
From: Talofa Pouli
Sent: 17/06/2025 10:49:16 AM
To: Council Northernbeaches Mailbox
Subject: TRIMMED: DA2025/0132 - Second submission on behalf of the Owners of Strata Plan 83233, 41 Roseberry Street (ABN 28727137237).
Attachments: Objection Submission - DA20250132 - Strata Plan 83233 (41 Roseberry St).pdf;

Dear Claire,

Please find attached, the second submission on behalf of the Owners of Strata Plan 83233, 41 Roseberry Street (ABN 28727137237) opposing DA2025/0132.

We note that since the closure of the second public exhibition window the Applicant (McDonalds) has resubmitted its SIDRA modelling. We have consulted with independent traffic engineers (McLaren Traffic) who have advised that although the results of the amended SIDRA file are more favourable than the existing SIDRA file, the overall assessment and traffic model parameters of both files are incorrect. We have therefore not undertaken a detailed comparison of both files as they are wrong in the first instance. The shortfalls of the first model are still the same shortfalls in the second model (i.e. signal phasing and cycle time assumptions are wrong, no evidence of any calibration, pedestrian actuation has been altered, incorrect traffic generation assumptions etc.).

This email should be taken to form part of the Strata's submission.

Please can you confirm receipt of the attached.

Kind Regards

Talofa Pouli
Strata Manager
[REDACTED]

lamb & walters
Strata Management

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16 June 2025

Ref: 25683

**General Manager
Northern Beaches Council
PO Box 82
MANLY NSW 1655**

Att: Claire Ryan

PO Box 7277 Alexandria Business Centre NSW 2015

Dear Claire,

**Submission – DA2025/0132, Review of Amended Plans
Proposed McDonalds, 37 Roseberry Street, Balgowlah**

We write on behalf of the owners of Strata Plan (SP) 83233, 41 Roseberry Street and 76-80 Kenneth Road Manly Vale (ABN 28727137237). SP 83233 directly adjoins and overlooks the land that is subject to the proposed development application No. 2025/0132. Therefore, the owners of SP 83233 have a direct interest in the outcomes for the land subject to the DA.

You will recall that we made a submission on behalf of SP 83233 dated 13 March 2025 where we objected to the proposed development on behalf of the SP based on a number of concerns.

We are now making a second submission based on the submission of amended plans and documents by the applicant. The documents reviewed are as follows:

Amended Architectural drawings:	Webber Architects, BIOMOD 380, May 2025
Amended Acoustic Report:	IMAC Acoustic, 21 March 2025
Response to RFI:	SLR Consulting – 13 May 2025
Amended Traffic Impact Assessment:	Colston Budd Rogers& Kafes Pty Ltd, 14 May 2025

By making this additional submission, I confirm that neither I, nor any associate within the period commencing 2 years before the date of this submission, has made any:

- (a) reportable political donations to any local councillor of the Northern Beaches Council
- (b) gifts to any local councillor or employee of the Northern Beaches Council.

We have reviewed the amended plans and documents. They fail to address the concerns previously raised. Therefore we repeat our objection to the proposed development (as amended).

The grounds of the new objection (and particularly as assessed against the previous objection) are presented below.

1. The development application is incomplete, and Council cannot be satisfied that an adequate environmental assessment has been undertaken as required by S.4.15 of the Environmental Planning and Assessment Act 1979.

In this objection we raised concerns that the site and context analysis and assessment of the proposed development included in the development application that had been provided to Council was inadequate.

The amended documents, and in particular the response to the RFI prepared by SLR Consulting, do not present additional analysis and assessment to address this objection.

The SLR response merely refers to the amended plans and, with regard to its assessment against the RFI, it merely repeats the description of the amendment. It fails to assess the impact of the amendment. For example with regard to Items 1 to 4 there is no explanation as to “how” the amendments address the concerns raised.

Furthermore, in the response to Item 5 (Traffic) the response advises that “*a design for a proposed round-a-bout at Roseberry Street and Hayes Street is provided. Detailed designs of the round-a-bout will be provided to Council post consent.*”

The deferring of such a fundamentally important component of the proposed development to a post approval period (I assume prior to CC) is clearly unacceptable. This is particularly so when Council’s own investigation considers that the roundabout cannot be accommodated in the location proposed. Council, as consent authority, has no certainty that any condition imposed of this nature can be satisfied.

Furthermore, a review of the proposed plans on pages 13 and 14 of the amended traffic impact assessment clearly show the provision of the roundabout is achieved at the expense of pedestrian amenity, a risk to existing driveways and the need for awkward and unconventional turning movements (swept paths).

The assessment of submissions in Table 2 of the RFI response is also inadequate as it does not address the concerns raised by the owners of SP 8322. Some concerns that we would have expected to be addressed in Table 2 include lack of suitability of the proposed location, the inadequately formed development application, odour and light spill impact.

Thus we repeat our concern and objection that the development application is not thorough. It has not met the requirements in the EPA Act and the EPA Reg and this is a jurisdictional precondition that needs to be satisfied in order for Council (or the Panel) to be able to exercise the function of determining the development application.

2. The proposed development is inconsistent with the Objectives of the 'E3 Productivity Support' zone.

We note that amendments are shown conventionally in bubbles in the amended architectural plans. However no schedule of amendments that describe the changes are provided as would be expected. Therefore it is unclear what changes have been made and the implications of those changes cannot be determined. The RFI response does not provide this information.

The proposed reduction in scale as noted in the RFI response in the discussion in RFI item 1 is not apparent to us. The amended proposed development remains a homogeneous highway oriented drive through fast food building dominated by surface car parking to all boundaries, prominent advertising signage, long twin drive-thru lanes and excessive building setbacks.

It is inconsistent with the adjoining residential environment. It does not demonstrate *"a high visual quality that relates favourably in architectural and landscape treatment to neighbouring land uses and to the natural environment"* (Objective 1 of the 'E3 Productivity Support' zone).

The proposed reduction in hours of operation to midnight and the reduction in the amount of signage do not alleviate the impacts from the site's location in a transition area between commercial and residential use. While the business may close at midnight to public access, it will continue to operate after that time with staff cleaning, preparing for the next day, removing rubbish and departing.

The potential for impacts by a traffic generating operation that attracts customers travelling by car late at night and that includes the illumination of signage until closure is not addressed by the reduction in hours of operation to midnight.

Midnight IS the middle of the night. At midnight, and, in fact much early in an evening, residents have a reasonable right to expect quiet enjoyment in a residential area.

This concern, and objection, remains. The site is evidently unsuitable and inappropriate for the proposed use.

It does not demonstrate any minimisation of *"conflict between land uses in the zone and adjoining zones and ensure the amenity of adjoining and nearby residential land uses."* (Objective 2 of the 'E3 Productivity Support' zone).

3. The site of the proposed development is a residential transition zone, rather than a highway oriented site, and thus the proposed development is inappropriate located.

We will not repeat the details of the objection here. However, as noted above, the proposed amendments do not address the primary concern that the site of the proposed development is located in a sensitive transition zone between commercial and residential use and fails to achieve the E3 zone objectives.

Any commercial use in the site should ordinarily be expected to address Condamine Street and make efforts to essentially “turn its back” on the residential living environments to the rear.

The proposed development does not do this. On the contrary, it encroaches into the residential living environment. This concern, and objection, remains. The site is poorly located for the proposed development.

4. No evidence has been provided to confirm that the proposed development will not have unreasonable lighting impact on the adjoining residential use in land owned by SP 83233 and the amenity of the area.

In our first objection we noted that:

- a) The proposed drive thru-fast food restaurant seeks to operate 24 hours, 7 days a week.
- b) No external lighting impact report has been prepared in support of the development application.

As noted above, the minor reduction in signage and amendments to the hours of operation do not address one of the prominent characteristics of the proposed development; that being its bright commercial lighting that will emanate from the premises, illuminating the surrounding local environment, well after the hours of bedtime for most households in the adjoining residential area.

This is particularly concerning as the lighting will be designed with a prominence to attract custom from Condamine Street, distant from the site.

Furthermore, to assist in our understanding of this potential impact, we requested the submission of a lighting assessment report. The submission of a report in circumstances such as this proposed development is not an uncommon or unreasonable request.

The applicant has obviously declined to provide this information. This concern, and objection, remains.

5. No evidence has been provided to confirm that the proposed development will not have unreasonable acoustic impacts on the adjoining residential use in land owned by SP 83233 and the amenity of the area.

In our first objection we noted that:

- a) While the Acoustic report acknowledges the presence of noise receivers in SP 83233, it fails to assess the following potential noise impacts of night time users of the car park: vehicle noise (engine revving, tyre screeching); amplified music; customer congregation and anti-social behaviour (often induced by excessive alcohol or drug consumption).

The addendum report does not address this and defends its position on this matter by arguing that *“Furthermore, the existing ambient noise levels in the area are considered to be high given the proposed operation is in the E1 local centre, with continuous traffic flows being the dominant noise source during all periods.”*

We have significant concerns with this statement as:

- The site is zoned E3, not E1; and
- The background noise results in Appendix C of the original Acoustic report (Location L1) do not appear to support the claim that there are continuous traffic flows with resultant background noise. The results appear to illustrate a decline in the evening. This is particularly evident on a Sunday night.
- While the business may close at midnight to public access, it will continue to operate after that time with staff cleaning, preparing for the next day, removing rubbish and departing.

Furthermore, it is inappropriate to defer consideration of the issue to post approval reviews as has been suggested. To do this would introduce uncertainty to the outcome of the consent, which is inconsistent with the terms of the EP& A Act.

The objection remains.

6. No evidence has been provided to confirm that the proposed development will not have unreasonable odour impacts on the adjoining residential use in land owned by SP 83233 and the amenity of the area.

None of the amended plans or supporting documents appear to address this concern. The objection remains.

7. No evidence has been provided to confirm that the proposed development will not generate unreasonable crime and safety impacts on the adjoining residential use in land owned by SP 83233 and the amenity of the area.

None of the amended plans or supporting documents appear to address this concern with the exception of the proposed reduction in hours of operation. No evidence is provided to confirm that this impact has been addressed by the proposed amendment.

The owners of Strata Plan (SP) 83233 also ask whether Council has liaised with Police or NSW Crime Prevention to properly assess whether the McDonalds will have additional crime impact on the area, given their observation that crime at the Brookvale McDonalds has been widely reported in the media.

The objection remains.

- 8. No evidence has been provided to confirm that the proposed development will not generate unreasonable traffic impacts on the adjoining residential use in land owned by SP 83233 and the amenity of the area.**

McLaren Traffic Engineering has undertaken a peer review of the proposed McDonalds completed by CBRK. The findings of the peer review are detailed within its report contained in **Attachment 1** to this letter. The peer review indicates that the assessment is substandard for fourteen reasons.

The owners of Strata Plan (SP) 83233 also seek further detail as to why Transport for NSW has rejected the request for a review given the traffic report underestimates traffic counts as reported by the Council's Traffic Engineer and corroborated by the McLaren Traffic peer review in **Attachment 1**.

The objection remains.

- 9. Insufficient information has been provided to enable a sufficient and appropriate level of assessment of the impacts of the proposed development.**

None of the amended plans or supporting documents appear to address this concern. The objection remains.

- 10. Approval would not be in the Public Interest.**

None of the amended plans or supporting documents appear to address this concern. The objection remains.

We trust this information is sufficient for your purposes. I look forward to hearing from you, and should you also require any further details or clarification, please do not hesitate to contact me.

Yours sincerely,
INSPIRE URBAN DESIGN + PLANNING PTY LTD

A handwritten signature in black ink, appearing to read 'S. McMahon', with a long horizontal flourish extending to the right.

Stephen McMahon
Director

ATTACHMENT 1

McLaren Traffic Engineering peer review of the proposed
McDonalds completed by CBRK.

M^CLAREN TRAFFIC ENGINEERING

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Division of RAMTRANS Australia ABN: 45067491678 RPEQ: 19457

Transport Planning, Traffic Impact Assessments, Road Safety Audits, Expert Witness

5 June 2025

Reference: 250480.01FA

General Manager
Northern Beaches Council
c/o The Owners - Strata Plan No. 83233

PEER REVIEW OF THE PROPOSED MCDONALDS (DA2025/132) AT 37 ROSEBERRY STREET, BALGOWLAH

Dear General Manager – Northern Beaches Council,

Reference is made to provide a peer review of the *Colston Budd Rogers & Kafes (CBRK)* letter of response titled “*RE: Proposed McDonald’s, 37 Roseberry Street, Balgowlah – Further Response to Traffic Matters*” (presented in **Annexure A**), hereafter referred to as the **CBRK Letter**. The subject **CBRK letter** was prepared in response to Northern Beaches Council’s request for additional information titled “*Traffic Engineer Referral Response*” for DA2025/0132. This letter should be read in conjunction with *M^CLaren Traffic Engineering’s (MTE)* previous development review titled “*Submission of Objection – DA2025/0132, Proposed McDonalds, 37 Roseberry Street, Balgowlah*” dated 13 March 2025 (document reference: 250154.01FB), hereafter referred to as the **MTE Letter**.

1 EXECUTIVE SUMMARY

M^CLaren Traffic Engineering has undertaken a peer review of the proposed McDonalds completed by *CBRK*. The findings of the peer review are detailed within **Section 2** of this report and indicated that the assessment is substandard for the following reasons:

- A. The site peak traffic generation rates should be utilised for assessment of the future development as traffic surveys indicate that the network peak period occurs between 3-4pm, coinciding with school pick-up periods.
- B. As a result, the future traffic generation of the development is underestimated by some **58** trips in the weekday PM period and **78** trips in the Saturday Midday period, resulting in an inadequate assessment of future conditions.
- C. The additional vehicle trips (whether pass by or external) would further exacerbate the performance of the Kenneth Road approach, which is already performing with a LoS “F” conditions with unacceptable delays and excessive queueing.
- D. The proposed McDonalds would generate over 200 vehicle trips during the Saturday Midday, triggering *Clause 2.122* of the *State Environmental Planning Policy (Transport and Infrastructure) 2021*. This development application should therefore be referred to *Transport*

for NSW for comment. It is noted that the proposed access is approximately 130m from the intersection of Kenneth Road to Condamine Street.

- E. No evidence is provided that the SIDRA model of Condamine Street / Kenneth Avenue is calibrated to the existing phase durations and cycle times is provided.
- F. No evidence is provided that the SIDRA model of Condamine Street / Kenneth Avenue is calibrated to the existing queue lengths.
- G. There is no confidence that the traffic model outputs contained within the CBRK Letter are accurately reflective of existing and future (post development) conditions.
- H. No raw turning movement count data is provided. The raw data of the turning movement volumes for the surrounding road network should be provided, with an indication on the time that the peak hour period occurred for the weekday and weekend survey periods.
- I. The application of passing trade is incorrect resulting in an inadequate traffic distribution and assignment of future traffic volumes to the surrounding road network.
- J. Further evidence is required to justify input parameter changes to the SIDRA model, particularly regarding pedestrian actuation and arrival types.
- K. The traffic impact assessment undertaken of the proposal is underestimated and not reflective of the existing and future conditions.
- L. It is recommended that a road safety audit is undertaken for the integration of the proposed roundabout at Hayes Street / Roseberry Street, with considerations to the geometry of the proposed roundabout (including approach deflection angles, roundabout diameter, vehicle manoeuvrability and approach sight distances).
- M. It is recommended that swept paths are undertaken of the proposed service vehicle and Council's waste collection vehicle to determine if the roundabout requires the restriction of use from larger vehicles.
- N. It is recommended that swept paths are undertaken of the proposed roundabout utilising the recommended checking vehicle under *AUSTROADS Design Vehicle and Turning Path Templates Guide*.

2 DETAILED AND TECHNICAL PEER REVIEW FINDINGS

2.1 TfNSW Traffic Generation Rates – Site Peak Hour vs. Network Peak Hour

- A. Traffic generation rates utilised within the **CBRK Letter** are considered not accurate for the context and locality of the subject site, resulting in an inaccurate traffic impact assessment.
- B. The survey data which underpins the TfNSW traffic generation rates for McDonalds is contained within two (2) documents created by *Bitzios Consulting*, and are as follows:
 - o “*Trip Generation and Parking Demand Surveys of Fast Food Outlets Data Report*” dated 13 September 2016, hereafter referred to as the **Bitzios Data Report**;
 - o “*Trip Generation and Parking Demand Surveys of Fast Food Outlets Analysis Report*” dated 13 September 2016, hereafter referred to as the **Bitzios Analysis Report**.
- C. The **Bitzios** surveys conducted for McDonalds located within Sydney Metropolitan areas indicate that the ‘site peak’ traffic generation generally coincides with afternoon school pick-up periods (between 3-4pm).
- D. **MTE** commissioned an independent traffic surveyor to undertake traffic turning movement count surveys of the surrounding intersections. The time in which the **CBRK** counts were undertaken is unknown.
- E. The **MTE** turning movement count traffic surveys undertaken for the previous **MTE Letter** indicates that the network peak of the surrounding road network occurs between 3-4pm on the major weekdays, coinciding with both the typical McDonald’s ‘site peak’ and with the pick-up periods of the nearby schools, notably Manly West Public School (Final Bell time of 3:20pm), Manly Vale Public School (Final Bell time of 3:00pm) and McKellar Girls Campus (Final Bell time of 3:14pm).
- F. It is acknowledged that the **CBRK Letter** references the ‘network peak’ traffic generation rates for the weekday PM and Saturday periods. For this subject development, **MTE** disagrees with **CBRK**’s use of the ‘network peak’.
- G. The ‘site peak’ traffic generation of the surveyed McDonalds developments within Sydney Metropolitan areas from the **Bitzios Analysis Report** is reproduced in **Table 1** below, with the complete data summary presented in **Annexure B**.

TABLE 1: SYDNEY METROPOLITAN – SUMMARY OF MCDONALD’S SITE PEAK HOUR TRAFFIC GENERATION FROM BITZIOS

Site	Weekday PM		Saturday Midday	
	Site Peak Period	Vehicles per hour	Site Peak Period	Vehicles per hour
Northmead	15:00 – 16:00	160	11:15-12:15	158
Liverpool	15:00 – 16:00	272	12:45 – 13:45	254
Rosehill	15:15 – 16:15	194	13:00 – 14:00	240
Stanmore	15:00 – 16:00	214	12:45 – 13:45	388
Haberfield	15:00 – 16:00	148	11:00 – 12:00	250
Average	-	198	-	258

- H. **MTE** insists that the ‘site peak’ traffic generation rate is applicable to the subject McDonalds based on the following reasons:
 - o The network peak occurs during the afternoon school pick-up periods (3-4pm);
 - o There are several public schools within close proximity of the subject site;

- The **Bitzios Analysis Report** states “major weekday site peaks generally occur in the afternoon and correspond with school pick up, occurring before network evening peak periods”.
- I. A traffic generation rate of **198** vehicle trips during the weekday PM peak hour period and **258** vehicle trips during the Saturday Midday period is most applicable to the subject McDonald’s and will result in a traffic model that is most likely representative of future conditions. It is noted that CBRK has adopted a weekday PM traffic generation of **140** trips, and Saturday Midday traffic generation of 180 vehicle trips. This is a difference of some **58** trips in the weekday PM period and **78** trips in the Saturday Midday period, resulting in a traffic model that is inaccurate.
- J. As recommended by the **Bitzios Analysis Report**, McDonald’s has a baseline trip generation rate of 183 vehicle trips during the PM network peak hour.
- K. This should be the minimum vehicle trips assessed in any traffic modelling of the future impact to the surrounding road network during the weekday. During the weekend, it is considered appropriate to utilise the average result of the vehicle trips recorded in **Table 1**.
- L. The **CBRK Letter** utilises **140** vehicle trips during the weekday PM period and **180** vehicle trips during the Saturday Midday period. This is a difference of some **58** trips in the weekday PM period and **78** trips in the Saturday Midday period, resulting in a traffic model that is inaccurate.

2.2 Validation of Traffic Surveys Previously Undertaken by CBRK

- A. The **CBRK Letter** does not provide an indication on what peak hour periods were captured for their turning movement count traffic survey and have assumed that the ‘network peak’ traffic generation applies. In **MTE** view this is not accurate.
- B. The traffic surveys previously undertaken as a part of the **MTE Letter**, indicates the network PM peak hour period occurs between 3-4PM.
- C. Considering that the network peak hour occurs with the expected site peak hour of the McDonalds, the traffic generation of the proposed McDonalds is underestimated within the **CBRK Letter**, resulting in a traffic model that is inaccurate.
- D. As a result, the resulting SIDRA traffic results are considered to not encompass the expected traffic generation of the proposed McDonalds.
- E. **MTE** recommends the provision of raw traffic turning movement survey data and the associated phase and cycle time recordings for the periods modelled within the **CBRK Letter**. The provision of this data will ensure an accurate assessment of the CBRK Model, and provide confidence on the existence of any model calibration undertaken.

2.3 Traffic Assignment and Passing Trade

- A. It is acknowledged that as a result of the proposed centreline median, the traffic assignment of the inbound and outbound vehicles is changed, as vehicles can no longer make a right turn into or out of the site.
- B. Figure 1 and Figure 2 of the **CBRK Letter** details the addition of ‘external trips’ to the existing traffic volume diagram. However, the distribution of these external trips does not appear to consider the ‘passing trade’ traffic from Condamine Street or the surrounding residential street. The Figures indicate that there are a total of 140 vehicle trips (70 inbound, 70 outbound) during the Weekday PM Peak hour and 180 vehicle trips during the Saturday Midday peak hour from the proposed site access.

- C. It is understood that the **CBRK Letter** has applied a 50% passing trade factor which is appropriate for McDonalds, resulting in 70 'external' vehicle trips (35 in, 35 out) and 70 'passing trade' vehicle trips (35 in, 35 out).
- D. Although passing trade vehicle trips account for the vehicles who may divert into the McDonalds as a part of their primary journey (i.e. journey home from work), it is unreasonable to not consider them at all to the added turning movements as result of diverted trips to/from the subject site.
- E. Considering the proximity of Condamine Street, the arterial road, it reasonable that a larger volume of the 'passing trade' traffic would be associated with the vehicles travelling 'through' the signalised intersection of Condamine Street / Kenneth Road.
- F. Vehicles would divert from Condamine Street via a left or right turn, then turn right at the roundabout of Kenneth Road / Roseberry Street, before undertaking a U-turn at Hayes Street / Roseberry Street and turning left into the proposed McDonalds, adversely impacting the surrounding road network.
- G. The outbound trips would then be redistributed, adding further demand onto the surrounding road network including the signalised intersection of Condamine Street / Kenneth Road, where the eastern approach is already at failure. It is noted that **ALL** vehicles are required to turn left due to the centreline median, adding additional demand to the Kenneth Road intersections which have already been identified as being at capacity in terms of traffic volumes during peak periods in the **MTE Letter**.
- H. Based on the interpretation of the **CBRK Letter**, it appears that the passing trade traffic has not been distributed appropriately to/from the proposed McDonalds, resulting in a 50% underestimation in the turning volumes at the signals. Vehicles exiting the site are not simply merging back onto the arterial road, as the proposed development does not have vehicular access via Condamine Street.
- I. The traffic generated by the proposed McDonalds has not been adequately considered in the traffic model and passing trade has been applied incorrectly within the SIDRA traffic models, resulting in an inaccurate traffic model that is not reflective of future conditions as a result of the proposed McDonalds.

2.4 No Evidence of SIDRA Traffic Model Calibration – Signal Phasing

- A. There is no evidence that any validation of the phase durations and cycle times has been undertaken for the signalised intersection of Condamine Street / Kenneth Avenue. The **CBRK Letter** simply states that the SIDRA traffic model has been calibrated to the phase durations and cycle times. **CBRK** has not provided a calibration report, which is required in these circumstances. There is no confidence that the outputs of the SIDRA models are accurate, nor should they be considered reflective of future conditions.
- B. The validation of phase duration and cycle times was undertaken as a part of the review of the initial application. **MTE** concluded that the average cycle times were 138 seconds during the Friday PM peak hour period, 135 seconds during the Saturday Midday Period, and 133 seconds during the Wednesday PM peak hour period.
- C. The SIDRA model outputs contained within the **CBRK Letter** indicates that the traffic models ran with 120 seconds cycle time during the weekday and weekend peak hour periods, which is not consistent with **MTE** observations from video footage.

- D. Therefore, in the opinion of **MTE**, the traffic modelling contained within the **CBRK Letter** is inadequate and does not reflect the existing conditions of the signalised intersection of Condamine Street / Kenneth Road. Subsequently, the traffic modelling of the surrounding road network under future conditions do not accurately reflect the impact of the proposed McDonalds.
- E. Further it is noted that the **CBRK** and **MTE** SIDRA Models do not run the same phases. It is unclear as to what phases actually ran during the traffic survey of the **CBRK Letter**. The phases in the **MTE** model are validated through observations of the video footage for each survey peak period. Ensuring that the correct signal phases are ran within the model is of such importance, that utilising incorrect phasing would render any assessment inaccurate and therefore void.

2.5 No evidence of SIDRA Traffic Model Calibration – Queue Lengths

- A. There is no evidence that the SIDRA Traffic Model for the signalised intersection of Condamine Street / Kenneth Road has been adequately calibrated to the existing average and 95th percentile queue lengths. The **CBRK Letter** simply states that the SIDRA traffic model has been calibrated to the queue lengths.
- B. The **CBRK Letter** correctly states that the 95th percentile queue extends past the roundabout of Roseberry Street / Kenneth Road.
- C. **MTE** recommends the provision of raw traffic turning movement survey data and queue length validation. Typically, queue lengths are provided in the form of numerical recordings, whether from the traffic surveyor from the data or the survey or images obtained from footage during the survey of the queue lengths at all approaches. **CBRK** has not provided a calibration report, which is required in these circumstances.
- D. Calibration ensures that the traffic model of existing conditions is reflective of actual conditions. In this case, it is significant to ensure that the model is accurate as it has the potential to adversely impact Condamine Street, a TfNSW Classified STATE Road (No. 164). There is no confidence that the **CBRK Letter** traffic model is adequately calibrated.

2.6 CBRK SIDRA INTERSECTION Model – MTE Assessment of Traffic Model

- A. Following Northern Beaches Council's request for additional information, **CBRK** was required to provide the SIDRA INTERSECTION 9.1 traffic modelling file. **MTE** has assessed the file and found that input parameters related to bunching, arrival types and pedestrian actuation were adjusted which have the potential to alter traffic model outputs. **MTE** has the following comments to make:
- **MTE** generally agrees with the geometry and layout of the intersections modelled;
 - **MTE** agrees that bunching factors can be applied to the approaches to the signalised intersection;
 - Evidence is required in the use of "Type 5 – Highly Favourable" arrival type for the southern approach to the signals, as this is generally representative of more than 80% of the traffic volume arriving at the start of the green period, which was not strictly observed by **MTE**. This parameter has the potential to reduce the queue length output within SIDRA, particularly for the Condamine Street (S) approach, and evidence that the signalised intersections are coordinated along the Condamine Street corridor is required to adjust this parameter;

- **MTE** questions why the pedestrian actuation ratio was changed from 100% to 75%. Evidence is required to justify the reduction of this parameter. Indeed, the McDonalds would likely generate more persons trips from the surrounding local catchment area, which would not reduce pedestrian actuation at the signals.

2.7 SIDRA INTERSECTION – CBRK and MTE Movement Summary Output Comparison

- A. **MTE** has previously conducted an updated SIDRA INTERSECTION assessment of the road network with considerations to the future development traffic, in the previous March 2025 **MTE Letter**. Although the traffic assignment of the general network has changed due to the proposed centreline median, the traffic assignment at the signalised intersection still remains the same. A comparison of the results for the signalised intersection of Condamine Street / Kenneth Avenue under future (post-development) conditions has been undertaken, with a summary shown.

TABLE 2: CONDAMINE STREET / KENNETH AVENUE – SIDRA COMPARISON

Model Period	Overall Level of Service		Individual Turning Movements for the <u>Eastern Approach</u> to the Signalised Intersection of Condamine Street and Kenneth Avenue.					
	MTE	CBRK	Left Turn		Through		Right Turn	
			MTE	CBRK	MTE	CBRK	MTE	CBRK
Weekday PM Peak	D	C	D	B	F	C	F	E
Saturday Midday Peak	D	C	D	B	F	C	F	F

- B. In general, the results of the MTE model indicate that the signalised intersection performs at an LoS “D” during the weekday and Saturday peak hour periods, and that the eastern approach to the signalised intersection is at capacity with extended queueing through the Kenneth / Roseberry roundabout, as evident by a Level of Service (LoS) “F” (worst performance) in **Table 2** above for the right and through movements.
- C. It is reiterated that the east approach, particularly the through and right turn movements operate with a LoS “F” and any minor increases to this approach are to likely exacerbate the existing queueing and delay conditions. The **CBRK Letter** acknowledges that under existing conditions, vehicles already queue passed the roundabout of Kenneth Road / Roseberry Street.
- D. Additionally, it is further reiterated that the **CBRK Letter** traffic assessment underestimates the traffic generation of the site, and indeed an additional **58** trips in the weekday PM period and **78** trips in the Saturday Midday period should be accounted for. The current **CBRK** model is not reflective of existing or future conditions.
- E. In **MTE** view, the eastern approach is at capacity, with excessive delays and queueing during peak hour periods, and cannot accommodate the traffic generation of a potential McDonalds.

2.8 Geometry of Proposed Centreline Median

- A. The proposed centreline median is approximately 410mm in width. It is acknowledged that within Council’s RFI, a median width between 300-500mm was recommended, however, under *AUSTROADS Guide to Road Design Part 3*, the minimum width for any raised median is 500mm, which the centreline median does not achieve. Widening the median to 500mm would result in travel lanes lesser than 3.0m wide or potentially reduce the width of the verge if any kerb setback adjustment were to occur.

2.9 Geometry of Proposed Roundabout at the Intersection of Kenneth Road / Hayes Street

- A. It is recommended that a Road Safety Audit is undertaken by a suitably qualified traffic engineer of the proposed arrangement of the concept roundabout prior to determination of the DA.
- B. It is recommended that the audit also assesses the compliance of the geometry of the roundabout.
- C. No consideration is made to the integration of the roundabout with the surrounding road network and the potential traffic impacts of the Roseberry Street corridor. It is acknowledged that all vehicles accessing the site from the north would require undertake a U-turn at this proposed roundabout, likely to adversely impact traffic midblock capacity further south of the site. Additionally, it should be noted that there is already an existing roundabout at the intersection of Balgowlah Road / Roseberry Street.

2.10 Design Vehicle Swept Path Tests – Inadequate Assessment

- A. It is acknowledged that the **CBRK Letter** provides a swept path assessment of the roundabout concept utilising a B99 vehicle.
- B. A swept path assessment should be undertaken of the roundabout utilising Northern Beaches Council's waste vehicle as a minimum. Questions arise to the proposed approach and departure routes of service vehicles associated with the proposed McDonalds.
- C. Given the industrial context of the surrounding area, Small Rigid Vehicles (SRV) being 6.4m in length, swept path tests should also be tested.
- D. The proposed centreline will restrict the ability for service vehicles to turn right into the site from the north. Service vehicles are required to undertake a U-turn at the proposed roundabout and swept path test results should be provided demonstrating successful circulation.
- E. Similarly, swept path tests should be undertaken of the proposed service vehicle entering and exiting the subject site as a result of the reduced lane width caused by the centreline median.

2.11 Checking Vehicle Swept Paths

- A. Under *AUSTROADS Design Vehicle and Turning Path Templates Guide* dated May 2023, an appropriate checking vehicle must be used to ensure satisfactory operation of larger vehicles circulating public infrastructure.

Please contact the undersigned should you require further information or assistance.

Yours faithfully,
McLaren Traffic Engineering



Craig McLaren FIEAust

RPEQ 19457

Director & Mentor

BE Civil. Grad Dip (Transport Engineering), MITE

TfNSW Accredited Level 3 Road Safety Auditor [1998]

SafeWork NSW Traffic Control Work Training card, [Authorisation number TCT0015914 : Prepare Work Zone (PWZ)]

Expert Traffic Engineering & Road Safety Witness at NSW Land & Environment & NSW Supreme Court



**ANNEXURE A: CBRK LETTER
(AS ATTACHED)**

Colston Budd Rogers & Kafes Pty Ltd

as Trustee for C & B Unit Trust
ABN 27 623 918 759

Our Ref: TR\12473\mc

Transport Planning
Traffic Studies
Parking Studies

14 May, 2025

McDonald's Australia Limited
21-29 Central Avenue
THORNLEIGH NSW 2120

Attention: Stewart Floresta
Email: Stewart.Floresta@au.mcd.com

Dear Sir,

RE: PROPOSED McDONALD'S, 37 ROSEBERRY STREET, BALGOWLAH
FURTHER RESPONSE TO TRAFFIC MATTERS

1. As requested, we have reviewed the traffic matters raised in Council's RFI email dated 11 April 2025. As requested by Council, concept sketches of the following roadworks have been prepared by Entec Consultants to test their feasibility:
 - mini-roundabout at the intersection of Hayes Street/Roseberry Street;
 - a 410 mm wide median (some 27 metres long) along the Roseberry Street frontage of the site; and
 - extension of the left turn lane on the Kenneth Road (east approach) to the intersection with Condamine Street.
2. Copies of these concept sketches are provided in Attachment A. The traffic matters raised by Council and our responses are set out below.

Traffic Generation Rates

Recent documents, including the TfNSW Guide to Transport Impact Assessment, indicate that during peak weekend hours, McDonald's generates 267 vehicle trips. This represents an increase of 87 vehicle trips compared to the CBRK report

Response

3. For food service establishments the TfNSW Guide to Transport Impact Assessment provides sample traffic generation rates for various times (including weekday afternoon and weekend peak hour) for different types of fast food outlets including McDonalds. However, the Guide notes that it is recommended that due to the diversity of characteristics in fast food outlets, when estimating the trip generation, consideration should be given to the following:

Suite 1801/Tower A, Zenith Centre, 821 Pacific Highway, Chatswood NSW 2067
P.O. Box 5186 West Chatswood NSW 1515
Directors - Geoff Budd - Stan Kafes - Tim Rogers - Joshua Hollis ACN 002 334 296
EMAIL: cbrk@cbrk.com.au

- indoor/outdoor seating capacity;
- drive through capacity;
- exposure to frontage traffic;
- visible exposure to passing trade; and
- ease of site access/egress.

4. The proposed McDonald's at Balgowlah was determined to have:

- low to medium seating capacity;
- medium to high drive through capacity;
- no exposure to an arterial road (Condamine Street);
- visible exposure to passing trade (on Kenneth Road and Roseberry Street); and
- restricted ease of access/egress (left in/left out with a median on Roseberry Street as required by Council).

5. To determine appropriate weekday PM network peak hour and Saturday network peak hour traffic generation rates for the proposed Balgowlah McDonald's, a review of the surveys of the five metropolitan McDonald's sites reported in the 2016 study on which the rates set out in the *Transport for NSW Guide to Transport Impact Assessment* are based has been undertaken. The weekday PM and Saturday midday network peak traffic hour traffic generations of the five McDonald sites are summarised in Table I below.

Table I:	Summary of McDonald's Weekday PM and Saturday Midday Road Network Peak Hour Traffic Generations	
Site	Weekday PM (vph)	Saturday Midday (vph)
Northmead	112	148
Liverpool	188	148
Rosehill	172	114
Stanmore	152	238
Haberfield	108	98
Average	146	149

6. Examination of Table I reveals that the average weekday PM and Saturday midday road network peak hour traffic generations of the five metropolitan McDonald's sites was some 140 to 150 vehicles per hour (two way). These are similar or lower to those adopted in the TIA for the proposed Balgowlah McDonald's (140 and 180 vehicles per hour (two way) in the weekday PM and Saturday midday road network peak hours) and the adopted generation rates are considered appropriate to use given the characteristics of the proposed Balgowlah McDonald's.

Traffic Distribution To/From the Development

The guideline states that 51 percent of the trips generated by the McDonald's development are classified as "pass-by trips." This means these trips are already part of the existing travel patterns. To account for this, the traffic generation numbers are halved and then distributed to the north and south. If we want to further reduce the impact on the network, it would involve a double reduction of the numbers, effectively doubling the effect of the pass-by trip

Response

7. The traffic distribution has been revised as a result of access to the site being limited to left in/left out on Roseberry Street as shown in Figures 1 and 2. Some 55% of traffic would arrive from the north and some 45% from the south. 50% passing trade has been applied to traffic turning left into the site from Roseberry Street. Figures 1 and 2 show the following increases in traffic on the adjacent road network in the weekday afternoon and Saturday midday peak hours:

- some 10 vehicles per hour (two way) on Condamine Street;
- some 15 to 25 vehicles per hour (two way) on Kenneth Road; and
- some 50 to 60 vehicles per hour (two way) on Roseberry Street (south of the site access) and some 65 to 85 vehicles per hour (two way) in the short section of Roseberry Street between the site access and Kenneth Road.

Signalised intersection of Condamine Street and Kenneth Road

The intersection is currently operating at maximum capacity based on the observations. It is essential to include calibration and validation for existing scenarios in relation to the observed delays and queues to provide a more accurate assessment. Notably, the eastern approach to the Condamine Street and Kenneth Road intersection is performing at an LoS "F." Any minor increases in traffic volumes associated with the McDonalds development are expected to significantly worsen the performance of this approach. Queuing beyond the Roseberry Street roundabout in the westbound and northbound directions is often observed and although it is noted that modelling has shown several instances of the right turn movement out of Kenneth St being oversaturated queue lengths do not appear to be as extensive as observed noting that the optimal phasing arrangement used may be part of the reason. 95th percentile queue lengths should be reported and not average back of queue. Review the eastern approach to more accurately reflect delays/queueing associated with the right turn bay onto Condamine Street queuing out and blocking access to the through lane

Response

8. The SIDRA modelling has been calibrated against measured cycle/phases times and observed delays and queues with updated movements summaries provided in Attachment B. These report 95% queue lengths and show that for the existing conditions, right turn on the Kenneth Road eastern approach operates at capacity in

the weekday PM and Saturday midday peak hours (LOS E/F) with the 95% queue extending back through the Roseberry Street roundabout.

Investigate an option to allow shifting the centreline and potentially minor road widening and/or minimal removal of parking to allow better separation of right turn movements from the centre (of 3 lanes) westbound and the centre lane eastbound on Kenneth Road and facilitate creation of a right through lane and concurrent right turn phases out of Kenneth Road into Condamine Street – see attached concept. This has previously been considered but rejected by TfNSW due to perceived conflict between the right turn phases. The above works would assist in better utilisation of the centre lane westbound and would assist in reducing delays and queuing for westbound traffic offsetting the increased traffic generation from McDonalds. This option should be tested using SIDRA Network Analysis

Response

9. The option to lengthen the kerb side on the Kenneth Road eastern approach with the removal of parking to allow better separation of right turn movements from the centre (of 3 lanes) westbound has been investigated and appears to be feasible without shifting the existing centreline. See attached Entec Consultants Sketch (SK 003 Rev A) in Attachment A.
10. With regards to the proposal to allow for twin right turns lane out of the Kenneth Road eastern approach (by making the centre lane a shared through and right turn lane), we note that significant modifications to the intersection would be required to allow for concurrent right turns out of Kenneth Road east and west with this arrangement. Setting aside this constraint we have modelled (using SIDRA) two options to allow for twin right turns out Kenneth Road eastern approach:
 - A. diamond phasing with concurrent right turns out of Kenneth Road east and west;
and
 - B. split phasing for the Kenneth Road east and west.
11. For Option A, to allow for twin right turns out of the Kenneth Road eastern approach, the existing filter right turns on the Kenneth Road approaches would have to be removed, with the right turns operating in the current diamond phase and trailing right turn phase for the Kenneth Road east approach. With the change in line marking and phasing, the SIDRA model was rerun and found that the intersection of Kenneth Road/Condamine Street would operate at level of service (LOS) F with average delays of some 70 seconds per vehicle in the weekday PM peak hour.
12. With Option B, split phasing on the Kenneth Road approaches, the SIDRA model was rerun and found that the intersection of Kenneth Road/Condamine Street

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would operate at LOS D with average delays of some 54 seconds per vehicle in the weekday PM peak hour.

13. For both options the intersection of Kenneth Road/Condamine Street would operate with longer average delays and a worse LOS in the weekday PM peak hour for the existing intersection layout/phasing – average delays of some 42 seconds per vehicle and LOS C/D.

Site Access (and updated SIDRA modelling)

An analysis of site access and any proposed layout changes should be included in the models.

Response

14. The updated SIDRA model includes an analysis of the site access and the road upgrades requested by Council as set out below.
- mini-roundabout at the intersection of Hayes Street/Roseberry Street;
 - a 410 mm wide median (some 27 metres long) along the Roseberry Street frontage of the site; and
 - extension of the left turn lane on the Kenneth Road (east approach) to the intersection with Condamine Street.
15. SIDRA movement summaries are provided in Attachment A and a summary of the SIDRA analysis is provided below in Table 2.

Table 2:	Summary of Updated SIDRA Analysis (average delays per vehicle (AVD)/level of service (LOS))			
Intersection	Weekday PM		Saturday Midday	
	Existing (AVD/LOS)	+ Dev (AVD/LOS)	Existing (AVD/LOS)	+ Dev (AVD/LOS)
Kenneth Rd/Condamine St (TS)	42/C	43/D	40/C	45/D
Kenneth Rd/Roseberry St (R)	16/B	16/B	17/B	25/B
Hayes St/Roseberry St (P/R)	19/B	8/A*	26/B	12/A*
Site Access (P) – LI/LO		10/A		9/A
*under roundabout control				

16. Examination Table 2 reveals that:
- the addition of development traffic has minimal impact on the operation of the adjacent road network. The SIDRA analysis found that with the suggested works in Kenneth Road, the existing 95% queue would extend by some 10 metres (about one vehicle) in the weekday PM and Saturday midday peak hours; and
 - with a mini roundabout at the intersection of Hayes Street/Roseberry Street, the intersection would operate with an improved LOS (LOS B to LOS A).

On-street Parking (and median on Roseberry Street)

The removal of parking on Roseberry Street cannot be supported. A narrow median across the driveway is required. adjusting the kerb alignment along the Roseberry Street development frontage can be considered to accommodate the turning movements of larger vehicles. A median that is 300mm-500mm wide may still allow sufficient space for a travel lane in either direction. Keep Clear markings across the McDonald's driveway are not supported and are unlikely to be effective. This option is rejected.

Response

17. A concept sketch of a 410 mm wide median some 27 metres along the Roseberry Street frontage is shown in Entec Consultants Sketch SK002 REV and is provided in Attachment A. This shows that it appears feasible to provide a median opposite the site access to limit access to left in/left out and maintain one traffic lane in each direction and kerbside parking on the eastern side of Roseberry Street. The median does not impact access to other properties and starts some 10 metres south of the painted splitter island on the southern approach of the Kenneth Road roundabout, so as to not impact large trucks turning at the roundabout.

Proposed Roundabout (at Roseberry Street/Hayes Street)

Review the option for a mini roundabout on Roseberry Street at Hayes Ave (design details for the recently introduced roundabouts on Fisher Road at Lismore Ave and Tor Road are attached for comparison purposes.

Response

18. Concept sketches of a mini roundabout at the intersection of Roseberry Street and Hayes frontage have been prepared by Entec Consultants and are provided in Attachment A. The only difference between the sketches is the form of pedestrian treatment of the Hayes Street approach. B99 swept paths have been overlayed to one of the sketches showing that a B99 can undertake a u-turn from all approaches. The sketches are based on the design details of the plans provided by Council for the recently introduced roundabout on Fisher Road at Tor Road and shows that it appears feasible to provide a mini roundabout subject to:
- form of pedestrian treatment on the Hayes Street approach. The options show retention of the existing raised pedestrian crossing or its replacement with a pedestrian refuge. It is not possible to relocate the existing raised crossing to the west along Hayes Street, due it existing trees, driveways and power poles;
 - provision of painted splitter islands, to accommodate existing trucks turning at the intersection (this may impact provision of a pedestrian refuge on the Hayes Street approach); and

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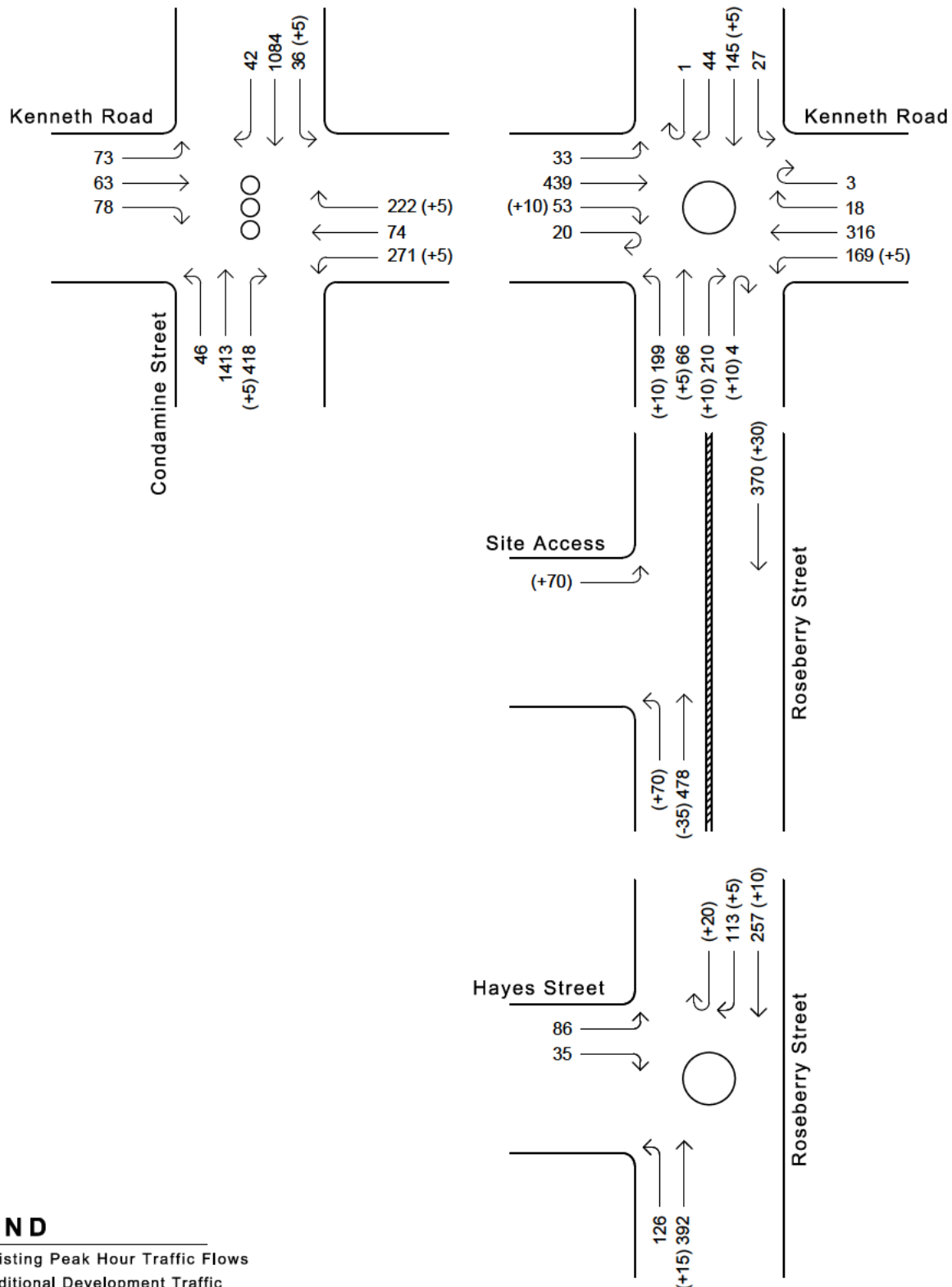
- loss of three parking spaces on the eastern side of Roseberry Street to accommodate the southern departure lane from the roundabout.
19. We trust the above provides the information you require. Finally, if you should have any queries, please do not hesitate to contact us.

Yours faithfully,

COLSTON BUDD ROGERS & KAFES PTY LTD

A handwritten signature in black ink, appearing to read 'T Rogers', with a large, stylized 'O' in the surname.

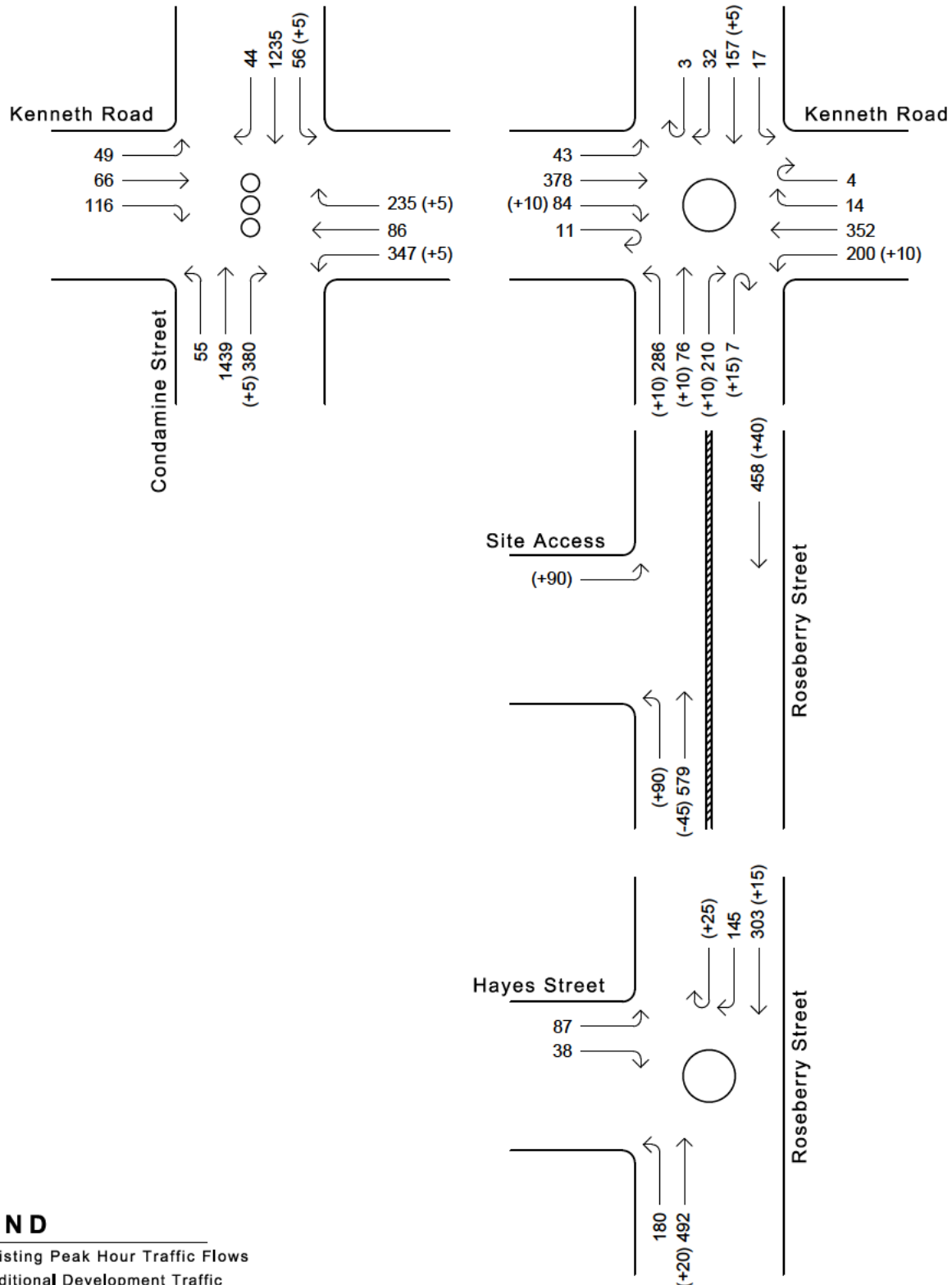
T Rogers
Director



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 1



**Existing Saturday midday
peak hour traffic flows plus
development traffic
Figure 2**

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ATTACHMENT A

CONCEPT SKETCHES OF PROPOSED ROAD WORKS
(Prepared by Entec)

PROPOSED LINEMARKING TO MATCH INTO EXISTING MEDIAN KERB EXTENT

2.1m PARKING LANE

ADJUST ROUNDABOUT MEDIAN LINEMARKING TO SUIT PROPOSED LANE CONFIGURATION

3.5m TRAFFIC LANE

3.2m TRAFFIC LANE

3.5m TRAFFIC LANE

BOUNDARY

ADJUST EXISTING LINEMARKING TO FORMALISE TRAFFIC LANES ALONG KENNETH ROAD

PROPOSED NEW LINEMARKING AT ROUNDABOUT. REFER TO ROSEBERY MEDIAN ISLAND SKETCH PLAN FOR ADDITIONAL INFORMATION

PROPOSED NEW CONCRETE MEDIAN. REFER TO ROSEBERY MEDIAN ISLAND SKETCH PLAN FOR ADDITIONAL INFORMATION

PROPOSED
McDONALD'S
OPERATION

BIOMOD 380
LOT NO. 100
D.P. 1199949
GFA. 381.17m²
FFL. 8.000

CASHIER

SERVERY

3rd WINDOW

CORRAL

PLAYPLACE

EAVE OVER

EAVE OVER

BOUNDARY

McD's BALGOWLAH
PRELIMINARY LINEMARKING SKETCH
KENNETH ROAD
SK003
SCALE 1:200 @ A3
13/05/25

REV A

ENTEC
CONSULTANTS



EXISTING PAINTED MEDIAN TO BE RETAINED

EXISTING PEDESTRIAN PRAM RAMP TO BE RETAINED

PROVIDE LINEMARKING 10m FROM PAINTED MEDIAN TO NEW CENTRAL MEDIAN

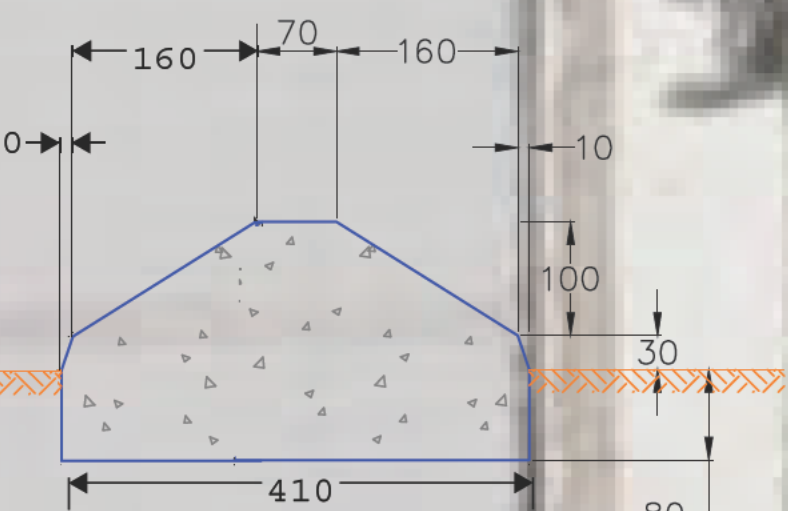
PROPOSED 410mm WIDE MEDIAN, REFER TO DETAIL BELOW.

2.1m PARKING LANE

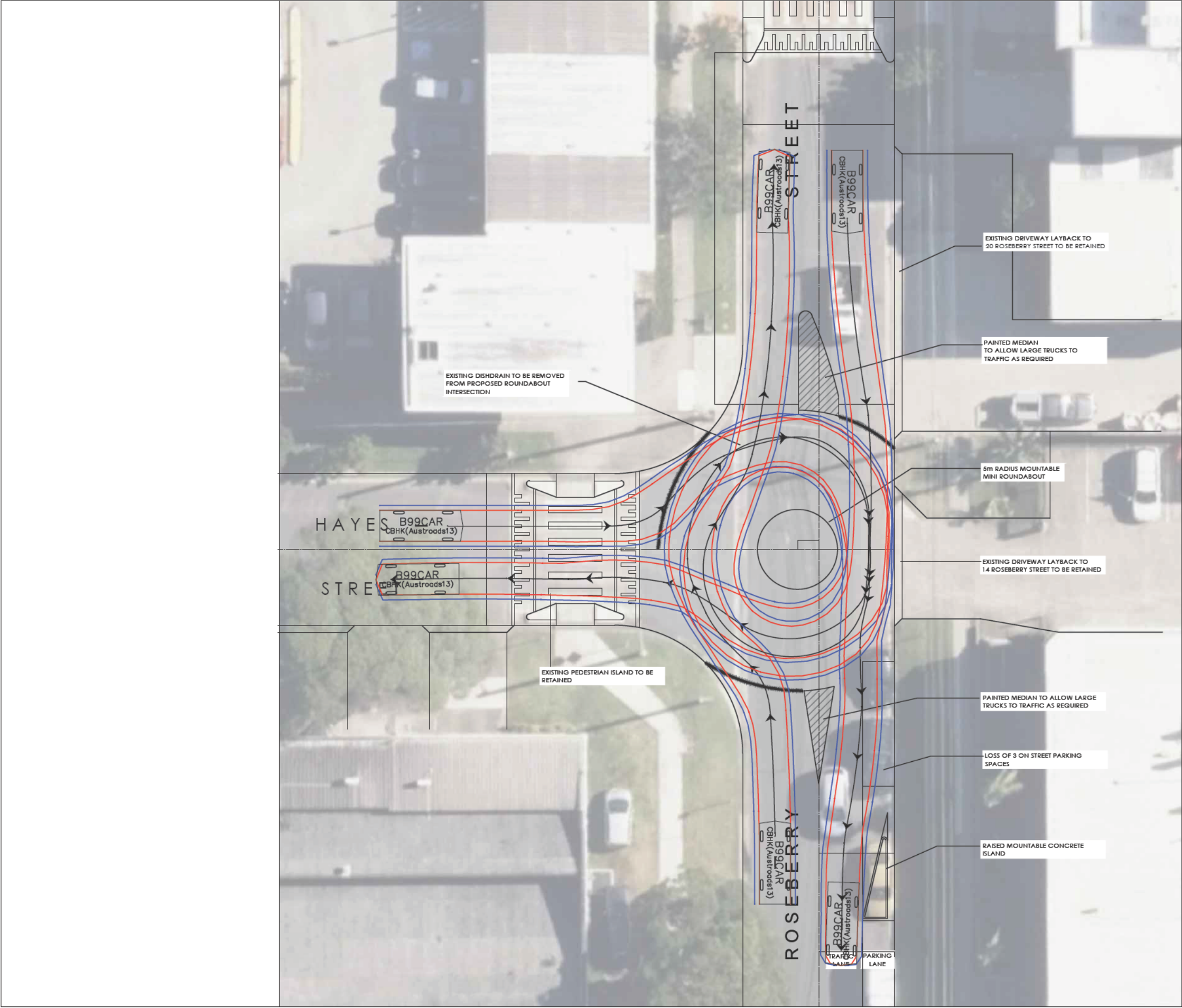
3.0m SOUTH BOUND TRAFFIC LANE

4.0m NORTH BOUND TRAFFIC LANE

PROPOSED DRIVEWAY ENTRY TO McDONALDS SITE



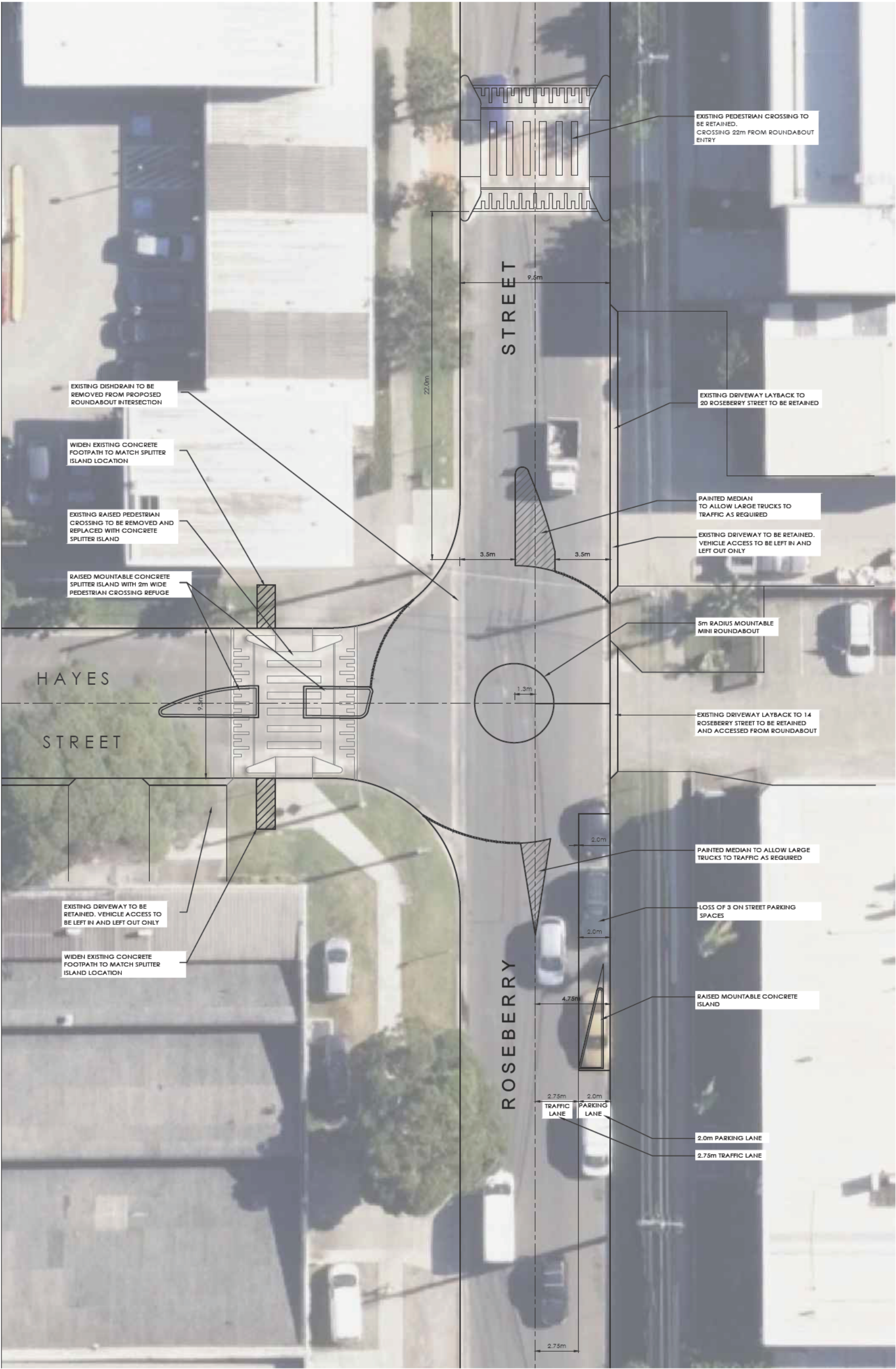
MEDIAN KERB DETAIL
ADJUSTED FROM NORTHERN BEACHES
COUNCIL STANDARD MEDIAN KERB DETAIL



NOTE:
SKETCH PLAN ONLY. PROPERTY BOUNDARIES UTILITIES KERBLINES DIMENSIONS ARE SUBJECT TO SURVEY AND FINAL DESIGN. TRAFFIC MEASURES PROPOSED IN THIS PLAN ARE CONCEPT ONLY AND ARE SUBJECT TO FINAL DESIGN BY CIVIL ENGINEERS. THIS PLAN SHOULD NOT BE USED FOR COMPLIANCE CERTIFICATION OR FOR CONSTRUCTION.

— Swept Path of Vehicle Body
— Clearance Path to Vehicle Body

B99 VEHICLE SWEPT PATHS



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ATTACHMENT B

SIDRA MOVEMENT SUMMARIES

USER REPORT FOR NETWORK SITE

All Movement Classes

 Project: 12473 Balgowlah McDonald's 250514

Template: Movement Summaries

 Site: 101 [PM EX - Condamine Street - Kenneth Road (Site Folder: Weekday PM Existing)]

 Network: 2 [Weekday PM Existing (Network Folder: Existing)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, C*, D*, D1, E, G, G2*

Output Phase Sequence: A, D1, E, G, G2*

(* Variable Phase)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Condamine Street														
1	L2	48	2.2	48	2.2	0.081	15.7	LOS B	1.4	12.6	0.37	0.55	0.37	44.8
2	T1	1487	5.4	1487	5.4	0.711	4.0	LOS A	10.1	73.3	0.26	0.24	0.26	56.3
3	R2	440	1.0	440	1.0	* 0.957	82.5	LOS F	33.6	237.1	1.00	1.06	1.43	16.4
Approach		1976	4.3	1976	4.3	0.957	21.8	LOS B	33.6	237.1	0.43	0.43	0.52	42.7
East: Kenneth Road														
4	L2	285	1.5	285	1.5	0.275	18.7	LOS B	8.4	59.7	0.55	0.71	0.55	37.6
5	T1	78	1.4	78	1.4	0.152	36.0	LOS C	3.5	24.5	0.80	0.63	0.80	27.6
6	R2	234	1.4	234	1.4	* 0.900	66.6	LOS E	13.7	97.3	1.00	1.14	1.37	20.8
Approach		597	1.4	597	1.4	0.900	39.7	LOS C	13.7	97.3	0.76	0.87	0.90	27.5
North: Condamine Street														
7	L2	38	8.3	38	8.3	0.056	29.0	LOS C	1.3	10.0	0.64	0.69	0.64	31.0
8	T1	1141	6.3	1141	6.3	* 0.977	72.8	LOS F	43.7	322.0	1.00	1.20	1.39	27.3
9	R2	44	0.0	44	0.0	0.714	75.2	LOS F	2.9	20.1	1.00	0.81	1.24	25.7
Approach		1223	6.1	1223	6.1	0.977	71.6	LOS F	43.7	322.0	0.99	1.17	1.36	27.3
West: Kenneth Road														
10	L2	77	0.0	77	0.0	0.580	57.9	LOS E	8.1	56.5	0.98	0.80	0.98	29.4
11	T1	66	0.0	66	0.0	* 0.580	53.4	LOS D	8.1	56.5	0.98	0.80	0.98	20.1
12	R2	82	1.3	82	1.3	0.364	55.4	LOS D	4.5	31.5	0.94	0.77	0.94	29.6
Approach		225	0.5	225	0.5	0.580	55.7	LOS D	8.1	56.5	0.97	0.79	0.97	27.2
All Vehicles		4021	4.2	4021	4.2	0.977	41.5	LOS C	43.7	322.0	0.68	0.74	0.86	33.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

 **Site: 101 [PM EX - Kenneth Road - Roseberry Street (Site Folder: Weekday PM Existing)]**

 **Network: 2 [Weekday PM Existing (Network Folder: Existing)]**

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
South: Roseberry Street														
1	L2	209	2.5	209	2.5	0.476	6.7	LOS A	4.0	28.4	0.78	0.74	0.78	32.1
2	T1	69	0.0	69	0.0	0.476	6.6	LOS A	4.0	28.4	0.78	0.74	0.78	43.3
3	R2	221	0.5	221	0.5	0.476	9.8	LOS A	4.0	28.4	0.78	0.74	0.78	43.1
3u	U	4	0.0	4	0.0	0.476	11.3	LOS A	4.0	28.4	0.78	0.74	0.78	32.1
Approach		504	1.3	504	1.3	0.476	8.1	LOS A	4.0	28.4	0.78	0.74	0.78	40.7
East: Kenneth Road														
4	L2	178	0.6	178	0.6	0.531	5.7	LOS A	4.0	27.9	0.65	0.64	0.65	42.3
5	T1	333	0.3	333	0.3	0.531	5.7	LOS A	4.0	27.9	0.65	0.64	0.65	42.3
6	R2	19	0.0	19	0.0	0.531	8.9	LOS A	4.0	27.9	0.65	0.64	0.65	45.8
6u	U	3	0.0	3	0.0	0.531	10.4	LOS A	4.0	27.9	0.65	0.64	0.65	46.4
Approach		533	0.4	533	0.4	0.531	5.8	LOS A	4.0	27.9	0.65	0.64	0.65	42.6
North: Roseberry Street														
7	L2	28	0.0	28	0.0	0.343	10.6	LOS A	2.8	19.8	0.88	0.81	0.88	42.9
8	T1	153	0.7	153	0.7	0.343	10.6	LOS A	2.8	19.8	0.88	0.81	0.88	38.5
9	R2	46	2.3	46	2.3	0.343	13.9	LOS A	2.8	19.8	0.88	0.81	0.88	38.5
9u	U	1	0.0	1	0.0	0.343	15.3	LOS B	2.8	19.8	0.88	0.81	0.88	43.9
Approach		228	0.9	228	0.9	0.343	11.3	LOS A	2.8	19.8	0.88	0.81	0.88	39.4
West: Kenneth Road														
10	L2	35	3.0	35	3.0	0.593	6.9	LOS A	4.8	33.9	0.52	0.66	0.56	42.1
11	T1	462	1.1	462	1.1	0.593	6.8	LOS A	4.8	33.9	0.52	0.66	0.56	43.2
12	R2	56	3.8	56	3.8	0.593	10.1	LOS A	4.8	33.9	0.52	0.66	0.56	26.3
12u	U	21	5.0	21	5.0	0.593	11.7	LOS A	4.8	33.9	0.52	0.66	0.56	26.3
Approach		574	1.7	574	1.7	0.593	7.3	LOS A	4.8	33.9	0.52	0.66	0.56	42.4
All Vehicles		1839	1.1	1839	1.1	0.593	7.6	LOS A	4.8	33.9	0.67	0.69	0.69	41.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [PM EX - Roseberry Street - Hayes Street (Site Folder: Weekday PM Existing)]

Network: 2 [Weekday PM Existing (Network Folder: Existing)]

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV veh/h	%				[Veh. veh	Dist] m				
South: Roseberry Street														
1	L2	133	0.0	133	0.0	0.071	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
2	T1	413	1.5	413	1.5	0.215	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		545	1.2	545	1.2	0.215	1.2	NA	0.0	0.0	0.00	0.13	0.00	48.6
North: Roseberry Street														
8	T1	271	1.2	271	1.2	0.293	2.3	LOS A	1.6	11.1	0.41	0.23	0.45	46.2
9	R2	119	0.9	119	0.9	0.293	8.4	LOS A	1.6	11.1	0.41	0.23	0.45	44.9
Approach		389	1.1	389	1.1	0.293	4.2	NA	1.6	11.1	0.41	0.23	0.45	45.8
West: Hayes Street														
10	L2	91	0.0	91	0.0	0.245	7.5	LOS A	0.9	6.6	0.58	0.79	0.61	39.2
12	R2	37	0.0	37	0.0	0.245	16.8	LOS B	0.9	6.6	0.58	0.79	0.61	43.3
Approach		127	0.0	127	0.0	0.245	10.2	LOS A	0.9	6.6	0.58	0.79	0.61	40.9
All Vehicles		1062	1.0	1062	1.0	0.293	3.3	NA	1.6	11.1	0.22	0.25	0.24	46.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

USER REPORT FOR NETWORK SITE

All Movement Classes

 Project: 12473 Balgowlah McDonald's 250514

Template: Movement Summaries

 Site: 101 [Sat EX - Condamine Street - Kenneth Road (Site Folder: Saturday Midday Existing)]

 Network: 3 [Saturday Midday Existing (Network Folder: Existing)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, B*, C*, D*, D1*, E, G, G1*, G2*

Output Phase Sequence: A, E, G, G2*

(* Variable Phase)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Condamine Street														
1	L2	58	0.0	58	0.0	0.057	18.7	LOS B	1.5	10.7	0.49	0.68	0.49	42.3
2	T1	1515	2.2	1515	2.2	0.731	4.0	LOS A	11.2	79.6	0.27	0.24	0.27	56.3
3	R2	400	1.3	400	1.3	* 0.971	89.3	LOS F	31.6	223.4	1.00	1.08	1.50	15.5
Approach		1973	2.0	1973	2.0	0.971	21.7	LOS B	31.6	223.4	0.42	0.43	0.52	42.9
East: Kenneth Road														
4	L2	365	0.3	365	0.3	0.418	22.4	LOS B	12.5	87.4	0.63	0.75	0.63	35.3
5	T1	91	1.2	91	1.2	0.188	38.0	LOS C	4.2	29.4	0.83	0.65	0.83	26.9
6	R2	247	0.9	247	0.9	* 0.948	84.8	LOS F	18.7	131.8	1.00	1.12	1.53	17.7
Approach		703	0.6	703	0.6	0.948	46.4	LOS D	18.7	131.8	0.79	0.86	0.98	25.4
North: Condamine Street														
7	L2	59	3.6	59	3.6	0.101	35.7	LOS C	2.4	17.2	0.73	0.72	0.73	27.9
8	T1	1300	2.0	1300	2.0	* 0.964	62.3	LOS E	47.6	339.0	0.98	1.13	1.30	29.7
9	R2	46	0.0	46	0.0	0.499	69.8	LOS E	2.8	19.9	1.00	0.74	1.00	26.6
Approach		1405	2.0	1405	2.0	0.964	61.5	LOS E	47.6	339.0	0.97	1.10	1.27	29.5
West: Kenneth Road														
10	L2	52	0.0	52	0.0	0.277	44.5	LOS D	5.8	40.5	0.86	0.72	0.86	33.1
11	T1	69	0.0	69	0.0	0.277	39.9	LOS C	5.8	40.5	0.86	0.72	0.86	23.6
12	R2	122	0.9	122	0.9	0.771	65.8	LOS E	7.7	54.1	1.00	0.92	1.21	27.3
Approach		243	0.4	243	0.4	0.771	53.9	LOS D	7.7	54.1	0.93	0.82	1.04	27.8
All Vehicles		4324	1.7	4324	1.7	0.971	40.4	LOS C	47.6	339.0	0.69	0.74	0.87	33.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

 **Site: 101 [Sat EX - Kenneth Road - Roseberry Street (Site Folder: Saturday Midday Existing)]**

 **Network: 3 [Saturday Midday Existing (Network Folder: Existing)]**

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Roseberry Street														
1	L2	301	1.4	301	1.4	0.743	11.6	LOS A	8.0	56.2	0.87	0.94	1.17	26.8
2	T1	80	1.3	80	1.3	0.743	11.5	LOS A	8.0	56.2	0.87	0.94	1.17	40.2
3	R2	221	0.0	221	0.0	0.743	14.7	LOS B	8.0	56.2	0.87	0.94	1.17	40.0
3u	U	7	14.3	7	14.3	0.743	16.7	LOS B	8.0	56.2	0.87	0.94	1.17	26.8
Approach		609	1.0	609	1.0	0.743	12.7	LOS A	8.0	56.2	0.87	0.94	1.17	36.0
East: Kenneth Road														
4	L2	211	0.0	211	0.0	0.789	9.9	LOS A	7.2	50.4	0.71	0.82	0.94	39.4
5	T1	371	0.3	371	0.3	0.789	9.9	LOS A	7.2	50.4	0.71	0.82	0.94	39.4
6	R2	15	7.1	15	7.1	0.789	13.3	LOS A	7.2	50.4	0.71	0.82	0.94	43.9
6u	U	4	0.0	4	0.0	0.789	14.6	LOS B	7.2	50.4	0.71	0.82	0.94	44.5
Approach		600	0.4	600	0.4	0.789	10.0	LOS A	7.2	50.4	0.71	0.82	0.94	39.7
North: Roseberry Street														
7	L2	18	5.9	18	5.9	0.344	10.1	LOS A	2.5	17.7	0.84	0.79	0.84	43.2
8	T1	165	1.9	165	1.9	0.344	9.9	LOS A	2.5	17.7	0.84	0.79	0.84	39.1
9	R2	34	0.0	34	0.0	0.344	13.0	LOS A	2.5	17.7	0.84	0.79	0.84	39.1
9u	U	3	0.0	3	0.0	0.344	14.6	LOS B	2.5	17.7	0.84	0.79	0.84	44.3
Approach		220	1.9	220	1.9	0.344	10.5	LOS A	2.5	17.7	0.84	0.79	0.84	39.8
West: Kenneth Road														
10	L2	45	0.0	45	0.0	0.580	6.9	LOS A	4.5	32.0	0.53	0.68	0.56	42.0
11	T1	398	1.3	398	1.3	0.580	6.9	LOS A	4.5	32.0	0.53	0.68	0.56	43.1
12	R2	88	1.2	88	1.2	0.580	10.1	LOS A	4.5	32.0	0.53	0.68	0.56	26.0
12u	U	12	0.0	12	0.0	0.580	11.5	LOS A	4.5	32.0	0.53	0.68	0.56	26.0
Approach		543	1.2	543	1.2	0.580	7.5	LOS A	4.5	32.0	0.53	0.68	0.56	41.9
All Vehicles		1973	1.0	1973	1.0	0.789	10.2	LOS A	8.0	56.2	0.72	0.81	0.90	39.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [Sat EX - Roseberry Street - Hayes Street (Site Folder: Saturday Midday Existing)]

Network: 3 [Saturday Midday Existing (Network Folder: Existing)]

New Site

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV veh/h	%				[Veh. veh	Dist] m				
South: Roseberry Street														
1	L2	189	0.0	189	0.0	0.102	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
2	T1	518	1.0	518	1.0	0.268	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		707	0.7	707	0.7	0.268	1.3	NA	0.0	0.0	0.00	0.14	0.00	48.4
North: Roseberry Street														
8	T1	319	1.3	319	1.3	0.407	4.5	LOS A	3.0	21.1	0.59	0.29	0.79	44.1
9	R2	153	0.7	153	0.7	0.407	11.2	LOS A	3.0	21.1	0.59	0.29	0.79	43.0
Approach		472	1.1	472	1.1	0.407	6.7	NA	3.0	21.1	0.59	0.29	0.79	43.7
West: Hayes Street														
10	L2	92	1.1	92	1.1	0.350	10.1	LOS A	1.5	10.5	0.70	0.93	0.90	35.6
12	R2	40	2.6	40	2.6	0.350	26.4	LOS B	1.5	10.5	0.70	0.93	0.90	41.0
Approach		132	1.6	132	1.6	0.350	15.0	LOS B	1.5	10.5	0.70	0.93	0.90	37.9
All Vehicles		1311	1.0	1311	1.0	0.407	4.6	NA	3.0	21.1	0.28	0.27	0.37	45.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: C:\Users\mcorban.WSHP800TK9-MC\Colston Budd Rogers & Kafes Pty Ltd\CBRKData - Documents\DATA\GROUPS\Jobs\12400 - 12499\12473\SIDRA\12473 Balgowlah McDonald's 250514.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

 Project: 12473 Balgowlah McDonald's 250514

Template: Movement Summaries

 Site: 101 [PM EX + Dev - Condamine Street - Kenneth Road (Site Folder: Weekday PM Existing + Development)]

 Network: 4 [Weekday PM Existing + Development (Network Folder: Existing + Development)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, C*, D*, D1, E, G, G2*

Output Phase Sequence: A, D1, E, G, G2*

(* Variable Phase)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Condamine Street														
1	L2	48	2.2	48	2.2	0.081	15.7	LOS B	1.4	12.6	0.37	0.55	0.37	44.8
2	T1	1487	5.4	1487	5.4	0.711	4.0	LOS A	10.1	73.3	0.26	0.24	0.26	56.3
3	R2	445	0.9	445	0.9	* 0.969	87.2	LOS F	35.0	247.3	1.00	1.08	1.47	15.8
Approach		1981	4.3	1981	4.3	0.969	23.0	LOS B	35.0	247.3	0.43	0.44	0.54	42.1
East: Kenneth Road														
4	L2	291	1.4	291	1.4	0.280	18.7	LOS B	8.6	61.0	0.55	0.71	0.55	37.5
5	T1	78	1.4	78	1.4	0.152	36.0	LOS C	3.5	24.5	0.80	0.63	0.80	27.6
6	R2	239	1.3	239	1.3	* 0.920	70.4	LOS E	14.5	102.7	1.00	1.17	1.42	20.0
Approach		607	1.4	607	1.4	0.920	41.3	LOS C	14.5	102.7	0.76	0.88	0.93	27.0
North: Condamine Street														
7	L2	43	7.3	43	7.3	0.063	29.1	LOS C	1.5	11.4	0.64	0.70	0.64	31.0
8	T1	1141	6.3	1141	6.3	* 0.981	74.4	LOS F	44.3	326.7	1.00	1.21	1.40	27.0
9	R2	44	0.0	44	0.0	0.714	75.2	LOS F	2.9	20.1	1.00	0.81	1.24	25.7
Approach		1228	6.1	1228	6.1	0.981	72.8	LOS F	44.3	326.7	0.99	1.18	1.37	27.0
West: Kenneth Road														
10	L2	77	0.0	77	0.0	0.580	57.9	LOS E	8.1	56.5	0.98	0.80	0.98	29.4
11	T1	66	0.0	66	0.0	* 0.580	53.4	LOS D	8.1	56.5	0.98	0.80	0.98	20.1
12	R2	82	1.3	82	1.3	0.364	55.4	LOS D	4.5	31.5	0.94	0.77	0.94	29.6
Approach		225	0.5	225	0.5	0.580	55.7	LOS D	8.1	56.5	0.97	0.79	0.97	27.2
All Vehicles		4042	4.2	4042	4.2	0.981	42.7	LOS D	44.3	326.7	0.68	0.75	0.87	32.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

 **Site: 101 [PM EX + Dev - Kenneth Road - Roseberry Street (Site Folder: Weekday PM Existing + Development)]**

 **Network: 4 [Weekday PM Existing + Development (Network Folder: Existing + Development)]**

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV	%				[Veh. veh	Dist] m				
South: Roseberry Street														
1	L2	220	2.4	220	2.4	0.526	5.5	LOS A	4.4	31.4	0.81	0.75	0.81	18.4
2	T1	75	0.0	75	0.0	0.526	5.6	LOS A	4.4	31.4	0.81	0.75	0.81	43.0
3	R2	232	0.5	232	0.5	0.526	8.5	LOS A	4.4	31.4	0.81	0.75	0.81	42.7
3u	U	15	0.0	15	0.0	0.526	10.0	LOS A	4.4	31.4	0.81	0.75	0.81	18.4
Approach		541	1.2	541	1.2	0.526	6.9	LOS A	4.4	31.4	0.81	0.75	0.81	39.1
East: Kenneth Road														
4	L2	183	0.6	183	0.6	0.571	6.1	LOS A	4.2	29.6	0.68	0.67	0.69	42.2
5	T1	333	0.3	333	0.3	0.571	6.0	LOS A	4.2	29.6	0.68	0.67	0.69	42.2
6	R2	19	0.0	19	0.0	0.571	9.2	LOS A	4.2	29.6	0.68	0.67	0.69	45.8
6u	U	3	0.0	3	0.0	0.571	10.7	LOS A	4.2	29.6	0.68	0.67	0.69	46.3
Approach		538	0.4	538	0.4	0.571	6.2	LOS A	4.2	29.6	0.68	0.67	0.69	42.5
North: Roseberry Street														
7	L2	28	0.0	28	0.0	0.372	11.0	LOS A	3.0	21.1	0.90	0.84	0.90	42.7
8	T1	158	0.7	158	0.7	0.372	11.0	LOS A	3.0	21.1	0.90	0.84	0.90	38.1
9	R2	46	2.3	46	2.3	0.372	14.3	LOS A	3.0	21.1	0.90	0.84	0.90	38.1
9u	U	1	0.0	1	0.0	0.372	15.7	LOS B	3.0	21.1	0.90	0.84	0.90	43.6
Approach		234	0.9	234	0.9	0.372	11.7	LOS A	3.0	21.1	0.90	0.84	0.90	39.1
West: Kenneth Road														
10	L2	35	3.0	35	3.0	0.626	7.6	LOS A	5.4	38.2	0.56	0.71	0.63	41.5
11	T1	462	1.1	462	1.1	0.626	7.5	LOS A	5.4	38.2	0.56	0.71	0.63	42.6
12	R2	66	3.2	66	3.2	0.626	10.8	LOS A	5.4	38.2	0.56	0.71	0.63	25.2
12u	U	21	5.0	21	5.0	0.626	12.3	LOS A	5.4	38.2	0.56	0.71	0.63	25.2
Approach		584	1.6	584	1.6	0.626	8.1	LOS A	5.4	38.2	0.56	0.71	0.63	41.7
All Vehicles		1897	1.1	1897	1.1	0.626	7.7	LOS A	5.4	38.2	0.71	0.72	0.73	41.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [PM EX + Dev - Roseberry Street - Site Access (Site Folder: Weekday PM Existing + Development)]

Network: 4 [Weekday PM Existing + Development (Network Folder: Existing + Development)]

New Site

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Roseberry Street														
1	L2	74	0.0	74	0.0	0.287	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	48.5
2	T1	466	1.4	466	1.4	0.287	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	47.1
Approach		540	1.2	540	1.2	0.287	0.7	NA	0.0	0.0	0.00	0.07	0.00	47.7
North: Roseberry Street														
8	T1	421	1.0	421	1.0	0.218	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		421	1.0	421	1.0	0.218	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
West: Site Access														
10	L2	74	0.0	74	0.0	0.107	7.6	LOS A	0.4	2.7	0.50	0.70	0.50	41.5
Approach		74	0.0	74	0.0	0.107	7.6	LOS A	0.4	2.7	0.50	0.70	0.50	41.5
All Vehicles		1035	1.0	1035	1.0	0.287	0.9	NA	0.4	2.7	0.04	0.09	0.04	46.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

 **Site: 101 [PM EX + Dev - Roseberry Street - Hayes Street (Site Folder: Weekday PM Existing + Development)]**

 **Network: 4 [Weekday PM Existing + Development (Network Folder: Existing + Development)]**

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Roseberry Street														
1	L2	133	0.0	133	0.0	0.460	4.8	LOS A	4.0	28.3	0.49	0.50	0.49	45.8
2	T1	428	1.5	428	1.5	0.460	4.9	LOS A	4.0	28.3	0.49	0.50	0.49	43.1
Approach		561	1.1	561	1.1	0.460	4.9	LOS A	4.0	28.3	0.49	0.50	0.49	44.1
North: Roseberry Street														
8	T1	281	1.1	281	1.1	0.295	3.8	LOS A	2.2	15.5	0.20	0.48	0.20	45.3
9	R2	124	0.8	124	0.8	0.295	7.1	LOS A	2.2	15.5	0.20	0.48	0.20	45.0
9u	U	21	0.0	21	0.0	0.295	10.0	LOS A	2.2	15.5	0.20	0.48	0.20	34.1
Approach		426	1.0	426	1.0	0.295	5.1	LOS A	2.2	15.5	0.20	0.48	0.20	45.0
West: Hayes Street														
10	L2	91	0.0	91	0.0	0.154	6.7	LOS A	1.0	6.7	0.65	0.69	0.65	41.5
12	R2	37	0.0	37	0.0	0.154	10.1	LOS A	1.0	6.7	0.65	0.69	0.65	45.4
Approach		127	0.0	127	0.0	0.154	7.7	LOS A	1.0	6.7	0.65	0.69	0.65	43.1
All Vehicles		1115	0.9	1115	0.9	0.460	5.3	LOS A	4.0	28.3	0.40	0.52	0.40	44.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: C:\Users\mcorban.WSHP800TK9-MC\Colston Budd Rogers & Kafes Pty Ltd\CBRKData - Documents\DATA\GROUPS\Jobs\12400 - 12499\12473\SIDRA\12473 Balgowlah McDonald's 250514.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

 Project: 12473 Balgowlah McDonald's 250514

Template: Movement Summaries

 Site: 101 [Sat EX + Dev - Condamine Street - Kenneth Road (Site Folder: Saturday Midday Existing + Development)]

 Network: 5 [Saturday Midday Existing + Development (Network Folder: Existing + Development)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, B*, C*, D*, D1*, E, G, G1*, G2*

Output Phase Sequence: A, E, G, G2*

(* Variable Phase)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Condamine Street														
1	L2	58	0.0	58	0.0	0.057	18.7	LOS B	1.5	10.7	0.49	0.68	0.49	42.3
2	T1	1515	2.2	1515	2.2	0.731	4.0	LOS A	11.2	79.6	0.27	0.24	0.27	56.3
3	R2	405	1.3	405	1.3	*0.948	80.2	LOS F	30.2	213.8	1.00	1.05	1.42	16.8
Approach		1978	2.0	1978	2.0	0.948	20.0	LOS B	30.2	213.8	0.42	0.42	0.51	43.8
East: Kenneth Road														
4	L2	371	0.3	371	0.3	0.375	21.9	LOS B	12.5	87.4	0.63	0.75	0.63	35.6
5	T1	91	1.2	91	1.2	0.188	38.0	LOS C	4.2	29.4	0.83	0.65	0.83	26.9
6	R2	253	0.8	253	0.8	*0.970	93.3	LOS F	20.1	141.9	1.00	1.16	1.61	16.6
Approach		714	0.6	714	0.6	0.970	49.2	LOS D	20.1	141.9	0.78	0.88	1.00	24.6
North: Condamine Street														
7	L2	6	33.3	6	33.3	0.015	35.8	LOS C	0.3	2.3	0.71	0.65	0.71	28.0
8	T1	1300	2.0	1300	2.0	*0.952	58.7	LOS E	46.2	329.3	1.00	1.11	1.27	30.6
9	R2	46	0.0	46	0.0	0.499	69.8	LOS E	2.8	19.9	1.00	0.74	1.00	26.6
Approach		1353	2.1	1353	2.1	0.952	59.0	LOS E	46.2	329.3	1.00	1.10	1.26	30.4
West: Kenneth Road														
10	L2	52	0.0	52	0.0	0.277	44.5	LOS D	5.8	40.5	0.86	0.72	0.86	33.1
11	T1	69	0.0	69	0.0	0.277	39.9	LOS C	5.8	40.5	0.86	0.72	0.86	23.6
12	R2	122	0.9	122	0.9	0.774	66.0	LOS E	7.7	54.3	1.00	0.92	1.22	27.3
Approach		243	0.4	243	0.4	0.774	54.0	LOS D	7.7	54.3	0.93	0.82	1.04	27.7
All Vehicles		4287	1.7	4287	1.7	0.970	39.1	LOS C	46.2	329.3	0.69	0.73	0.86	34.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

 **Site: 101 [Sat EX + Dev - Kenneth Road - Roseberry Street (Site Folder: Saturday Midday Existing + Development)]**

 **Network: 5 [Saturday Midday Existing + Development (Network Folder: Existing + Development)]**

New Site

Site Category: (None)

Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
South: Roseberry Street														
1	L2	312	1.4	312	1.4	0.860	17.0	LOS B	12.3	86.9	0.90	1.14	1.58	8.9
2	T1	91	1.2	91	1.2	0.860	17.2	LOS B	12.3	86.9	0.90	1.14	1.58	34.6
3	R2	232	0.0	232	0.0	0.860	20.0	LOS B	12.3	86.9	0.90	1.14	1.58	34.4
3u	U	23	4.5	23	4.5	0.860	21.7	LOS B	12.3	86.9	0.90	1.14	1.58	8.9
Approach		657	1.0	657	1.0	0.860	18.3	LOS B	12.3	86.9	0.90	1.14	1.58	27.2
East: Kenneth Road														
4	L2	221	0.0	221	0.0	0.900	18.1	LOS B	11.4	80.0	0.75	1.10	1.40	33.6
5	T1	371	0.3	371	0.3	0.900	18.1	LOS B	11.4	80.0	0.75	1.10	1.40	33.6
6	R2	15	7.1	15	7.1	0.900	21.5	LOS B	11.4	80.0	0.75	1.10	1.40	40.0
6u	U	4	0.0	4	0.0	0.900	22.8	LOS B	11.4	80.0	0.75	1.10	1.40	40.5
Approach		611	0.3	611	0.3	0.900	18.2	LOS B	11.4	80.0	0.75	1.10	1.40	33.9
North: Roseberry Street														
7	L2	18	5.9	18	5.9	0.383	10.5	LOS A	2.6	18.7	0.86	0.83	0.86	43.0
8	T1	171	1.9	171	1.9	0.383	10.3	LOS A	2.6	18.7	0.86	0.83	0.86	38.8
9	R2	34	0.0	34	0.0	0.383	13.4	LOS A	2.6	18.7	0.86	0.83	0.86	38.8
9u	U	3	0.0	3	0.0	0.383	14.9	LOS B	2.6	18.7	0.86	0.83	0.86	44.1
Approach		225	1.9	225	1.9	0.383	10.9	LOS A	2.6	18.7	0.86	0.83	0.86	39.5
West: Kenneth Road														
10	L2	45	0.0	45	0.0	0.622	7.8	LOS A	5.3	37.3	0.58	0.74	0.66	41.2
11	T1	398	1.3	398	1.3	0.622	7.8	LOS A	5.3	37.3	0.58	0.74	0.66	42.3
12	R2	99	1.1	99	1.1	0.622	11.0	LOS A	5.3	37.3	0.58	0.74	0.66	24.5
12u	U	12	0.0	12	0.0	0.622	12.5	LOS A	5.3	37.3	0.58	0.74	0.66	24.5
Approach		554	1.1	554	1.1	0.622	8.5	LOS A	5.3	37.3	0.58	0.74	0.66	40.9
All Vehicles		2046	0.9	2046	0.9	0.900	14.8	LOS B	12.3	86.9	0.77	0.99	1.20	34.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

▼ Site: 101 [Sat EX + Dev - Roseberry Street - Site Access (Site Folder: Saturday Middy Existing + Development)]

■ Network: 5 [Saturday Middy Existing + Development (Network Folder: Existing + Development)]

New Site

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Roseberry Street														
1	L2	95	0.0	95	0.0	0.452	4.6	LOS A	0.0	0.0	0.00	0.08	0.00	48.3
2	T1	562	1.1	562	1.1	0.452	0.1	LOS A	0.0	0.0	0.00	0.08	0.00	46.8
Approach		657	1.0	657	1.0	0.452	0.7	NA	0.0	0.0	0.00	0.08	0.00	47.4
North: Roseberry Street														
8	T1	524	1.0	524	1.0	0.272	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		524	1.0	524	1.0	0.272	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
West: Site Access														
10	L2	95	0.0	95	0.0	0.212	8.7	LOS A	0.6	4.0	0.55	0.79	0.55	40.5
Approach		95	0.0	95	0.0	0.212	8.7	LOS A	0.6	4.0	0.55	0.79	0.55	40.5
All Vehicles		1276	0.9	1276	0.9	0.452	1.0	NA	0.6	4.0	0.04	0.10	0.04	45.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

 **Site: 101 [Sat EX + Dev - Roseberry Street - Hayes Street (Site Folder: Saturday Midday Existing + Development)]**

 **Network: 5 [Saturday Midday Existing + Development (Network Folder: Existing + Development)]**

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Roseberry Street														
1	L2	189	0.0	189	0.0	0.614	5.5	LOS A	6.4	45.3	0.65	0.57	0.65	45.4
2	T1	539	1.0	539	1.0	0.614	5.6	LOS A	6.4	45.3	0.65	0.57	0.65	42.4
Approach		728	0.7	728	0.7	0.614	5.6	LOS A	6.4	45.3	0.65	0.57	0.65	43.6
North: Roseberry Street														
8	T1	335	1.3	335	1.3	0.356	3.9	LOS A	2.9	20.4	0.23	0.48	0.23	45.1
9	R2	153	0.7	153	0.7	0.356	7.2	LOS A	2.9	20.4	0.23	0.48	0.23	44.9
9u	U	26	0.0	26	0.0	0.356	10.1	LOS A	2.9	20.4	0.23	0.48	0.23	33.8
Approach		514	1.0	514	1.0	0.356	5.2	LOS A	2.9	20.4	0.23	0.48	0.23	44.8
West: Hayes Street														
10	L2	92	1.1	92	1.1	0.186	7.8	LOS A	1.2	8.6	0.74	0.76	0.74	40.4
12	R2	40	2.6	40	2.6	0.186	11.2	LOS A	1.2	8.6	0.74	0.76	0.74	44.8
Approach		132	1.6	132	1.6	0.186	8.8	LOS A	1.2	8.6	0.74	0.76	0.74	42.3
All Vehicles		1374	0.9	1374	0.9	0.614	5.8	LOS A	6.4	45.3	0.50	0.55	0.50	43.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: C:\Users\mcorban.WSHP800TK9-MC\Colston Budd Rogers & Kafes Pty Ltd\CBRKData - Documents\DATA\GROUPS\Jobs\12400 - 12499\12473\SIDRA\12473 Balgowlah McDonald's 250514.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

 Project: 12473 Balgowlah McDonald's 250514

Template: Movement Summaries

 Site: 101 [PM EX + Dev - Condamine Street - Kenneth Road (Site Folder: Weekday PM Existing + Development)]

 Network: 6 [Weekday PM Existing + Development (2 Sites) (Network Folder: Existing + Development)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, C*, D*, D1, E, G, G2*

Output Phase Sequence: A, D1, E, G, G2*

(* Variable Phase)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Condamine Street														
1	L2	48	2.2	48	2.2	0.081	15.7	LOS B	1.4	12.6	0.37	0.55	0.37	44.8
2	T1	1487	5.4	1487	5.4	0.711	4.0	LOS A	10.1	73.3	0.26	0.24	0.26	56.3
3	R2	445	0.9	445	0.9	* 0.969	87.2	LOS F	35.0	247.3	1.00	1.08	1.47	15.8
Approach		1981	4.3	1981	4.3	0.969	23.0	LOS B	35.0	247.3	0.43	0.44	0.54	42.1
East: Kenneth Road														
4	L2	291	1.4	291	1.4	0.280	18.7	LOS B	8.6	61.0	0.55	0.71	0.55	37.5
5	T1	78	1.4	78	1.4	0.152	36.0	LOS C	3.5	24.5	0.80	0.63	0.80	27.6
6	R2	239	1.3	239	1.3	* 0.920	70.4	LOS E	14.5	102.7	1.00	1.17	1.42	20.0
Approach		607	1.4	607	1.4	0.920	41.3	LOS C	14.5	102.7	0.76	0.88	0.93	27.0
North: Condamine Street														
7	L2	43	7.3	43	7.3	0.063	29.1	LOS C	1.5	11.4	0.64	0.70	0.64	31.0
8	T1	1141	6.3	1141	6.3	* 0.981	74.4	LOS F	44.3	326.7	1.00	1.21	1.40	27.0
9	R2	44	0.0	44	0.0	0.714	75.2	LOS F	2.9	20.1	1.00	0.81	1.24	25.7
Approach		1228	6.1	1228	6.1	0.981	72.8	LOS F	44.3	326.7	0.99	1.18	1.37	27.0
West: Kenneth Road														
10	L2	77	0.0	77	0.0	0.580	57.9	LOS E	8.1	56.5	0.98	0.80	0.98	29.4
11	T1	66	0.0	66	0.0	* 0.580	53.4	LOS D	8.1	56.5	0.98	0.80	0.98	20.1
12	R2	82	1.3	82	1.3	0.364	55.4	LOS D	4.5	31.5	0.94	0.77	0.94	29.6
Approach		225	0.5	225	0.5	0.580	55.7	LOS D	8.1	56.5	0.97	0.79	0.97	27.2
All Vehicles		4042	4.2	4042	4.2	0.981	42.7	LOS D	44.3	326.7	0.68	0.75	0.87	32.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Site: 101 [PM EX + Dev - Kenneth Road - Roseberry Street (Site Folder: Weekday PM Existing + Development)]

Network: 6 [Weekday PM Existing + Development (2 Sites) (Network Folder: Existing + Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Roseberry Street														
1	L2	220	2.4	220	2.4	0.526	6.8	LOS A	4.4	31.4	0.81	0.75	0.81	40.8
2	T1	75	0.0	75	0.0	0.526	6.7	LOS A	4.4	31.4	0.81	0.75	0.81	45.1
3	R2	232	0.5	232	0.5	0.526	9.9	LOS A	4.4	31.4	0.81	0.75	0.81	44.9
3u	U	15	0.0	15	0.0	0.526	11.4	LOS A	4.4	31.4	0.81	0.75	0.81	45.4
Approach		541	1.2	541	1.2	0.526	8.3	LOS A	4.4	31.4	0.81	0.75	0.81	43.8
East: Kenneth Road														
4	L2	183	0.6	183	0.6	0.571	6.1	LOS A	4.2	29.6	0.68	0.67	0.69	45.2
5	T1	333	0.3	333	0.3	0.571	6.0	LOS A	4.2	29.6	0.68	0.67	0.69	42.2
6	R2	19	0.0	19	0.0	0.571	9.2	LOS A	4.2	29.6	0.68	0.67	0.69	45.8
6u	U	3	0.0	3	0.0	0.571	10.7	LOS A	4.2	29.6	0.68	0.67	0.69	46.3
Approach		538	0.4	538	0.4	0.571	6.2	LOS A	4.2	29.6	0.68	0.67	0.69	43.8
North: Roseberry Street														
7	L2	28	0.0	28	0.0	0.372	11.0	LOS A	3.0	21.1	0.90	0.84	0.90	42.7
8	T1	158	0.7	158	0.7	0.372	11.0	LOS A	3.0	21.1	0.90	0.84	0.90	43.4
9	R2	46	2.3	46	2.3	0.372	14.3	LOS A	3.0	21.1	0.90	0.84	0.90	38.1
9u	U	1	0.0	1	0.0	0.372	15.7	LOS B	3.0	21.1	0.90	0.84	0.90	43.6
Approach		234	0.9	234	0.9	0.372	11.7	LOS A	3.0	21.1	0.90	0.84	0.90	42.6
West: Kenneth Road														
10	L2	35	3.0	35	3.0	0.626	7.6	LOS A	5.4	38.2	0.56	0.71	0.63	41.5
11	T1	462	1.1	462	1.1	0.626	7.5	LOS A	5.4	38.2	0.56	0.71	0.63	42.6
12	R2	66	3.2	66	3.2	0.626	10.8	LOS A	5.4	38.2	0.56	0.71	0.63	42.3
12u	U	21	5.0	21	5.0	0.626	12.3	LOS A	5.4	38.2	0.56	0.71	0.63	25.2
Approach		584	1.6	584	1.6	0.626	8.1	LOS A	5.4	38.2	0.56	0.71	0.63	42.3
All Vehicles		1897	1.1	1897	1.1	0.626	8.0	LOS A	5.4	38.2	0.71	0.73	0.73	43.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

USER REPORT FOR NETWORK SITE

All Movement Classes

 Project: 12473 Balgowlah McDonald's 250514

Template: Movement Summaries

 Site: 101 [Sat EX + Dev - Condamine Street - Kenneth Road (Site Folder: Saturday Midday Existing + Development)]

 Network: 7 [Saturday Midday Existing + Development (2 Sites) (Network Folder: Existing + Development)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, B*, C*, D*, D1*, E, G, G1*, G2*

Output Phase Sequence: A, E, G, G2*

(* Variable Phase)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Condamine Street														
1	L2	58	0.0	58	0.0	0.057	18.7	LOS B	1.5	10.7	0.49	0.68	0.49	42.3
2	T1	1515	2.2	1515	2.2	0.731	4.0	LOS A	11.2	79.6	0.27	0.24	0.27	56.3
3	R2	405	1.3	405	1.3	*0.948	80.2	LOS F	30.2	213.8	1.00	1.05	1.42	16.8
Approach		1978	2.0	1978	2.0	0.948	20.0	LOS B	30.2	213.8	0.42	0.42	0.51	43.8
East: Kenneth Road														
4	L2	371	0.3	371	0.3	0.375	21.9	LOS B	12.5	87.4	0.63	0.75	0.63	35.6
5	T1	91	1.2	91	1.2	0.188	38.0	LOS C	4.2	29.4	0.83	0.65	0.83	26.9
6	R2	253	0.8	253	0.8	*0.970	93.3	LOS F	20.1	141.9	1.00	1.16	1.61	16.6
Approach		714	0.6	714	0.6	0.970	49.2	LOS D	20.1	141.9	0.78	0.88	1.00	24.6
North: Condamine Street														
7	L2	6	33.3	6	33.3	0.015	35.8	LOS C	0.3	2.3	0.71	0.65	0.71	28.0
8	T1	1300	2.0	1300	2.0	*0.952	58.7	LOS E	46.2	329.3	1.00	1.11	1.27	30.6
9	R2	46	0.0	46	0.0	0.499	69.8	LOS E	2.8	19.9	1.00	0.74	1.00	26.6
Approach		1353	2.1	1353	2.1	0.952	59.0	LOS E	46.2	329.3	1.00	1.10	1.26	30.4
West: Kenneth Road														
10	L2	52	0.0	52	0.0	0.277	44.5	LOS D	5.8	40.5	0.86	0.72	0.86	33.1
11	T1	69	0.0	69	0.0	0.277	39.9	LOS C	5.8	40.5	0.86	0.72	0.86	23.6
12	R2	122	0.9	122	0.9	0.774	66.0	LOS E	7.7	54.3	1.00	0.92	1.22	27.3
Approach		243	0.4	243	0.4	0.774	54.0	LOS D	7.7	54.3	0.93	0.82	1.04	27.7
All Vehicles		4287	1.7	4287	1.7	0.970	39.1	LOS C	46.2	329.3	0.69	0.73	0.86	34.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

 **Site: 101 [Sat EX + Dev - Kenneth Road - Roseberry Street (Site Folder: Saturday Midday Existing + Development)]**

 **Network: 7 [Saturday Midday Existing + Development (2 Sites) (Network Folder: Existing + Development)]**

New Site

Site Category: (None)

Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
South: Roseberry Street														
1	L2	312	1.4	312	1.4	0.860	18.3	LOS B	12.3	86.9	0.90	1.14	1.58	32.8
2	T1	91	1.2	91	1.2	0.860	18.3	LOS B	12.3	86.9	0.90	1.14	1.58	39.6
3	R2	232	0.0	232	0.0	0.860	21.4	LOS B	12.3	86.9	0.90	1.14	1.58	39.5
3u	U	23	4.5	23	4.5	0.860	23.1	LOS B	12.3	86.9	0.90	1.14	1.58	39.8
Approach		657	1.0	657	1.0	0.860	19.6	LOS B	12.3	86.9	0.90	1.14	1.58	37.2
East: Kenneth Road														
4	L2	221	0.0	221	0.0	0.900	18.1	LOS B	11.4	80.0	0.75	1.10	1.40	39.7
5	T1	371	0.3	371	0.3	0.900	18.1	LOS B	11.4	80.0	0.75	1.10	1.40	33.6
6	R2	15	7.1	15	7.1	0.900	21.5	LOS B	11.4	80.0	0.75	1.10	1.40	40.0
6u	U	4	0.0	4	0.0	0.900	22.8	LOS B	11.4	80.0	0.75	1.10	1.40	40.5
Approach		611	0.3	611	0.3	0.900	18.2	LOS B	11.4	80.0	0.75	1.10	1.40	36.8
North: Roseberry Street														
7	L2	18	5.9	18	5.9	0.383	10.5	LOS A	2.6	18.7	0.86	0.83	0.86	43.0
8	T1	171	1.9	171	1.9	0.383	10.3	LOS A	2.6	18.7	0.86	0.83	0.86	43.8
9	R2	34	0.0	34	0.0	0.383	13.4	LOS A	2.6	18.7	0.86	0.83	0.86	38.8
9u	U	3	0.0	3	0.0	0.383	14.9	LOS B	2.6	18.7	0.86	0.83	0.86	44.1
Approach		225	1.9	225	1.9	0.383	10.9	LOS A	2.6	18.7	0.86	0.83	0.86	43.3
West: Kenneth Road														
10	L2	45	0.0	45	0.0	0.622	7.8	LOS A	5.3	37.3	0.58	0.74	0.66	41.2
11	T1	398	1.3	398	1.3	0.622	7.8	LOS A	5.3	37.3	0.58	0.74	0.66	42.3
12	R2	99	1.1	99	1.1	0.622	11.0	LOS A	5.3	37.3	0.58	0.74	0.66	42.0
12u	U	12	0.0	12	0.0	0.622	12.5	LOS A	5.3	37.3	0.58	0.74	0.66	24.5
Approach		554	1.1	554	1.1	0.622	8.5	LOS A	5.3	37.3	0.58	0.74	0.66	42.0
All Vehicles		2046	0.9	2046	0.9	0.900	15.2	LOS B	12.3	86.9	0.77	0.99	1.20	38.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: C:\Users\mcorban.WSHP800TK9-MC\Colston Budd Rogers & Kafes Pty Ltd\CBRKData - Documents\DATA\GROUPS\Jobs\12400 -

12499\12473\SIDRA\12473 Balgowlah McDonald's 250514.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

 Project: 12473 Balgowlah McDonald's 250514

Template: Movement Summaries

 Site: 101 [PM EX - Condamine Street - Kenneth Road - Option A (Site Folder: Alternate Options)]

 Network: 9 [Weekday PM Existing - Option A (Network Folder: Existing - KRCS Options)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, C*, D*, D1, E, G, G2*

Output Phase Sequence: A, D*, D1, E, G, G2*

(* Variable Phase)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	[HV %]	[Total veh/h]	[HV %]	v/c	sec		[Veh. veh]	[Dist m]				km/h
South: Condamine Street														
1	L2	48	2.2	48	2.2	0.083	16.2	LOS B	1.5	13.0	0.39	0.56	0.39	44.5
2	T1	1487	5.4	1487	5.4	0.782	8.8	LOS A	20.3	147.2	0.52	0.47	0.52	52.4
3	R2	440	1.0	440	1.0	* 1.064	142.8	LOS F	44.9	316.8	1.00	1.26	1.90	10.5
Approach		1976	4.3	1976	4.3	1.064	38.8	LOS C	44.9	316.8	0.62	0.65	0.82	34.7
East: Kenneth Road														
4	L2	285	1.5	285	1.5	0.317	24.1	LOS B	9.9	70.1	0.64	0.74	0.64	34.4
5	T1	78	1.4	78	1.3	* 1.045	125.8	LOS F	10.6	74.9	1.00	1.27	2.04	12.7
6	R2	234	1.4	233	1.3	1.045	131.8	LOS F	18.5	131.2	1.00	1.30	1.97	12.7
Approach		597	1.4	596 ^{N1}	1.4	1.045	79.5	LOS F	18.5	131.2	0.83	1.03	1.34	18.1
North: Condamine Street														
7	L2	38	8.3	38	8.3	0.052	27.1	LOS B	1.3	9.6	0.61	0.69	0.61	32.1
8	T1	1141	6.3	1141	6.3	* 1.055	121.1	LOS F	55.9	412.4	1.00	1.47	1.74	19.8
9	R2	44	0.0	44	0.0	0.714	75.2	LOS F	2.9	20.1	1.00	0.81	1.24	25.7
Approach		1223	6.1	1223	6.1	1.055	116.6	LOS F	55.9	412.4	0.99	1.43	1.69	20.1
West: Kenneth Road														
10	L2	77	0.0	77	0.0	0.580	57.9	LOS E	8.1	56.5	0.98	0.80	0.98	29.4
11	T1	66	0.0	66	0.0	0.580	53.4	LOS D	8.1	56.5	0.98	0.80	0.98	20.1
12	R2	82	1.3	82	1.3	* 0.896	78.6	LOS F	5.6	39.4	1.00	1.00	1.54	24.9
Approach		225	0.5	225	0.5	0.896	64.1	LOS E	8.1	56.5	0.99	0.87	1.19	25.4
All Vehicles		4021	4.2	4020 ^{N1}	4.2	1.064	69.9	LOS E	55.9	412.4	0.78	0.95	1.18	25.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Site: 101 [PM EX - Kenneth Road - Roseberry Street - Option A (Site Folder: Alternate Options)]

Network: 9 [Weekday PM Existing - Option A (Network Folder: Existing - KRCS Options)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
South: Roseberry Street														
1	L2	209	2.5	209	2.5	0.572	7.3	LOS A	4.3	30.5	0.78	0.77	0.83	31.4
2	T1	69	0.0	69	0.0	0.572	7.2	LOS A	4.3	30.5	0.78	0.77	0.83	43.0
3	R2	221	0.5	221	0.5	0.572	10.4	LOS A	4.3	30.5	0.78	0.77	0.83	42.7
3u	U	4	0.0	4	0.0	0.572	11.9	LOS A	4.3	30.5	0.78	0.77	0.83	31.4
Approach		504	1.3	504	1.3	0.572	8.7	LOS A	4.3	30.5	0.78	0.77	0.83	40.2
East: Kenneth Road														
4	L2	178	0.6	178	0.6	0.686	6.9	LOS A	4.6	32.5	0.64	0.69	0.72	42.1
5	T1	333	0.3	333	0.3	0.686	6.8	LOS A	4.6	32.5	0.64	0.69	0.72	42.1
6	R2	19	0.0	19	0.0	0.686	10.0	LOS A	4.6	32.5	0.64	0.69	0.72	45.7
6u	U	3	0.0	3	0.0	0.686	11.5	LOS A	4.6	32.5	0.64	0.69	0.72	46.2
Approach		533	0.4	533	0.4	0.686	7.0	LOS A	4.6	32.5	0.64	0.69	0.72	42.3
North: Roseberry Street														
7	L2	28	0.0	28	0.0	0.368	10.2	LOS A	2.7	18.8	0.86	0.80	0.86	43.1
8	T1	153	0.7	153	0.7	0.368	10.2	LOS A	2.7	18.8	0.86	0.80	0.86	38.8
9	R2	46	2.3	46	2.3	0.368	13.5	LOS A	2.7	18.8	0.86	0.80	0.86	38.8
9u	U	1	0.0	1	0.0	0.368	14.9	LOS B	2.7	18.8	0.86	0.80	0.86	44.1
Approach		228	0.9	228	0.9	0.368	10.9	LOS A	2.7	18.8	0.86	0.80	0.86	39.7
West: Kenneth Road														
10	L2	35	3.0	33	3.1	0.579	6.8	LOS A	4.4	31.1	0.51	0.65	0.53	42.2
11	T1	462	1.1	441	1.2	0.579	6.7	LOS A	4.4	31.1	0.51	0.65	0.53	43.4
12	R2	56	3.8	53	3.8	0.579	10.0	LOS A	4.4	31.1	0.51	0.65	0.53	26.6
12u	U	21	5.0	20	5.1	0.579	11.5	LOS A	4.4	31.1	0.51	0.65	0.53	26.6
Approach		574	1.7	547 ^{N1}	1.7	0.579	7.2	LOS A	4.4	31.1	0.51	0.65	0.53	42.5
All Vehicles		1839	1.1	1813 ^{N1}	1.1	0.686	8.0	LOS A	4.6	32.5	0.67	0.72	0.71	41.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^{N1} Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

▼ **Site: 101 [PM EX - Roseberry Street - Hayes Street - Option A (Site Folder: Alternate Options)]**
■ **Network: 9 [Weekday PM Existing - Option A (Network Folder: Existing - KRCS Options)]**

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV veh/h	%				[Veh. veh	Dist] m				
South: Roseberry Street														
1	L2	133	0.0	133	0.0	0.071	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
2	T1	413	1.5	413	1.5	0.215	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		545	1.2	545	1.2	0.215	1.2	NA	0.0	0.0	0.00	0.13	0.00	48.6
North: Roseberry Street														
8	T1	271	1.2	269	1.2	0.291	2.3	LOS A	1.6	11.0	0.41	0.23	0.45	46.2
9	R2	119	0.9	118	0.9	0.291	8.4	LOS A	1.6	11.0	0.41	0.23	0.45	45.0
Approach		389	1.1	387 ^{N1}	1.1	0.291	4.1	NA	1.6	11.0	0.41	0.23	0.45	45.8
West: Hayes Street														
10	L2	91	0.0	91	0.0	0.245	7.5	LOS A	0.9	6.6	0.58	0.79	0.61	39.2
12	R2	37	0.0	37	0.0	0.245	16.7	LOS B	0.9	6.6	0.58	0.79	0.61	43.3
Approach		127	0.0	127	0.0	0.245	10.2	LOS A	0.9	6.6	0.58	0.79	0.61	41.0
All Vehicles		1062	1.0	1060 ^{N1}	1.0	0.291	3.3	NA	1.6	11.0	0.22	0.24	0.24	46.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^{N1} Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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 Project: C:\Users\mcorban.WSHP800TK9-MC\Colston Budd Rogers & Kafes Pty Ltd\CBRKData - Documents\DATA\GROUPS\Jobs\12400 - 12499\12473\SIDRA\12473 Balgowlah McDonald's 250514.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

 Project: 12473 Balgowlah McDonald's 250514

Template: Movement Summaries

 Site: 101 [PM EX - Condamine Street - Kenneth Road - Option B (Site Folder: Alternate Options)]  Network: 10 [Weekday PM Existing - Option B (Network Folder: Existing - KRCS Options)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, C*, D, E, G, G2*

Output Phase Sequence: A, D, E, G, G2*

(* Variable Phase)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Condamine Street														
1	L2	48	2.2	48	2.2	0.083	16.7	LOS B	1.5	13.4	0.40	0.56	0.40	44.3
2	T1	1487	5.4	1487	5.4	0.795	9.7	LOS A	22.1	159.8	0.56	0.51	0.56	51.7
3	R2	440	1.0	440	1.0	* 1.026	117.7	LOS F	40.5	286.0	1.00	1.18	1.72	12.4
Approach		1976	4.3	1976	4.3	1.026	33.9	LOS C	40.5	286.0	0.65	0.66	0.81	36.8
East: Kenneth Road														
4	L2	285	1.5	285	1.5	0.416	34.3	LOS C	12.3	87.1	0.79	0.79	0.79	29.6
5	T1	78	1.4	78	1.4	* 0.956	83.0	LOS F	11.5	81.5	1.00	1.15	1.63	17.1
6	R2	234	1.4	234	1.4	0.956	87.7	LOS F	11.5	81.5	1.00	1.13	1.63	17.4
Approach		597	1.4	596 ^{N1}	1.4	0.956	61.6	LOS E	12.3	87.1	0.90	0.97	1.23	21.6
North: Condamine Street														
7	L2	38	8.3	38	8.3	0.061	19.6	LOS B	0.9	6.5	0.67	0.69	0.67	36.8
8	T1	1141	6.3	1141	6.3	* 1.002	87.3	LOS F	48.0	354.2	1.00	1.28	1.49	24.7
9	R2	44	0.0	44	0.0	0.357	66.4	LOS E	2.6	18.3	0.99	0.74	0.99	27.4
Approach		1223	6.1	1223	6.1	1.002	84.4	LOS F	48.0	354.2	0.99	1.24	1.45	24.9
West: Kenneth Road														
10	L2	77	0.0	77	0.0	0.581	40.1	LOS C	6.3	44.0	0.99	0.79	0.99	34.3
11	T1	66	0.0	66	0.0	* 0.581	35.5	LOS C	6.3	44.0	0.99	0.79	0.99	24.8
12	R2	82	1.3	82	1.3	0.299	54.3	LOS D	4.4	30.9	0.93	0.76	0.93	29.8
Approach		225	0.5	225	0.5	0.581	43.9	LOS D	6.3	44.0	0.97	0.78	0.97	30.3
All Vehicles		4021	4.2	4021	4.2	1.026	53.9	LOS D	48.0	354.2	0.81	0.89	1.08	29.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

 **Site: 101 [PM EX - Kenneth Road - Roseberry Street - Option B (Site Folder: Alternate Options)]**

 **Network: 10 [Weekday PM Existing - Option B (Network Folder: Existing - KRCS Options)]**

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
South: Roseberry Street														
1	L2	209	2.5	209	2.5	0.454	6.7	LOS A	4.0	28.4	0.78	0.73	0.78	32.1
2	T1	69	0.0	69	0.0	0.454	6.6	LOS A	4.0	28.4	0.78	0.73	0.78	43.3
3	R2	221	0.5	221	0.5	0.454	9.8	LOS A	4.0	28.4	0.78	0.73	0.78	43.1
3u	U	4	0.0	4	0.0	0.454	11.3	LOS A	4.0	28.4	0.78	0.73	0.78	32.1
Approach		504	1.3	504	1.3	0.454	8.1	LOS A	4.0	28.4	0.78	0.73	0.78	40.7
East: Kenneth Road														
4	L2	178	0.6	178	0.6	0.495	5.7	LOS A	4.0	27.9	0.65	0.64	0.65	42.4
5	T1	333	0.3	333	0.3	0.495	5.7	LOS A	4.0	27.9	0.65	0.64	0.65	42.4
6	R2	19	0.0	19	0.0	0.495	8.9	LOS A	4.0	27.9	0.65	0.64	0.65	45.9
6u	U	3	0.0	3	0.0	0.495	10.4	LOS A	4.0	27.9	0.65	0.64	0.65	46.4
Approach		533	0.4	533	0.4	0.495	5.8	LOS A	4.0	27.9	0.65	0.64	0.65	42.6
North: Roseberry Street														
7	L2	28	0.0	28	0.0	0.331	10.4	LOS A	2.7	19.4	0.87	0.80	0.87	43.0
8	T1	153	0.7	153	0.7	0.331	10.4	LOS A	2.7	19.4	0.87	0.80	0.87	38.6
9	R2	46	2.3	46	2.3	0.331	13.7	LOS A	2.7	19.4	0.87	0.80	0.87	38.6
9u	U	1	0.0	1	0.0	0.331	15.1	LOS B	2.7	19.4	0.87	0.80	0.87	43.9
Approach		228	0.9	228	0.9	0.331	11.1	LOS A	2.7	19.4	0.87	0.80	0.87	39.5
West: Kenneth Road														
10	L2	35	3.0	34	3.1	0.580	6.8	LOS A	4.6	32.5	0.51	0.66	0.54	42.2
11	T1	462	1.1	453	1.1	0.580	6.7	LOS A	4.6	32.5	0.51	0.66	0.54	43.3
12	R2	56	3.8	55	3.8	0.580	10.0	LOS A	4.6	32.5	0.51	0.66	0.54	26.5
12u	U	21	5.0	21	5.0	0.580	11.6	LOS A	4.6	32.5	0.51	0.66	0.54	26.5
Approach		574	1.7	563 ^{N1}	1.7	0.580	7.2	LOS A	4.6	32.5	0.51	0.66	0.54	42.5
All Vehicles		1839	1.1	1828 ^{N1}	1.1	0.580	7.6	LOS A	4.6	32.5	0.67	0.69	0.68	41.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^{N1} Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

▼ **Site: 101 [PM EX - Roseberry Street - Hayes Street - Option B (Site Folder: Alternate Options)]**
■ **Network: 10 [Weekday PM Existing - Option B (Network Folder: Existing - KRCS Options)]**

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
South: Roseberry Street														
1	L2	133	0.0	133	0.0	0.071	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
2	T1	413	1.5	413	1.5	0.215	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		545	1.2	545	1.2	0.215	1.2	NA	0.0	0.0	0.00	0.13	0.00	48.6
North: Roseberry Street														
8	T1	271	1.2	270	1.2	0.292	2.3	LOS A	1.6	11.0	0.41	0.23	0.45	46.2
9	R2	119	0.9	119	0.9	0.292	8.4	LOS A	1.6	11.0	0.41	0.23	0.45	45.0
Approach		389	1.1	388 ^{N1}	1.1	0.292	4.1	NA	1.6	11.0	0.41	0.23	0.45	45.8
West: Hayes Street														
10	L2	91	0.0	91	0.0	0.245	7.5	LOS A	0.9	6.6	0.58	0.79	0.61	39.2
12	R2	37	0.0	37	0.0	0.245	16.8	LOS B	0.9	6.6	0.58	0.79	0.61	43.3
Approach		127	0.0	127	0.0	0.245	10.2	LOS A	0.9	6.6	0.58	0.79	0.61	40.9
All Vehicles		1062	1.0	1061 ^{N1}	1.0	0.292	3.3	NA	1.6	11.0	0.22	0.24	0.24	46.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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**ANNEXURE B: BITZIOS DATA REPORT – MCDONALDS
SYDNEY METROPOLITAN DATA SUMMARY
(1 SHEET)**

Survey Data Summary - McDonalds

Sydney Metropolitan / Regional	Sydney Metropolitan															
Site Number	7							8		9		10		11		
Site Location	Liverpool							Northmead		Rosehill		Stanmore		Haberfield		
Survey day	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Fri	Sat	Fri	Sat	Fri	Sat	Thu	Sun	
Survey dates	20-Feb	21-Feb	22-Feb	23-Feb	24-Feb	25-Feb	26-Feb	11-Mar	12-Mar	11-Mar	12-Mar	11-Mar	12-Mar	10-Mar	13-Mar	
Operating Times	06:00-23:00	06:00-23:00	06:00-23:00	06:00-23:00	06:00-23:00	06:00-23:00	06:00-23:00	06:00-23:00	06:00-23:00	24 Hours	24 Hours	24 Hours	24 Hours	05:00-00:00	05:00-00:00	
Product range	Burgers, Fries, Drinks - Includes McCafe							Burgers, Fries, Drinks - Includes McCafe		Burgers, Fries, Drinks - Includes McCafe		Burgers, Fries, Drinks - Includes McCafe		Burgers, Fries, Drinks - Includes McCafe		
Surrounding land use if relevant	Commercial/Residential							Residential		Commercial/Residential		Commercial		Residential		
Approximate GFA m ²	270	270	270	270	270	270	270	350	350	400	400	350	350	660	660	
Average employees per shift	10	10	10	10	10	10	10	14	14	10	10	23	23	10	10	
Number of years open as at June 2016	45	45	45	45	45	45	45	-	-	-	-	-	-	4	4	
No. entry points	1	1	1	1	1	1	1	1 combined entry / exit	1 combined entry / exit	1 combined entry / exit	1 combined entry / exit	1 combined entry / exit	1 combined entry / exit	2 combined entry / exit	2 combined entry / exit	
No. exit points	1	1	1	1	1	1	1	1 combined entry / exit	1 combined entry / exit	1 combined entry / exit	1 combined entry / exit	1 combined entry / exit	1 combined entry / exit	2 combined entry / exit	2 combined entry / exit	
Drive-thru lane capacity (dist/ 6) equivalent vehicles	11	11	11	11	11	11	11	14	14	13	13	12	12	10	10	
No. waiting bays	0	0	0	0	0	0	0	1	1	1	1	2	2	1	1	
Total lane capacity + waiting bays	11	11	11	11	11	11	11	15	15	14	14	14	14	11	11	
On-site parking bays	41	41	41	41	41	41	41	46	46	33	33	34	34	18	18	
Seating inside	54	54	54	54	54	54	54	41	41	40	40	20	20	108	108	
Seating outside	58	58	58	58	58	58	58	72	72	40	40	30	30	26	26	
Total seating	112	112	112	112	112	112	112	113	113	80	80	50	50	134	134	
No. ordering booths	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
No. payment booths	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
No. collection points	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Total booths	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Average service time drive through (m:ss)	3:31	3:55	3:12	3:14	3:03	3:51	3:32	3:21	5:53	4:51	4:32	3:14	11:12	4:18	5:27	
AM survey period	06:00-15:00	06:00-15:00	06:00-12:00	06:00-12:00	06:00-12:00	06:00-12:00	06:00-12:00	07:00-09:00	11:00-15:00	07:00-09:00	11:00-15:00	07:00-09:00	11:00-15:00	07:00-09:00	11:00-15:00	
AM Site peak hour times	12:45-13:45	12:45-13:45	07:15-08:15	07:00-08:00	07:45-08:45	09:15-10:15	07:30-08:30	07:00-08:00	13:45-14:45	07:15-08:15	13:00-14:00	07:45-08:45	12:45-13:45	07:45-08:45	11:00-12:00	
AM Site peak trip generation (twice vehicles served)	254	174	118	138	142	142	140	150	242	98	240	154	388	148	250	
AM Site peak road frontage traffic	2156	2460	2559	2423	2713	2386	2540	3269	3156	1319	1371	3902	3842	3492	3411	
AM Network peak hour times during survey	10:30-11:30	12:00-13:00	08:15-09:15	08:30-09:30	08:00-09:00	08:15-09:15	08:15-09:15	07:00-08:00	11:15-12:15	08:00-09:00	11:30-12:30	07:30-08:30	14:00-15:00	07:00-08:00	12:00-13:00	
AM Network peak trip generation (twice vehicles served)	98	164	96	98	132	112	112	150	158	92	162	122	242	122	126	
AM Network peak two-way road frontage traffic	2856	2650	2794	2676	2767	2713	2782	3269	3680	1405	1407	3996	3971	3612	3637	
PM survey period	15:00-20:00	15:00-20:00	12:00-20:00	12:00-20:00	12:00-20:00	12:00-20:00	12:00-20:00	15:00-19:00	17:00-19:00	15:00-19:00	17:00-19:00	15:00-19:00	17:00-19:00	15:00-19:00	17:00-19:00	
PM Site peak hour times	17:30-18:30	16:45-17:45	15:15-16:15	15:15-16:15	15:00-16:00	14:30-15:30	15:00-16:00	15:00-16:00	17:45-18:45	15:15-16:15	17:00-18:00	15:00-16:00	17:15-18:15	15:00-16:00	18:00-19:00	
PM Site peak trip generation (twice vehicles served)	114	128	190	202	272	234	212	160	152	194	118	214	238	148	126	
PM Site peak road frontage traffic	1888	2170	3060	2958	3002	2775	3114	3559	2374	1342	1311	3908	3781	3585	2872	
PM Network peak hour times during survey	15:00-16:00	15:00-16:00	17:00-18:00	16:15-17:15	17:00-18:00	15:30-16:30	15:15-16:15	16:00-17:00	17:00-18:00	15:45-16:45	17:45-18:45	16:45-17:45	17:15-18:15	16:45-17:45	17:00-18:00	
PM Network peak two-way road frontage traffic	2400	2304	3061	3076	3218	3083	3246	3660	2995	1357	1359	4014	3781	3861	3274	
PM Network peak trip generation drive through only	Not Calculated	Not Calculated	68	76	112	38	124	96	Not Calculated	84	Not Calculated	82	Not Calculated	68	Not Calculated	
PM Network peak trip generation park & walk-in only			54	50	72	76	64	16		88		70		40		
PM Network peak trip generation park > 10 mins only			14	26	38	34	18	12		84		44		28		
PM Network peak total trip generation	148	132	118	126	184	114	188	112	148	172	114	152	238	108	98	
Passing trade drive through	47%	54%	86%	75%	71%	66%	69%	67%	75%	Data Not Collected	Data Not Collected	75%	53%	47%	59%	
Passing trade park and walk-in	47%	30%	41%	48%	40%	25%	36%	63%	41%	80%	30%	62%	75%	57%	51%	
Weighted passing trade	47%	45%	68%	65%	58%	46%	57%	66%	62%	-	-	70%	60%	50%	56%	
Maximum queue (No. vehicles)	13	10	7	6	9	9	7	8	11	9	8	8	10	9	12	
Maximum queue/Total queue	118%	91%	64%	55%	82%	82%	64%	53%	73%	64%	57%	57%	71%	82%	109%	
Maximum parked vehicles	22	13	16	19	33	18	13	20	24	22	23	17	24	12	21	
Maximum parked vehicles/Total parking bays	54%	32%	39%	46%	80%	44%	32%	43%	52%	67%	70%	50%	71%	67%	117%	
AM Trips per 100 square meters GFA	36	61	36	36	49	41	41	43	45	23	41	35	69	18	19	
AM Trips per seat	0.88	1.46	0.86	0.88	1.18	1	1	1.33	1.4	1.15	2.03	2.44	4.84	0.91	0.94	
PM Trips per 100 square meters GFA	55	49	44	47	68	42	70	32	42	43	29	43	68	16	15	
PM Trips per seat	1.32	1.18	1.05	1.13	1.64	1.02	1.68	0.99	1.31	2.15	1.43	3.04	4.76	0.81	0.73	
Site and/or survey observations and comments																

Footnotes:

1. Quantity of data during this period not considered to be sufficient to provide statistically significant conclusions

Independent Variables

Dependent Variables

Denotes <10 Surveys

Please Note: For weekend, AM and PM sections refer to start-3pm and 3pm-end. This is to ensure that the lunch peak is captured entirely when it occurs through noon (e.g. 11:30-12:30), since lunchtime is typically the site peak during weekends