.7	-28

3.27 Examination of Table 3.1 reveals that the planning proposal would result in a reduction (compared to the existing situation) of some 4 and 28 vehicles per hour (two way) in the weekday morning and afternoon peak hours respectively.

3.28 The traffic from the planning proposal has been assigned to the surrounding road network shown in Figures 2 and 3 and summarised in Table 3.2, taking into account the redistribution of the trips as a result of the change in access arrangements.

Table 3.2: Existing Plus Development Two-Way (Sum of Both Directions) Peak Hour Traffic Flows

Road	**Morning**		**Afternoon**	
	Existing	+ Dev	Existing	+ Dev
Church Street				
– north of Ross Street	1,565	+20	1,715	+10
– north of Victoria Road	1,535	-5	1,720	-10
– south of Victoria Road	665	-10	625	-5
Victoria Road				
– east of Church Street	2,460	-10	2,280	-15
– east of Site Access	1,320	-5	1,305	-20
– east of Villiers Street	1,330	+5	1,340	-5
– west of Villiers Street	1,135	-10	1,055	-20
Ross Street				
– east of Church Street	75	+0	110	+0
– east of Site Access	155	+5	165	+10
– east of Villiers Street	145	+20	165	+30
– west of Villiers Street	345	+5	130	+5
Villiers Street				
– north of Ross Street	650	+0	495	+5
– north of Victoria Road	535	+15	510	+20
– south of Victoria Road	680	+0	745	-10
Site Accesses				
– Ross Street	125	+25	135	+40
– Victoria Road	115	-30	140	-70

3.29 Examination of Table 3.1 reveals that:

- Traffic flows on Church Street would increase by up to 20 vehicles per hour (two-way) in the weekday morning and afternoon peak periods;

- Traffic flows on Victoria Road would generally decrease by 5 to 20 vehicles per hour (two-way). This reduction is due to the closure of the exit movements at the site access to Victoria Road;

- Traffic flows on Ross Street would increase by some 5 to 30 vehicles per hour (two-way) in the weekday morning and afternoon peak periods;

- Traffic flows on Villiers Street, north of Ross Street, would increase by some 5 to 20 vehicles per hour (two way) in the weekday morning and afternoon peak periods;

- Traffic flows at the Ross Street access would increase by some 5 to 30 vehicles per hour (two-way) in the weekday morning and afternoon peak periods; and

- Traffic flows at the Victoria Road access would decrease by up to some 70 vehicles per hour (two-way) in the weekday morning and afternoon peak periods. This reduction is due to the removal of the movements at this access.

3.30 The six intersections analysed have been reanalyzed using SIDRA with development traffic in place and the redistribution of existing traffic. The analysis found that:

- The signalised intersection of Church Street with Victoria Road would continue to operate with average delays of less than 40 seconds per vehicle during peak periods. This represents a level of service C, a satisfactory level of service;

- The signalised intersection of Victoria Road with Villiers Street would continue to operate with average delays of less than 40 seconds per vehicle during peak periods. This represents a level of service C, a satisfactory level of service;

- The roundabout intersection of Ross Street with Villiers Street would continue to operate with average delays for the highest delayed movement of less than 10 seconds per vehicle during peak periods. This represents a level of service A, a good level of service;

- The priority controlled intersection of Church Street with Ross Street would continue to operate with average delays for the highest delayed movement of less than 10 seconds per vehicle during peak periods. This represents a level of service A, a good level of service;

- The Ross Street access would continue to operate with average delays for the highest delayed movement of less than 10 seconds per vehicle during peak periods. This represents a level of service A, a good level of service; and

- The Victoria Road access would improve its operation with average delays for the highest delayed movement of less than 10 seconds per vehicle during peak periods (a decrease in delay of some 30 seconds per vehicle). This represents a level of service A, a good level of service.

3.31 Therefore, the surrounding road network will accommodate the traffic from the proposed development. As noted previously the changing of Victoria Road access to entry only (from entry/exit) will result in:

- no change to vehicle queues on Victoria Road; and

- an overall improvement as no vehicles will be exiting onto Victoria Road.

3.32 Council in pre-submission discussions requested that the traffic effects of the planning proposal on the redevelopment of Parramatta Stadium and the Light Rail project be considered. We understand concern was raised with regard to the potential conflict between pedestrian and vehicle movements at the Victoria Road access. As part of the planning proposal, the Victoria Road access will be changed from entry/exit to entry only. This combined with the overall reduction in McDonald's traffic generation results in reduction in vehicles using the Victoria Road access by some 25%. Thus the potential for pedestrian/vehicle conflict at this driveway will be reduced compared to the existing situation.

3.33 As requested by TfNSW the traffic effects of the proposed development on the road network following completion of the PLR has been assessed. The EIS for the PLR identified the following changes to the road network in the vicinity of the site:

- banning of the right turn on the Church Street northern approach at the intersection with Victoria Road; and
- right turn only from the Church Street southern approach at the intersection with Victoria Road.

3.34 SIDRA analysis has been undertaken to take into account the changes at the intersection of Church Street/Victoria Road, 2026 traffic flows as set out in the PLR EIS and traffic from proposed development redistributed (taking into account changes to the road network and access arrangements). The results are set out below:

- The signalised intersection of Church Street with Victoria Road would operate with average delays of some 40 seconds per vehicle during peak periods. This represents a level of service C, a satisfactory level of service;

- The signalised intersection of Victoria Road with Villiers Street would continue to operate with average delays of less than 40 seconds per vehicle during peak periods. This represents a level of service C, a satisfactory level of service;

- The roundabout intersection of Ross Street with Villiers Street would continue to operate with average delays for the highest delayed movement of less than 10 seconds per vehicle during peak periods. This represents a level of service A, a good level of service;

- The priority controlled intersection of Church Street with Ross Street would continue to operate with average delays for the highest delayed movement of less than 10 seconds per vehicle during peak periods. This represents a level of service A, a good level of service;

- The Ross Street access would continue to operate with average delays for the highest delayed movement of less than 10 seconds per vehicle during peak periods. This represents a level of service A, a good level of service; and

- The Victoria Road access would improve its operation with average delays for the highest delayed movement of less than 10 seconds per vehicle during peak periods (a decrease in delay of some 30 seconds per vehicle). This represents a level of service A, a good level of service.

3.35 In summary the SIDRA analysis found similar results to the previous analysis. It should be noted that the proposed development will have similar traffic generation to the existing uses on the site.

3.36 With respect to the second point raised by TfNSW we note the assessment requested would be appropriate for new development that generates significant additional traffic compared to existing uses on the site. However the planning proposal would result in the same or less traffic compared to the existing uses on the site. Thus the measures PLR propose to manage access to the site (for the existing situation) during construction and operation would apply to the planning proposal. Nonetheless it is noted that the site has frontage to three roads (Ross Street, Church Street and Victoria Road) and access to Victoria Road and Church Street. Thus access to the site would be maintained, should works along the PLR corridor (Church Street) affect access to Victoria Road or Ross Street.

Summary

3.37 In summary, the main points relating to the updated transport assessment of the planning proposal are as follows:

i) the planning proposal is for a mixed use development comprising residential, commercial/retail and a relocated McDonald's;

ii) the site is well located to existing and future transport services which will:
   - improve the choice of transport and reduce dependence solely on cars for travel purposes;
   - moderate growth in the demand for travel and the distances travelled, especially by car;

- support the efficient and viable operation of public transport services; and
- provide the opportunity to provide a balanced level of on-site parking that also meets the demands for travel outside of the commuter peak periods.

iii) the site is serviced by existing bicycle paths and pedestrian facilities;

iv) the proposed parking provision is consistent with the rates suggested by Council;

v) access, servicing and internal layout will be provided in accordance with AS 2890.1 - 2004, AS 2890.2 – 2002 and AS2890.6 - 2009;

vi) the planning proposal would result in a reduction (compared to the existing situation) of some 4 and 28 vehicles per hour (two way) in the weekday morning and afternoon peak hours respectively ;

vii) the change to the Victoria Road access from entry/exit to entry only will result in a 25% reduction in traffic using this access;

viii) the surrounding road network will accommodate the traffic from the planning proposal; and

ix) the matters raised by TfNSW have been addressed.

Location Plan

Colston Budd Rogers & Kafes Pty Ltd

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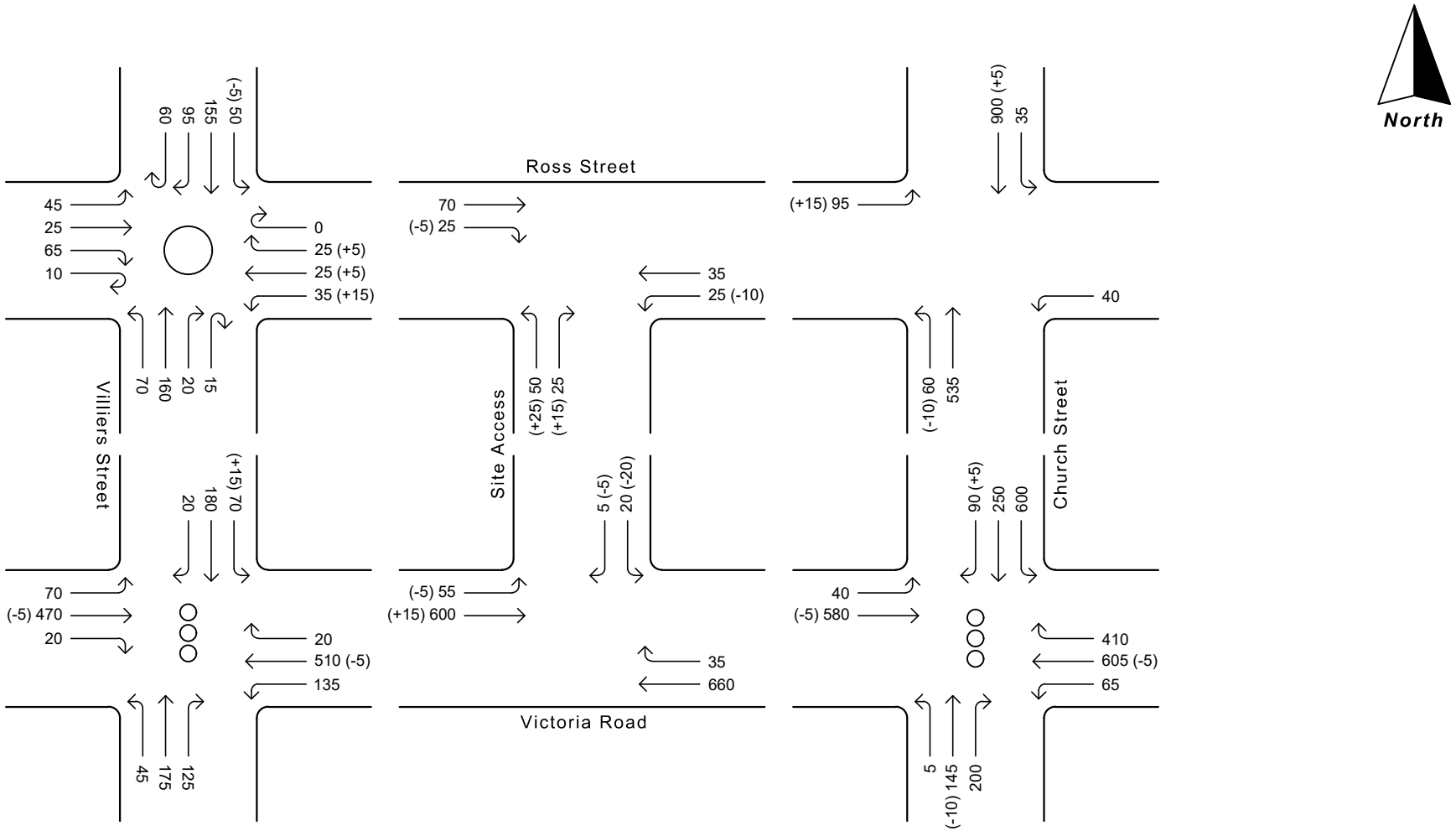
Figure 1



LEGEND

100 - Existing Peak Hour Traffic Flows
(+10) - Additional Development Traffic
- Traffic Signals
- Roundabout

Existing weekday morning peak hour traffic flows plus development traffic

Figure 2

Colston Budd Rogers & Kafes Pty Ltd

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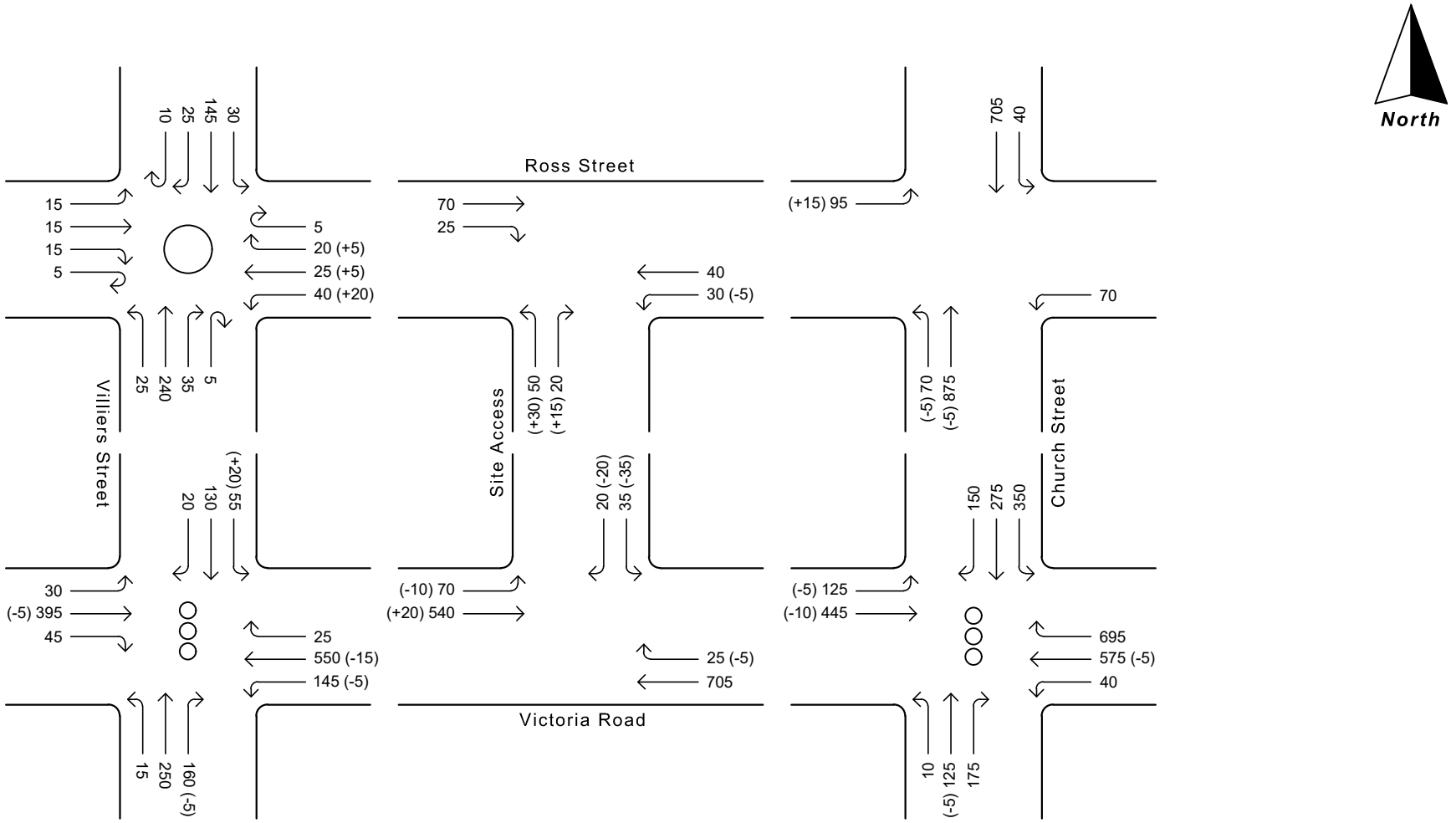

LEGEND

100 - Existing Peak Hour Traffic Flows
(+10) - Additional Development Traffic
- Traffic Signals
- Roundabout

Existing weekday afternoon peak hour traffic flows plus development traffic

Figure 3

Colston Budd Rogers & Kafes Pty Ltd

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Parramatta Light Rail - Preferred Route

Colston Budd Rogers & Kafes Pty Ltd

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Figure 4