



*The City with Spirit*

## NOTICE OF MEETING

Notice is hereby given that an **Ordinary Council** meeting of the Devonport City Council will be held in the Council Chambers, on Monday 25 September 2017, commencing at 5:30pm.

**The meeting will be open to the public at 5:30pm.**

## QUALIFIED PERSONS

In accordance with Section 65 of the *Local Government Act 1993*, I confirm that the reports in this agenda contain advice, information and recommendations given by a person who has the qualifications or experience necessary to give such advice, information or recommendation.

Paul West  
GENERAL MANAGER

**20 September 2017**

### October 2017

<b>Meeting</b>	<b>Date</b>	<b>Commencement Time</b>
Infrastructure Works & Development	9 October 2017	5:30pm
Council	23 October 2017	5:30pm
Annual General Meeting	30 October	5:30pm

**AGENDA FOR AN ORDINARY MEETING OF DEVONPORT CITY COUNCIL  
HELD ON MONDAY 25 SEPTEMBER 2017 AT THE COUNCIL CHAMBERS AT 5:30PM**

Item	Page No.
<b>1.0 APOLOGIES</b> .....	<b>1</b>
<b>2.0 DECLARATIONS OF INTEREST</b> .....	<b>1</b>
<b>3.0 PROCEDURAL</b> .....	<b>2</b>
<b>3.1 CONFIRMATION OF MINUTES</b> .....	<b>2</b>
3.1.1 Council meeting - 28 August 2017 .....	2
<b>3.2 PUBLIC QUESTION TIME</b> .....	<b>3</b>
3.2.1 Responses to questions raised at prior meetings (D454153) .....	12
3.2.2 Questions on notice from the public (D454168) .....	22
3.2.3 Question without notice from the public .....	23
<b>3.3 QUESTIONS ON NOTICE FROM ALDERMEN</b> .....	<b>23</b>
<b>4.0 PLANNING AUTHORITY MATTERS</b> .....	<b>24</b>
<b>5.0 REPORTS</b> .....	<b>25</b>
5.1 Cradle Coast Waste Management Governance (D478484).....	25
5.2 Financial Assistance - Round One 2017/2018 (D476963).....	29
5.3 LIVING CITY Quarterly Report - September 2017 (D491111) .....	36
5.4 Annual Financial Statement - 30 June 2017 (D489416) .....	303
5.5 Disability/Equal Access and Inclusion (D491448).....	371
5.6 Parking Review (D460301).....	378
5.7 Tender Report CT0205 Torquay Road Reconstruction (D490889).....	385
<b>6.0 INFORMATION</b> .....	<b>388</b>
6.1 Workshops and Briefing Sessions held since the last Council meeting (D454194) .....	388
6.2 Mayor's Monthly Report (D454206).....	389
6.3 General Manager's Report - September 2017 (D462046) .....	391
6.4 Unconfirmed Minutes - Cradle Coast Authority - Representatives Meeting - 24 August 2017 (D492042) .....	400
<b>7.0 SECTION 23 COMMITTEES</b> .....	<b>413</b>
7.1 Planning Authority Committee Meeting - 18 September 2017 (D492999) .....	413
7.2 Governance, Finance & Community Service Committee Meeting - 18 September 2017 (D493001) .....	418
<b>8.0 CLOSED SESSION - CONFIDENTIAL MATTERS</b> .....	<b>424</b>
<b>Out Of Closed Session</b> .....	<b>425</b>
<b>9.0 CLOSURE</b> .....	<b>425</b>



Agenda of an ordinary meeting of the Devonport City Council to be held at the Council Chambers, Fenton Way, Devonport on Monday, 25 September 2017 commencing at 5:30pm.

**PRESENT**

		<b>Present</b>	<b>Apology</b>
Chair	Ald S L Martin (Mayor)		
	Ald A L Rockliff (Deputy Mayor)		
	Ald C D Emmerton		
	Ald G F Goodwin		
	Ald A J Jarman		
	Ald L M Laycock		
	Ald J F Matthews		
	Ald T M Milne		
	Ald L M Perry		

**ACKNOWLEDGEMENT OF COUNTRY**

Council acknowledges and pays respect to the Tasmanian Aboriginal community as the traditional and original owners and continuing custodians of this land.

**IN ATTENDANCE**

All persons in attendance are advised that it is Council policy to record Council Meetings, in accordance with Council's Audio Recording Policy. The audio recording of this meeting will be made available to the public on Council's website for a minimum period of six months. Members of the public in attendance at the meeting who do not wish for their words to be recorded and/or published on the website, should contact a relevant Council Officer and advise of their wishes prior to the start of the meeting.

**1.0 APOLOGIES**

**2.0 DECLARATIONS OF INTEREST**

**3.0 PROCEDURAL**

**3.1 CONFIRMATION OF MINUTES**

**3.1.1 COUNCIL MEETING - 28 AUGUST 2017**

**RECOMMENDATION**

That the minutes of the Council meeting held on 28 August 2017 as circulated be confirmed.

### 3.2 PUBLIC QUESTION TIME

Members of the public are invited to ask questions in accordance with Council's Public Question Time Policy (Min No 159/17 refers):

1. Public participation shall take place at Council meetings in accordance with Regulation 31 of the *Local Government (meeting Procedures) Regulations 2015*.
  2. Public participation will be the first agenda item following the formal motions: Apologies, Minutes and Declarations of Interest.
  3. Questions without notice will be dependent on available time at the meeting (with a period of 30 minutes set aside at each meeting).
  4. A member of the public who wishes to ask a question at the meeting is to state their name and address prior to asking their question.
  5. A maximum of 2 questions per person are permitted.
  6. A maximum period of 3 minutes will be allowed per person.
  7. If time permits, a third question may be asked once all community members who wish to ask questions have done so. A time limit of 2 minutes will apply.
  8. Questions are to be succinct and not contain lengthy preamble.
  9. Questions do not have to be lodged prior to the meeting, however they will preferably be provided in writing.
  10. A question by any member of the public and an answer to that question are not to be debated.
  11. Questions without notice and their answers will be recorded in the minutes.
  12. The Chairperson may take a question on notice in cases where the questions raised at the meeting require further research or clarification, or where a written response is specifically requested.
  13. Protection of parliamentary privilege does not apply to local government and any statements or discussion in the Council Chambers, or any document produced, are subject to the laws of defamation.
  14. The Chairperson may refuse to accept a question. If the Chairperson refuses to accept a question, the Chairperson is to give reason for doing so in accordance with the Public Question Time Policy.
-

### 3.2.1 RESPONSES TO QUESTIONS RAISED AT PRIOR MEETINGS

File: 27452 D454153

Responses to questions raised at prior meetings are attached.

#### ATTACHMENTS

1. Response - Council Meeting Questions - August 2017 - Malcolm Gardam
2. Response - Council Meeting Questions - August 2017 - Bob Vellacott
3. Response - Council Meeting Questions - August 2017 - Trevor Smith
4. Response - Council Meeting Questions - August 2017 - Tony Butler
5. Response - Governance, Finance & Community Services Committee Questions - 18 September 2017 - Mr D Janney

#### RECOMMENDATION

That the responses to questions from Mr Malcolm Gardam, Mr Bob Vellacott, Mr Trevor Smith and Mr Tony Butler at the 28 August 2017 Council meeting and Mr Douglas Janney at the 18 September 2017 Governance, Finance & Community Services Committee meeting be noted.

Author:	Robyn Woolsey	Endorsed By:	Paul West
Position:	Administration Officer	Position:	General Manager



31 August 2017

*In reply please quote:*  
File 32161

Mr Malcolm Gardam  
4 Beaumont Drive  
MIANDETTA TAS 7310

Email: [mgardam@outlook.com.au](mailto:mgardam@outlook.com.au)

Dear Mr Gardam

#### **QUESTIONS – AUGUST 2017 COUNCIL MEETING**

I refer to your questions raised at the 28 August 2017 Council meeting and provide the following responses:

**Q1.** In response to my Q2. dated 24<sup>th</sup> July 2017, regarding council funded fit-out of tenancies within the Food Pavilion, council stated "Provision of \$850,000 was included in the budget approved by Council for fit-out and allows for work such as floor finishes, partition walls, ceilings and equipment fit for purpose, and as such be agreed with tenants."; will council please expand on what "equipment fit for purpose" is and does it extend to concessions or otherwise including equipment such as kitchen equipment and fixtures?

**Response:** Equipment fit for purpose may include kitchen appliances and fixtures as agreed with the head lessee. It does not extend to lease concessions.

**Q2.** In response to my Q3. dated 21<sup>st</sup> August 2017, asking if Council could please advise who are the owners/shareholders and directors of Southern Wild Distillery Pty Ltd (SWD) and Providore Place Devonport Pty Ltd (Providore Place), both lease holders with the Devonport City Council, Council responded "This is not information Council maintains. Company information can be sourced through a search with the Australian Securities and Investment Commission (ASIC)."; accordingly, can Council please confirm the following:

- a) Is Council aware of a 50% change in ownership of Providore Place Devonport Pty Ltd with the substitution of Forager Holdings Pty Ltd in lieu of previous 50% owner Pollination Partners Pty Ltd?
- b) Can Council advise as to the reason for the 50% change in ownership; and
- c) Has the change of ownership been approved by Council (as is a normal requirement of contracts) and has the Head Lease Agreement with Providore Place Devonport Pty Ltd been amended and re-signed to capture the change and any associated securities within of the contract?



-2-

**Response:** As previously advised, the regulatory body which maintains this information is ASIC. In accordance with Council's statutory obligations under the *Personal Information Protection Act 2004* and its Personal Information Protection Policy, the information requested if it is held by Council, cannot be provided to a third party. Relevant sections of the Council Policy are as follows:

**Principle 2 – Use and Disclosure**

*Council will only disclose personal information to a third party or external organisation with the express consent of the individual concerned, or when it is required by law. Any external or third party in receipt of personal information must comply with provisions of the Act. In respect to contractors engaged by Council, it is Council's responsibility to ensure that they are aware of, and comply with the Act (as far as it is reasonably practicable for Council to do so) and other privacy and confidentiality provisions.*

**Principle 4 – Data Security**

*Employees and elected members are required to protect personal information that they have access to, and ensure that it is kept securely and used for authorised purposes only. Confidentiality must be maintained at all times when handling personal or sensitive information, and must not be disclosed to any unauthorised parties. Both employees and elected members are bound by Section 339 of the Local Government Act 1993, whereby they "must not make improper use of any information acquired".*

Council's lease agreement is with the entity Providore Place Pty Ltd. There has been no circumstance that Council has been made aware of that would necessitate a new lease being entered into and/or signed.

Yours sincerely



Paul West  
**GENERAL MANAGER**



30 August 2017

*In reply please quote:*  
File 32161

Mr Bob Vellacott  
11 Cocker Place  
DEVONPORT TAS 7310

Email: [vellacottrobert@yahoo.com.au](mailto:vellacottrobert@yahoo.com.au)

Dear Mr Vellacott

**QUESTIONS RAISED – AUGUST 2017 COUNCIL MEETING**

I refer to questions raised at the 28 August 2017 Council meeting and provide the following responses:

**Q1** I now ask: will you Mayor and Aldermen on behalf of the ratepayers make proper representation to the State Government requesting that they give financial assistance in the form of a special grant to relieve ratepayers of this debt they, the State Government, was complicit with Council in imposing on present and future ratepayers for many years to come?

**Response:**

Council has a Development Agreement with the State Government regarding their financial contribution to LIVING CITY Stage 1.

The project funding model, based on the support detailed in the Agreement, is considered sound and Council has no intention to seek any change to the current arrangements.

Yours sincerely

A handwritten signature in black ink that reads 'Paul West'.

Paul West  
**GENERAL MANAGER**






**DEVONPORT CITY COUNCIL**
ABN: 47 611 446 016
PO Box 604 Devonport TAS 7310 – 17 Fenton Way Devonport
Telephone 03 6424 0511
Email council@devonport.tas.gov.au Web www.devonport.tas.gov.au

31 August 2017

*In reply please quote:*

File 29120

Mr Trevor Smith  
7 Glen Court  
DEVONPORT TAS 7310

Dear Mr Smith

**QUESTIONS RAISED – AUGUST 2017 COUNCIL MEETING**

I refer to your questions raised at the 28 August 2017 Council meeting and provide the following responses:

- Q1** The Julie Burgess was dry docked for maintenance last month, could you inform me of the full cost of repairs plus slippage fees as well? Is this an annual cost to the ratepayers of Devonport?

**Response:** The *Julie Burgess* is required to have regular slipping for assessment and survey works. The cost of maintenance and slippage costs on each occasion depends on repairs identified to be completed and varies each year. For the slipping completed in July 2017, the slipping costs incurred were \$6,112.50 with survey costs estimated to be \$1,000. A variety of maintenance work was completed totalling \$2,705.41.

As a result of the survey, additional works were identified and are programmed to occur in September. The total estimated cost for these works is \$50,000.

- Q2** Could you please tell me why the Council owned land, which is for sale, at 2-12 Murray Street, East Devonport wasn't advertised in the Advocate, under the highest tender? This seems to be the norm lately, with the Council not initially advertising the Parkland for sale at 108 Tarleton Street, East Devonport. The Council finally advertised the land for sale, with pressure from the ratepayers of Devonport.

**Response:** The land at 2-12 Murray Street, East Devonport is not 'public land' as defined by the *Local Government Act 1993* (the Act) and is not listed on Council's Public Land Register. Therefore, it was not required to be advertised. Section 177 of the Act (Sale and disposal of land) was adhered to by Council in selling this property.



*The City with Spirit*



-2-

The transfer of land at 108 Tarleton Street was considered by Council at its meeting on 27 February 2017 and as this was designated 'public land' the requirements of Section 178 of the Act was complied with. The proposed transfer was advertised on the 18<sup>th</sup> and 22<sup>nd</sup> March in accordance with the Act and not as a result of pressure from ratepayers as inferred by you.

Yours sincerely



Paul West  
**GENERAL MANAGER**


**DEVONPORT CITY COUNCIL**
ABN: 47 811 446 016
PO Box 604 Devonport TAS 7310 – 17 Fenton Way Devonport
Telephone 03 6424 0511
Email [council@devonport.tas.gov.au](mailto:council@devonport.tas.gov.au) Web [www.devonport.tas.gov.au](http://www.devonport.tas.gov.au)

4 September 2017

**In reply please quote:**

File19924/14980

Mr Tony Butler  
2 Drew Street  
EAST DEVONPORT TAS 7310

Dear Mr Butler

**QUESTIONS RAISED – AUGUST 2017 COUNCIL MEETING**

I refer to your questions raised at the 28 August 2017 and provide the following responses:

- Q1** What I would like to ask is that as a Council, what does dispensation mean? If you take over land, the carpet factory got a dispensation order, but if you go around, anyone looking into the area etc it comes up that it is still under residential. Is it residential still, or does dispensation apply to whenever they move?

**Response (provided at the meeting)**

The Development Manager replied that the word dispensation is a technical term which appears in the *Land Use Planning and Approvals Act 1993* and what happened on the site that you are referring too was not a Council decision it was a Tasmanian Planning Commission decision. The owner of that property made an application to carry on a business which was not a permitted use in the General Residential Zone at this stage. After going through the processes that the Act requires which included advertising, getting public representations, making a report to Council, it was then referred to the TPC and they have used the technical term "dispensation" to allow that owner, and that owner only, to operate the business of processing and packing potatoes at that site.

- Q2** In Brooke Street there was a place there for years and I think it could have had something to do with vegetables or potatoes and that is zoned as Residential, but in the last three weeks a trucking operation has taken over. If you go over there, its not real good. I don't know how many acres it would be but there is three or four and they bring the logs in and they are stripping down trucks and its Residential and they should not be there?

**Response**

Council has investigated the trucking activity you have raised in relation to the property at 21-29 Brooke Street, East Devonport. Although Council officers have not personally observed people "stripping down" trucks it



*The City with Spirit*

appears that the activity could best be described as a "transport depot". This is a prohibited use within the current zoning of general residential.

Council has written to the property owner and requested that he contact Council so that the matter can be discussed. The options currently available to the owner are to either cease the use or make application under the relevant provisions of the *Land Use Planning and Approvals Act 1993* for a rezoning that would permit such a use.

**Q3** This is from 10 June 2014 for mobility steps to be put down in Wheeler Street. From what I know nothing has been done about it but it says that when Council has the funds they would do something. Surely it wouldn't take three years to put a couple of ramps on either side of the steps, so that mobility scooters are able to go up?

**Response**

As stated in Council's letter dated 10 June 2014, your request has been added to the list of required pedestrian crossings. This list is made up of requests from the public, as well as outcomes from incident investigations. The list is prioritised based on the path hierarchy which is detailed in Council's Pedestrian Strategy, the location of the road and the average number of pedestrians.

This list is reviewed each year and the highest priorities are included in the budget. The list currently has over 30 jobs listed on it and the location that you have raised concerns about is currently listed as number 10 on the priority list. Based on current expenditure it is likely that the ramps on Wheeler street will be constructed in the next 3 to 5 years.

Yours sincerely



Paul West  
**GENERAL MANAGER**



20 September 2017

**In reply please quote:**  
File: 26469

Mr D Janney  
23 Watkinson Street  
DEVONPORT TAS 7310

By email: [djanney39@gmail.com](mailto:djanney39@gmail.com)

Dear Mr Janney

**QUESTIONS - GOVERNANCE, FINANCE AND COMMUNITY SERVICES MEETING SEPTEMBER 2017**

I refer to your questions raised at the 18 September 2017 Governance, Finance and Community Services meeting and provide the following responses:

**Question 1**

Why are 4 of the activities represented by the circular charts so far off track?

**Response:**

There are a number of reasons why these areas could be "off track" however being only 2 months into the financial year, this is not uncommon as some projects may not have progressed as planned. (See response to Q2 regarding %'s). It is generally accepted that an action tracking at 80% is fair and reasonable given unexpected delays or other issues and/or priorities.

**Question 2**

In arriving at the circular charts with their summaries from the spreadsheets on pages 48 to 70 what does the ON/OFF track % represent; time line, hours expended v total hours or some other measure?

**Response:**

Actions are assigned progress targets to assist in meeting completion by their pre-determined end/completion date. An action with a start date of 1 July 2017 and completion date of 30 June 2018, will have monthly targets assigned to ensure the action is completed by the due date - 100% (e.g. July is 8%; August 16%; September 24% etc) - if the action is tracking to schedule, the % progress should align to that target percentage.

When the report is prepared, any areas of concern (e.g. those items which are significantly off track) are identified with the nominated project officer/coordinator. Timeframes are then adjusted accordingly if required and the item is monitored.

Yours sincerely

Paul West  
GENERAL MANAGER



### 3.2.2 QUESTIONS ON NOTICE FROM THE PUBLIC

File: 7424 D454168

#### **MR RAY CHAPLIN – 55 WENVOE STREET, DEVONPORT**

Questions on notice were received from Mr Ray Chaplin on 11 September 2017 **reproduced as attachment 1**, along with a letter addressed to the Premier Will Hodgman relating to the East Devonport Retail Development at 2-12 Murray Street is **reproduced as attachment 2**.

#### **DISCUSSION**

In relation to the questions received 11 September 2017 it is proposed that Mr Chaplin be advised of the following:

#### **2-12 Murray Street, East Devonport**

I would like to ask Council's Aldermen the following questions

**Q1** If they would support negotiating with TasPorts to buy back the land in question?

#### **Response**

Council currently has a Contract of Sale for the property which is subject to a number of conditions precedent. Presently the proposal to rezone the property from Port and Marine Zone to Local Business Zone has been endorsed by Council and is on public exhibition.

If the current Contract of Sale cannot be finalised Council will consider other options for the land at that time.

**Q2** If they support the suggestion I have made to work collaboratively with all stakeholders involved in the Spirit of Tasmania visitor precinct to develop a new innovative and inspirational East Devonport Gateway plan?

#### **Response**

Council certainly supports an improved East Devonport entrance and continues to actively engage with the State Government on this issue. Irrespective of whether the property is eventually sold under the current Contract of Sale or not, Council will continue to progress opportunities to improve the East Devonport entrance from the Spirit of Tasmania terminal.

#### **MR MALCOLM GARDAM – 4 BEAUMONT DRIVE, MIANDETTA**

Questions on notice were received from Mr Malcolm Gardam on 18 September 2017 **reproduced as attachment 1**.

#### **DISCUSSION**

In relation to the questions received 18 September 2017 it is proposed that Mr Gardam be advised of the following:

#### **LIVING CITY – FOLLOW UP QUESTIONS TO DCC RESPONSES**

**Clarification 1 – Accordingly, can you please further clarify the following:**

- a) Excluding my advice on the 21<sup>st</sup> August 2017 was Council aware at that time of the change in Providore Place (Devonport) Pty Ltd shareholders and entity name change as stated above?



**Response**

No.

- b) Is it correct to assume there are no lessee shareholder guarantees in place, given that you appear to have stated no idea of a change of shareholders as at the 21<sup>st</sup> August 2017?

**Response**

As you have previously been informed the contents of the lease agreement are considered 'commercial in confidence'. Council has no intention of responding to you further in relation to the matter of lessee shareholder guarantees.

- c) Considering the cross-over commercial/corporate obligations of the key personnel within Projects + Infrastructure and the Directors/Owners of Providore Place (Devonport) Pty Ltd does Council believe it reasonable that it should have been advised of the pending shareholder change, and in particular advised by its appointed Development Manager?

**Response**

No.

- d) Does Council categorically guarantee Devonport ratepayers that the obvious conflicts of interest, and associated pecuniary interests, within Providore Place (Devonport) Pty Ltd shareholders, family members and its Directors and the role and responsibility of Council's appointed Developments Manager's (Projects+Infrastructure) Director and lead consultant is:
- i. Identified, **strictly managed** and will be **fully documented** so as to be transparent to and in the best interest of ratepayers; and
  - ii. Not lead to an unfair commercial advantage for Providore Place tenants over similar existing traders; and
  - iii. Incentives/concessions shall not extend to relocation costs for the Food Pavilion tenants?

**Response**

Council remains satisfied that the lease agreement entered into with Providore Place Pty Ltd was a sound commercial decision. Any conflicts of interest (real or perceived) will be managed in accordance with normal protocols and in line with the 'commercial in confidence' lease agreement entered into with Providore Place Pty Ltd.

There is no intention that the operations of Providore Place will result in any unfair commercial advantages.

Responses have previously been provided to you in relation to the fit-out costs associated with the Food Pavilion.

**Clarification 2 – Accordingly, and with direct reference to the \$850,000 budget allocation for the following mentioned works, can you please further clarify the following:**

**Which entity is ultimately responsible for approvals "for work such as floor finishes, partition walls, ceilings and **equipment fit for purpose**, and as such be agreed with tenants", and specifically approval of the Scope of "equipment fit for purpose" notwithstanding if the equipment remains the property of Council:**

- a) Providore Place Development Pty Ltd as Head Lease holder for the food pavilion, and being responsible for securing tenants; or
- b) Projects+Infrastructure (P+i) as the Council appointed Development Manager; or
- c) Devonport City Council on recommendations from Providore Place (Devonport) Pty Ltd; or
- d) Devonport City Council on recommendations from Projects+Infrastructure; and
- e) If Devonport Council, does that require a full approval by the Mayor and Aldermen and if not who has been delegated the authority to **approve specifically the scope** and costs?

**Response**

Tenancy fit outs are the responsibility of the relevant tenant, this includes obtaining the necessary permits and approvals.

In relation to the authorisation of the \$850K fit-out contribution included within the LIVING CITY Stage 1 funding model the approval of expenditure ultimately rests with Council (via normal delegations provided to the General Manager) and will be based on recommendations of the head lessee, Providore Place Pty Ltd.

**RECOMMENDATION**

That Council in relation to the correspondence received from Mr Ray Chaplin and Mr Malcolm Gardam endorse the responses proposed and authorise their release.

**ATTACHMENTS**


- 1. Question on Notice - 25 September 2017 - Word Version - Email - Ray Chaplin
- 2. Letter - East Devonport Retail Development - correspondence to Premier
- 3. Question on Notice - Follow up questions on notice re DCC response 31 08 17

Author:	Robyn Woolsey	Endorsed By:	Paul West
Position:	Administration Officer	Position:	General Manager



Ray Chaplin <chapray@bigpond.net.au> |  Paul West

Proposed East Devonport Retail Development

 You forwarded this message on 12/09/2017 3:08 PM.

 Letter to the Premier East Devonport Retail development.doc  
.doc File

Dear Sir,

Please find a copy of correspondence to the Premier which outlines my understanding and concerns in regards to the 2-12 Murray Street retail development

It would be appreciated if you would distribute same to Council's Aldermen and include in the agenda and minutes for the September Council meeting

I would like to ask Council's Aldermen the following questions:-

- (1) If they would support negotiating with TasPorts to buy back the land in question
- (2) If they support the suggestion I have made to work collaboratively with all stakeholders involved in the Spirit of Tasmania visitor precinct to develop a new innovative and inspirational East Devonport Gateway plan

Please acknowledge receipt of this correspondence

Thank you,  
Ray Chaplin  
Rate Payer  
55 Wenvoe Street  
Devonport 7310  
0419 226211





Mr Will Hodgman  
 Premier of Tasmania  
 Minister for Tourism  
 Department of Premier and Cabinet  
 GPO Box 123  
 HOBART, TASMANIA 7001

Sunday September 9<sup>th</sup> 2017

Dear Premier,

**Re: Devonport City Council proposed sale of land for retail development within Spirit of Tasmania visitor entry and departure precinct**

You may not be aware that at the August 28<sup>th</sup> 2017 meeting of the Devonport City Council a motion to rezone and sell Council owned vacant land (Previously owned by TasPorts) was passed unanimously  
 Subject to development approval a retail complex comprising a supermarket and two other yet to be specified retail businesses will be built

**4.2 AM2017.02 & PA2017.0101 REZONING FROM PORT AND MARINE ZONE TO LOCAL BUSINESS ZONE TO ALLOW THE DEVELOPMENT OF A RETAIL COMPLEX - 2-12 MURRAY STREET, EAST DEVONPORT (D487893)**

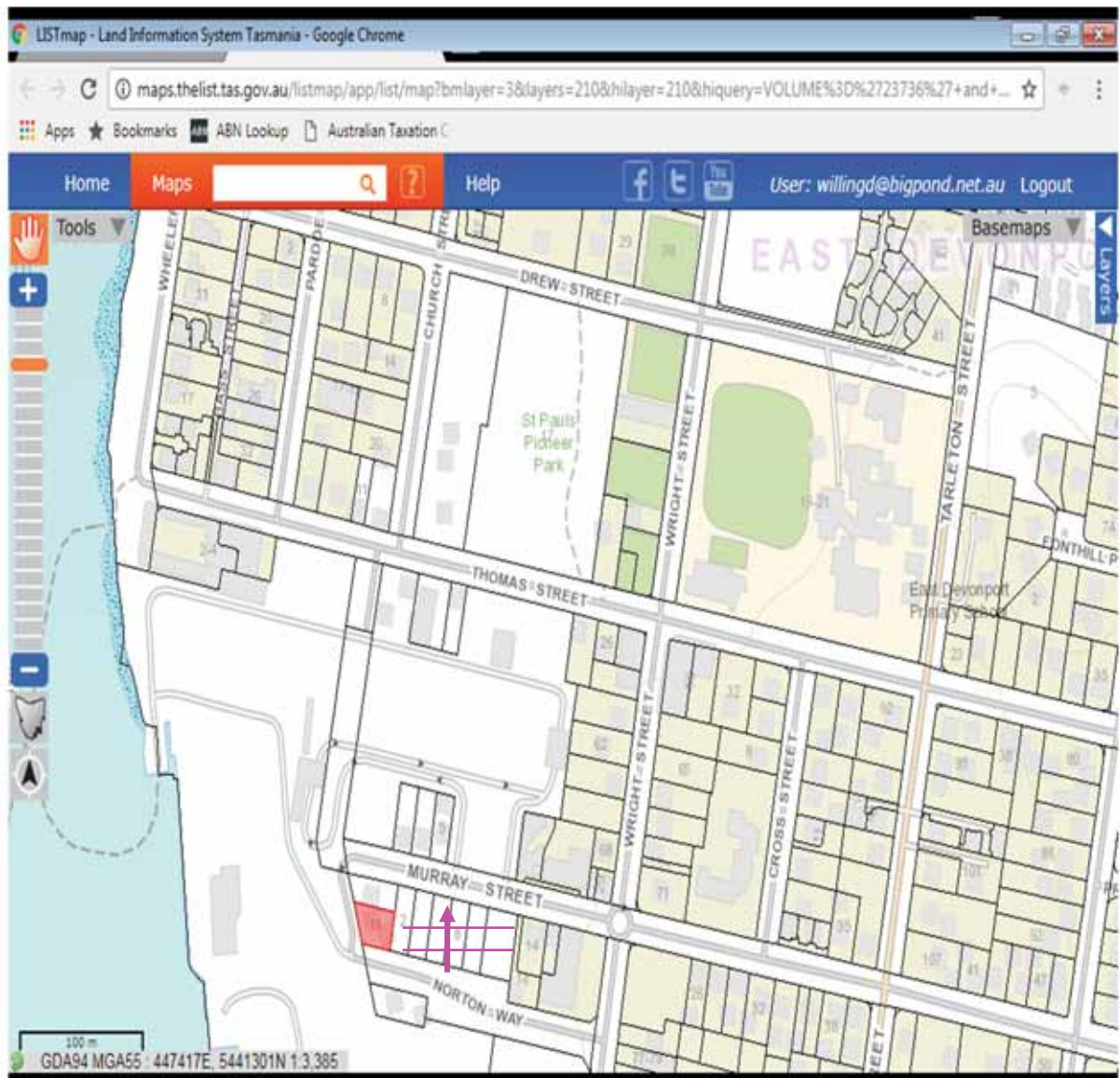
**151/17 RESOLUTION**

MOVED: Ald Goodwin  
 SECONDED: Ald Perry

That the Planning Authority:

- A. Agree to certify AM2017.02 to rezone land from Port and Marine to Local Business; and
- B. Under Section 43A of the *Land Use Planning and Approvals Act 1993* approve PA2017.0101 for the development of a Retail Complex and consolidation of land identified as 2 – 12 Murray Street, East Devonport subject to the following conditions:
  1. Unless requiring modification by subsequent conditions on this permit the use and development is to proceed and be undertaken generally in accordance with the submitted plans referenced as Project No 13.159 issue date 13.07.17 by 6ty° Pty Ltd and the Traffic Impact Assessment by Midson Traffic Pty Ltd dated May 2017, copies of which are attached and endorsed as documents

As the following location map shows this vacant land is in Murray Street immediately adjacent to vehicular traffic for Spirit of Tasmania customers both entering and departing the state



Currently this vacant land is utilized for unauthorised overflow parking by visitors to Tasmania (especially those with caravans and campervans) both arriving and awaiting departure  
 Traffic congestion often banks traffic up all the way along Murray Street and well down Tarleton street (main exit from East Devonport) creating both extensive delays and safety issues

This situation has worsened with the very successful 72 double sailings of the Spirit ships between September and May and it will become untenable once new larger ships carrying more vehicles come on stream

The Devonport City Council has previously rejected a development application for a supermarket development on privately owned vacant land in Tarleton Street due to traffic congestion but on this occasion is willing to sell this critically located parcel of Council owned land to a developer without advertising that the land was for sale

My concern apart from the traffic issues is that the East Devonport gateway fails badly in creating a warm and welcoming impression for the longest stay/highest expenditure visitors arriving in this State

The precinct is an embarrassment to Tasmania, a State which is highly dependant on the visitor economy growing

The fact that there is not even basic "Welcome to Tasmania" and attraction signage is an indictment upon all of those responsible

From a tourism/visitor economy perspective it would seem that the time is well past for an innovative and inspirational East Devonport Gateway Development Plan to be initiated by government

This would encompass a forward thinking traffic management plan and welcome precinct plan incorporating adequate parking and tourism related facilities/attractions including an "amazing" photo opportunity for visitors to announce their exciting Tasmania arrival to families back home in Australia and around the world  
Such a plan would deliver a badly needed stimulus for job opportunities in East Devonport

As Tasmania's Tourism Minister I would respectfully ask that you consider the negative consequences of the Council's intent and given that their proposed sale is necessary to help offset massive Living City rate payer borrowings that you request TasPorts to intervene and purchase the relevant vacant land for incorporation within a visionary future East Devonport Gateway Plan

Objections to the current development application close in 21 days from tomorrow (September 10<sup>th</sup>) which indicates that time is of the essence

If approved the current development proposal will create severe long term access consequences and significantly hinder the opportunity to welcome and farewell visitors in an appropriate professional manner

It would be appreciated if you would provide a response to the assertions and suggestions made

Yours sincerely

Ray Chaplin  
Principal

Cc GM Devonport City Council  
CEO Cradle Coast Authority  
President Devonport & Cradle Country Tourism Inc.

**Brand Focus**  
Ray Chaplin  
55 Wenvoe Street  
Devonport 7310  
[chapray@bigpond.net.au](mailto:chapray@bigpond.net.au)  
0419 226211  
ABN 19 389 496 737

15<sup>th</sup> September 2017

Devonport City Council  
17 Fenton Way  
DEVONPORT TAS 7310

Malcolm Gardam  
4 Beaumont Drive  
MIANDETTA TAS 7310  
(Mobile No: 0417 355 813)

**ATTENTION: MR. PAUL WEST – GENERAL MANAGER**

**RE: LIVING CITY – FOLLOW UP QUESTIONS TO DCC RESPONSES (File 32161)**

Dear Sir,

With reference to the Agenda for the ordinary meeting of the 28<sup>th</sup> August 2017, and your correspondence dated 31<sup>st</sup> August 2017, the following questions seek further clarification in relation to the Council responses regarding the Food Pavilion head lease agreement with Providore Place (Devonport) Pty Ltd.

**On the 21<sup>st</sup> August 2017, I questioned as Q3. "As at the date of this letter can Council please advise who are the owners/shareholders and directors of Southern Wild Distillery Pty Ltd (SWD) and Providore Place (Devonport) Pty Ltd (Providore Place), both lease holders with the Devonport City Council?"**

**Council responses was** *"This is not information Council maintains. Company information can be sourced through a search with the Australian Securities and Investment Commission (ASIC)."*

**On the 28<sup>th</sup> August 2017, I further enquired** if Council was aware of changes in ownership of Providore Place (Devonport) Pty Ltd resulting from Forager Holdings Pty Ltd substitution for previous 50% owner Pollination Partners Pty Ltd and had the Head Lease Agreement with Providore Place (Devonport) Pty Ltd been amended and re-signed to capture the change and any associated securities within of the contract?

**Council response (in addition to copious additional information somewhat irrelevant to the question if Council was aware of changes) concluded** *"Council's lease agreement is with the entity Providore Place Pty Ltd. There has been no circumstance that Council has been made aware of that would necessitate a new lease being entered into and/or signed."*

**Clarification 1 - Accordingly, can you please further clarify the following;**

- a) Excluding my advice on the 21<sup>st</sup> August 2017 was Council aware at that time of the change in Providore Place (Devonport) Pty Ltd shareholders and entity name change as stated above?



- b) Is it correct to assume there are no lessee shareholder guarantees in place, given that you appear to have stated no idea of a change of shareholders as at the 21<sup>st</sup> August 2017?
- c) Considering the cross-over commercial/corporate obligations of the key personnel within Projects + Infrastructure and the Directors/Owners of Providore Place (Devonport) Pty Ltd does Council believe it reasonable that it should have been advised of the pending shareholder change, and in particular advised by its appointed Development Manager?
- d) Does Council categorically guarantee Devonport ratepayers that the obvious conflicts of interest, and associated pecuniary interests, within Providore Place (Devonport) Pty Ltd shareholders, family members and its Directors and the role and responsibility of Council's appointed Developments Manager's (Projects+Infrastructure) Director and lead consultant is:
  - i. identified, strictly managed and will be fully documented so as to be transparent to and in the best interest of ratepayers; and
  - ii. not lead to an unfair commercial advantage for Providore Place tenants over similar existing traders; and
  - iii. incentives/concessions shall not extend to relocation costs for the Food Pavilion tenants?

On the 24<sup>th</sup> July 2017, I further enquired as question Q2(b).

- b) If fitouts are included to entice tenants, who of the following will be controlling the negotiation process and approving expenditures;
  - i) Projects & Infrastructure (P+i) as Council's appointed Development Manager?
  - ii) Providore Place (Devonport) Pty Ltd, subsidiary of P+i, as head lease holder and the complex manager and now responsible for securing all tenants; or
  - iii) Devonport City Council as Principal, building owner and the overall financing Project Sponsor?

**Council response was** *"Council has entered into an operating lease for the building with Providore Place (Devonport) Pty Ltd. It is up to Providore Place (Devonport) Pty Ltd to secure tenants. Expenditure on these works is subject to Council's normal budget approval, proof of cost, and payment control processes."*

**Clarification 2 - Accordingly, and with direct reference to the \$850,000 budget allocation for the following mentioned works, can you please further clarify the following;**

**Which entity is ultimately responsible for approvals** *"for work such as floor finishes, partition walls, ceilings and **equipment fit for purpose**, and as such be agreed with tenants"; **and specifically approval of the Scope of "equipment fit for purpose"** notwithstanding if the equipment remains the property of Council:*

- a) Providore Place Devonport Pty Ltd as Head Lease holder for the food pavilion, and being responsible for securing tenants; or
- b) Projects+Infrastructure (P+i) as the Council appointed Development Manager; or
- c) Devonport City Council on recommendations from Providore Place (Devonport) Pty Ltd; or
- d) Devonport City Council on recommendations from Projects+Infrastructure; and
- e) If Devonport Council, does that require a full approval by the Mayor and Aldermen and if not who has been delegated the authority to **approve specifically the Scope** and costs?

I thank you for your earlier prompt responses and await your further written advice and inclusion of this letter and responses in the next meeting Agenda.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'M. Gardam', with a long horizontal line extending to the right from the end of the signature.

Malcolm Gardam

**3.2.3 Question without notice from the public**

**3.3 QUESTIONS ON NOTICE FROM ALDERMEN**

At the time of compilation of the agenda no questions on notice from Aldermen were received.

#### **4.0 PLANNING AUTHORITY MATTERS**

There are no items in this agenda to be considered by Council in its capacity as a Planning Authority

.



## 5.0 REPORTS

### 5.1 CRADLE COAST WASTE MANAGEMENT GOVERNANCE

File: 29119 D478484

#### RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

Strategy 1.4.2 Facilitate, and where appropriate, undertake improvements in waste and recycling collection, processing services and facilities

#### SUMMARY

This report seeks to determine Council's interest in creating a regional governance structure to coordinate the management of all waste infrastructure and services in the region.

#### BACKGROUND

The Cradle Coast Waste Management Group (CCWMG) is a local government skills based group, hosted by the Cradle Coast Authority (CCA) and was created in 2007 to provide an integrated regional approach to waste management. The current Cradle Coast Regional Waste Management Strategic Plan 2012-2017 (Strategy) was prepared by the group and guides the development and implementation of actions for their annual plan and budget each year. The Strategy and annual plan is endorsed by the seven participating North West Councils (West Coast and King Island are not part of the CCWMG).

The Strategy has an overarching objective of diverting 50% of all municipal solid waste from landfill by 2017.

The CCWMG is an advisory group empowered to manage the funds that are received from a voluntary levy paid by councils of \$5/tonne of waste disposed at the Port Latta, Central Coast and Dulverton Landfills and relies heavily on voluntary collaboration and co-ordination across the region.

The CCWMG entered into a Memorandum of Understanding in July 2013 between the CCA, CCWMG and Dulverton Waste Management (DWM) in which:

- CCA provide executive, administrative, financial and communication support to the group, and
- DWM project manage actions arising from the Strategy allocated by the CCWMG within agreed budget and timeframes.

Each year levy funds of approximately \$380,000 are expended on programs to achieve the initiatives outlined in the CCWMG annual plan, derived from the 5 year Strategy.

In April 2013 the Group commissioned a three part study into the governance and management arrangements of waste management services in the Cradle Coast Region with clear program objectives to:

- achieve the goals and objectives of the Cradle Coast Regional Waste Management Strategy 2012-2017;
- provide best practice in both governance, management and cost effectiveness; and

- position the region to participate strongly in a future statewide waste management framework.

This report presents the outcomes of the study and seeks to determine Council's interest in progressing with a regional governance model.

### **STATUTORY REQUIREMENTS**

The CCWMG is a working group of the CCA. The CCA is established as a Joint Authority under Section 30 of the *Local Government Act 1993*.

### **DISCUSSION**

The study was undertaken by MRA Consulting Group and included three parts. A copy of the report is attached.

Part 1 of the report included:

- a review of the current CCWMG structure and functioning, waste infrastructure and service delivery arrangements;
- identified where achievement of the Strategy objectives are constrained by existing arrangements of ownership and operation of waste assets; and
- investigated the drivers for change to the CCWMG structure.

Table 1 of the Executive Summary outlines the case for review of alternative governance arrangements.

The report finds a priority for reform in many areas of the Group's role and function, in particular policy development, administration and accountability of the voluntary levy expenditure, procurement and economies of scale including capital expenditure of \$8.5m required over the next five years to meet the Strategy goals.

Part 2 of the report undertook an examination of alternative governance and management modes and Part 3 of the report was a Business Case Analysis evaluating cost benefit and risks of a preferred governance model including a transition to a new proposed model.

A number of alternative models of Governance were identified for discussion and further exploration. As a result of further workshopping, the models determined of further assessment included:

- the current status quo;
- a self-standing joint authority of seven (7) member councils established under Section 30-39 of the *Local Government Act 1993*;
- a self-standing joint authority of nine (9) member councils established under Section 30-39 of the *Local Government Act 1993*; and
- a committee of the Cradle Coast Authority established in accordance with CCA's Partnership Agreement with the State Government.

The MRA reports concluded a self-standing joint authority governance model is most suited to the objectives of the CCWMG and recommended a thorough Assets Valuation Study be undertaken to understand the financial, commercial, staffing, service and liability risks prior to forming a joint authority and that to mitigate those potential risks, transitional arrangements should be staged, first by transferring primary programs and secondly assets be transferred once a joint authority is fully operational and success in delivery of goals has been demonstrated.

### **Cradle Coast Waste Management Group recommendation**

The CCWMG members have considered the reports and the recommendation that a self-standing joint authority is the most appropriate governance model for the management of waste management infrastructure and service delivery for the Cradle Coast region.

The CCWMG broadly endorses the reports and recommendation, but notes there are a number of issues to highlight that need to be considered further, prior to committing to the establishment of a joint authority.

The CCWMG has a concern that many of the arguments or drivers for change identified in the Part 1 report are not examined in sufficient detail to support the information contained in Parts 2 and 3 reports that provide a recommendation for a joint authority, particularly in relation to the current CCWMG decision making function and implementation arrangements.

Notwithstanding this, the Group consider a combined regional authority is ultimately the most effective and cost-effective way to deliver waste services in the Cradle Coast region.

### **Devonport City Council considerations**

The advantages and disadvantages as they relate to Council could be summarised as follows:

#### Advantages

- Potential cost efficiencies from procurement, project management, etc. resulting from improved economies of scale;
- Regional consistency in services and policy;
- Greater scope to employ specialist waste staff; and
- Improved effectiveness and streamlining the implementation of waste improvement actions (as per regional strategy).

#### Disadvantages

- Loss of direct control over service levels and policy decisions (ie pricing);
- Requirement for additional governance/management structure;
- Potential for larger population areas to subsidise remote locations; and
- Potential reduction in Council's dividends and other benefits from Council's ownership in DWM. The arrangements with DWM are well established and currently resulting in both a good service outcome and a good financial outcome for Council. Careful consideration need to be given to any future governance changes that may potentially impact on DWM.

### **COMMUNITY ENGAGEMENT**

During the preparation of the reports for the CCWMG, consultation was undertaken by the group through two workshops with regional elected members and staff delivered by MRA Consulting Group.

### **FINANCIAL IMPLICATIONS**

If in principle support for the establishment of a self-standing joint authority is received from councils then an implementation plan, including establishment of governance arrangements and financial modelling would be required and would be funded through the CCWMG annual budget.

**RISK IMPLICATIONS**

To proceed with creating a regional waste authority will require approval from all Council's represented on the CCWMG.

Should in-principle support be obtained, further analysis of the risk implications will be undertaken.

**CONCLUSION**

The study by MRA has identified a number of benefits that would result from creating a regional waste management governance structure. The success of the Dulverton Waste Management Authority as a joint authority demonstrates that a regional governance structure can work successfully. If Council provided in-principle support, a more detailed report on the staging of the implementation would be undertaken.

Alternately a regional model would not allow Council to have the same control regarding the level of service provided to Devonport residents nor would Council have the final decision on policy direction and matters such as pricing. Any change may also negatively impact on the benefits Council currently receives from DWM.

If Council do not support the recommendation an alternative motion could read:

*"That the report relating to Cradle Coast Waste Management Governance be received and noted and that Council advise the Cradle Coast Waste Management Group that it does not support the establishment of a new regional joint authority."*

**ATTACHMENTS**

Nil

**RECOMMENDATION**

That the report relating to Cradle Coast Waste Management Governance be received and noted and that Council provide in principle support for the establishment of a new regional joint authority to oversee waste management for the member councils, subject to a further report addressing outstanding issues, financial modelling and proposed implementation details.

Author:	Kylie Lunson	Endorsed By:	Matthew Atkins
Position:	Infrastructure & Works Manager	Position:	Deputy General Manager

## 5.2 FINANCIAL ASSISTANCE - ROUND ONE 2017/2018

File: 33723 D476963

### RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

- Strategy 4.7.3 Attract and promote equitable distribution and sharing of financial and other resources throughout the community

### SUMMARY

To present the outcomes of the Community Financial Assistance Working Group Meeting held 7 September 2017, and endorse the Group's recommendations in relation to submissions under the 2017/18 Financial Assistance Scheme Round One.

### BACKGROUND

Through the provision of a Financial Assistance Scheme, the Council supports projects, programs and activities developed for the benefit of Devonport's residents and visitors. Five areas of assistance are available, namely:

- Major Grants/In-Kind Grants – provide support for Devonport community development, community events, community facilities, cultural development, cultural heritage, festivals and events, economic development, sport recreation and healthy living.
- Minor Grants – provide up to \$3,000 to organisations to deliver programs that enhance Devonport community development, community events, community facilities, cultural development, cultural heritage, festivals and events, economic development, sport recreation and healthy living.
- Rate Remissions - provide rate support for social, cultural, environmental, sport and recreational initiatives and events held in Devonport that attract locals and visitors creating commercial benefits for the City.
- Donations - provide assistance to groups, organisations or individuals within the City who are not eligible for sponsorship under any other Financial Assistance Program.
- Individual Development Grants – provide support for Devonport individuals, groups or teams who are performing, competing or presenting at national or international competitions, conferences or events.

For Round One of the 2017/2018 financial year, the Community Financial Assistance Working Group was responsible for assessing the Major Grants, Minor Grants, In Kind Assistance Only Grants, Rate Remissions, Donations and Individual Development Grant applications.

In June 2017 Council adopted a revised Financial Assistance Scheme (Min CSC 31/16 refers) and confirmed the Financial Assistance working group of:

- Alderman Martin (Mayor);
- Alderman Goodwin;
- Alderman Emmerton;
- Shane Crawford – Executive Manager Corporate Community and Business Services;
- Brooke de Jong – Community and Cultural Development Manager; and
- Geoff Dobson – Convention & Art Centre Manager.

**STATUTORY REQUIREMENTS**

Section 77 of the *Local Government Act 1993* outlines Council's requirements in regard to grants and benefits:

- (1) *A council may make a grant or provide a pecuniary benefit or a non-pecuniary benefit that is not a legal entitlement to any person, other than a councillor, for any purpose it considers appropriate.*
- (1A) *A benefit provided under subsection (1) may include –*
- (a) *in-kind assistance; and*
  - (b) *fully or partially reduced fees, rates, or charges; and*
  - (c) *remission of rates or charges under Part 9.*
- (2) *The details of any grant made or benefit provided are to be included in the annual report of the council.*

The details of awarded grants will be reported in the 2017/2018 Annual Report.

**DISCUSSION****Applications Assessment**

The Working Group are appointed by Council to assess the applications against the relevant guidelines for the following grants/donations:

- Major Grants;
- Minor Grants;
- In Kind Assistance Only Grants;
- Rates Remissions;
- Donations; and
- Individual Development Grants.

All members of the working group were present at the assessment meeting.

**Major Grants**

Twelve applications were received for the 2017/2018 Financial Assistance Round One Major Grants. One of the applications was withdrawn between the convening of the Financial Assistance Working Group and the preparation of this report. The following highlighted initiatives are recommended to Council to receive support.

<b>Organisation</b>	<b>Project Description</b>	<b>Amount Requested</b>	<b>Amount Recommended 2017/2018 Financial Year</b>
Mersey Valley Devonport Cycling Club	Climb Trail – Kelcey Tier (Stage 5)	\$24,500.00	Nil
Coastal FM	Security Upgrade at Transmitter site	\$7,095.00	Nil
RSPCA Tasmania Devonport Animal Care Centre	Devonport Low Cost Cat Desexing Program	\$3,824.15	Nil
Devonport RSL Sub Branch Inc	Multi-Function Printing Centre	\$3,042.00	Nil
Devonport Surf Life Saving Club	Historical Display	\$7,000.00	Nil

## Report to Council meeting on 25 September 2017

Munnew Day Centre	Capturing Voices of the Past: Inspiring Aspirational Futures	\$16,140.00	Nil *Refer to Devonport Regional Gallery
Mission Australia Children's Services	Landscaping & Native Landscaping "MAC'S PLACE"	\$4,054.55	Nil
Crime Stoppers Tasmania	Schools Leadership Program	\$15,000.00	Nil
Devonport Christian School Inc	DCS Wetlands - urban forest rehabilitation and education program	\$6,818.18	Nil
Mersey Valley Pony Club	Stage 3 development of the clubrooms.	\$14,902.75	\$7,500.00
Multiple Sclerosis Ltd (MS Ltd)	MS Families Wellness Day	\$5,139.80	\$1,500.00 Catering, Craft and Entry Fees
<b>Total</b>			<b>\$9,000.00</b>

\*Refer to:

1. Munnew Day Centre – Refer to Devonport Regional Gallery to explore proposed project further.

### Minor Grants

Eighteen applications were received for 2017/2018 Financial Year, Round One Minor Grants. All applications were considered by the Working Group and the following highlighted initiatives are recommended to Council to receive support.

Organisation	Project Description	Project Cost	Amount Recommended
Pathway to Life Church	'The Secret Agent Society'	\$2,993.53	Nil
Delta Society Australia Ltd	Delta Therapy Dog Program	\$1,903.73	Nil
Scouts Australia, Tasmania Branch/ 1st Spreyton Scout Group	Camping Equipment	\$2,717.89	\$1,243.53
Devonport Table Tennis Association	Umpire Chairs.	\$2,742.85	\$1,371.40
Dragons Abreast North- West Tasmania Inc	Purchase of one expandable shade gazebo.	\$4,140.00	\$2,250.00
Devonport Lapidary Club Inc.	Weatherproof & Secure Outdoor Noticeboard	\$2,111.78	Nil
Devonport Choral Society	Band Equipment	\$1,552.00	\$776.00
Cancer Council Tasmania - Relay For Life	Relay for Life (RFL) - North West	\$3,000.00	Nil
Cornerstone Youth Services Inc.	Cornerstone Care Packs	\$1,000.00	\$1,000.00
Van Diemen Rollers Inc	Van Diemen Rollers - Community Engagement	\$ 702.40	\$422.64
Devon Netball Association Inc	Junior State-wide Carnival State-wide Club and Mixed Carnival	\$4,400.00	*Refer to Sport and Recreation
Devonport Junior Soccer Association Inc	Devonport Cup 2017	\$4,650.00	*Refer to Sport and Recreation
Don Cricket Club	Equipment upgrade	\$5,643.00	\$2,000.00



## Report to Council meeting on 25 September 2017

Mersey Yacht Club Inc	The Rudder Cup. 110th Anniversary of the Melbourne to Devonport Ocean Yacht Race	\$5,200.00	\$2,000.00 Subject to discussions with Council
Cradle Coast Junior Rollers Inc	Project Local Sk8te	\$2,540.00	Nil
Tasmanian Conservation Trust Inc	Little Penguin tourism viewing translation web-site	\$3,000.00	Nil
<b>Total</b>			<b>\$11,063.57</b>

\*Refer to:

1. Devon Netball Association Inc – Refer request to Sport and Recreation department to investigate other funding opportunities.
2. Devonport Junior Soccer Association Inc – Refer request to Sport and Recreation department to investigate other funding opportunities.

### Rate Remissions

Eight applications were received for 2017/2018 Financial Year Rate Remissions. All applications were considered by the Working Group and the following highlighted initiatives are recommended to Council to receive support.

Organisation	Street Address	General Rate Value	Amount Recommended
Mersey Community Care Association Inc.	167 Steele Street, DEVONPORT	\$ 3,082.19	\$ 3,082.19
Mersey Rowing Club Inc.	52 River Road, AMBLESIDE	\$ 1,617.88	\$ 1,617.88
Scouts Association of Australia 1st Spreyton Scouts	96 Mersey Main Road, SPREYTON	\$ 1,105.14	\$ 1,105.14
East Devonport Tennis Club	48-50 Wright Street, EAST DEVONPORT	\$ 1,153.95	\$ 1,153.95
Devonport Girl Guides	56A Forbes Street, DEVONPORT	\$ 1,446.81	\$ 1,446.81
Scouts Australia, Tasmanian Branch, Mersey District	342 Pumping Station Road, FORTH	\$ 3,472.67	\$ 3,472.67
Devonport Agricultural & Pastoral Society	86A Gunn Street DEVONPORT	\$23,540.84	\$ 5,000.00
Don River Railway	24 Forth Road, DON	\$ 9,573.96	\$ 9,573.96
<b>Total</b>			<b>\$26,452.60</b>

### In Kind Assistance Only Grants

Six applications were assessed by the Financial Assistance Working Group during the meeting and approved for in kind assistance only. One of six applications was withdrawn between the convening of the Financial Assistance Working Group and the preparation of this report.



Report to Council meeting on 25 September 2017

Organisation	Project Description	Project Cost	Amount Recommended
Devonport Apex Regatta Association	The 60th Devonport Apex Regatta	\$12,500.00	\$700.00 *In-Kind Assistance Equipment Hire
Rotary Club of Devonport	Kite Festival		\$650.00 *In-Kind Assistance Equipment Hire
The Salvation Army	Christmas Market		\$441.00 *In-Kind Assistance Equipment Hire
Toast For Kids	Toast for Kids Charity Gala		\$220.00 *In-Kind Assistance Equipment Hire
Hope @ St Paul's Kitchen	Hope @ St Paul's Kitchen	\$2,750.00	*In-Kind Support, value to be determined

### Donations

Two donation applications were assessed by the Financial Assistance Working Group during the meeting and a total of \$200 was approved.

### Individual Development Grants

Four individual development grant applications were assessed by the Financial Assistance Working Group during the meeting and a total of \$400 was approved.

### COMMUNITY ENGAGEMENT

Details of the Financial Assistance Scheme including the application process are available on Council's website, the page was updated in July of this year.

Radio and Facebook advertising advised the opening of the Financial Assistance Scheme Round One, and links to the website page were emailed to:

- Past and present Special Interest Group Members,
- Strategic Special Committee Members,
- Individuals and Organisations who had registered (via the Council website) to receive information on Council's Financial Assistance Scheme,
- 2014-2017 grant recipients,
- Organisations that had hired Council equipment (2014–2017), and
- Organisations who had previously received Parking Passes.

These groups also received reminder emails that the Financial Assistance Scheme Round One was open until 31 August 2017, and appointments could be made with a Council Officer to discuss the application process.

### FINANCIAL IMPLICATIONS

The awarded grants, rate remissions and donations will be funded through 2017/2018 Community Financial Assistance budget allocations.

The 2017/2018 Financial Assistance Major Grants budget is \$75,000; the Round One proposed expenditure is \$9,000.00.

The 2017/2018 Financial Assistance Minor Grants budget is \$65,000; the Round One proposed expenditure is \$11,063.57.

Report to Council meeting on 25 September 2017

---

The 2017/2018 Financial Assistance Rate Remissions budget is \$30,000; the Round One proposed expenditure is \$26,452.60.

It should be noted that \$65,000 is allocated in the Sport and Recreation operational budget to approved multi year funded events such as the Devonport Triathlon, Devonport Athletics Christmas Carnival and for the attraction of other major sporting events to Devonport.

**RISK IMPLICATIONS**

There is a risk that organisations that have applied and have been unsuccessful may be critical of Council's decision in relation to the allocation of the funds.

There is a risk that organisations that have applied and have been successful maybe unable to deliver agreed outcomes.

**CONCLUSION**

The 2017/2018 Financial Assistance Working Group recommends that Council approve the Major Grants, Minor Grants, Rates Remissions, and Donations to the value of \$70,946.07 as below as well as noting discussions with Devon Netball Association Inc and Devonport Soccer Association Inc may result in Sport and Recreation sponsorships.

The 2017/2018 Financial Assistance Major and Minor Grants Round Two is scheduled to open 1 January 2018 and closes 28 February 2018.

Applications for Donations, In Kind Assistance Only Grants and Individual Development Grants are open throughout the 2017/2018 financial year and will be assessed by the Financial Assistance Working Group on the first week of the month.

**ATTACHMENTS**

Nil

**RECOMMENDATION**

That the report regarding Financial Assistance be received and noted, and Council;

- a. approve Major Grants, Minor Grants, Rate Remissions, and Donations through the 2017/2018 Community Financial Assistance budget allocations as follows:

**Major Grants**

- Mersey Valley Pony Club \$7,500.00
- Multiple Sclerosis Ltd (MS Ltd) \$1,500.00

**Minor Grants**

- Scouts Australia, Tasmania Branch/ 1st Spreyton Scout Group \$1,243.53
- Devonport Table Tennis Association \$1,371.40
- Dragons Abreast North-West Tasmania Inc, \$2,250.00
- Devonport Choral Society \$776.00
- Cornerstone Youth Services Inc. \$1,000.00
- Van Diemen Rollers Inc. \$422.64
- Don Cricket Club \$2,000.00
- Mersey Yacht Club Inc. \$2,000.00 (Subject to discussions with Council)

**Rate Remissions**

- Mersey Community Care Association \$3,082.19
  - Mersey Rowing Club Inc. \$1,617.88
  - Scouts Association of Australia 1<sup>st</sup> Spreyton Scouts \$1,105.14
  - East Devonport Tennis Club \$1,153.95
  - Devonport Girl Guides \$1,446.81
  - Scouts Australia, Tasmania Branch, Mersey District \$3,472.67
  - Devonport Agricultural & Pastoral Society \$5,000.00
  - Don River Railway \$9,573.96; and
- b. note funding for Mersey Yacht Club is subject to further discussions.

Author: Position:	Brooke de Jong Community and Cultural Development Manager	Endorsed By: Position:	Shane Crawford Executive Manager Corporate, Community & Business Services
----------------------	---	---------------------------	---

## 5.3 LIVING CITY QUARTERLY REPORT - SEPTEMBER 2017

File: 32161 D491111

### RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

Strategy 2.4.1 Develop and implement a CBD Master Plan aligned to the key LIVING CITY principles based on community engagement outcomes

### SUMMARY

This quarterly report provides an update to Aldermen and the community on the current status of LIVING CITY.

### BACKGROUND

LIVING CITY is an urban renewal project that will transform Devonport and revitalise Tasmania's North West region. Council, by adopting the LIVING CITY Master Plan in September 2014 is enabling new tourism opportunities, food experiences, business prospects and community spaces to develop in the CBD.

With the planning phases complete, the focus has now moved to implementation of the plan. Implementation of the Master Plan is to occur in stages, with sub-projects rolling out over a 10 year period.

Council has entered into a four year agreement with Projects and Infrastructure (P+i) to act as Development Managers and assist with the implementation.

Quarterly reports are provided to Council to keep Aldermen and the community updated on progress.

### STATUTORY REQUIREMENTS

The predominant legislation to which Council must comply in undertaking LIVING CITY is the *Local Government Act 1993*.

### DISCUSSION

Key activities in recent months have concentrated on construction of Stage 1, assessing expressions of interest received for the Waterfront Hotel, finalisation of a traffic report for Waterfront precinct and managing the tender process for the Gallery relocation into the DECC.

**Stage 1** – Fairbrother have continued to make significant progress on the construction of Stage 1 of LIVING CITY over the past three months.

There are now on average 130 workers on site each day. With only three months remaining until the completion of the food pavilion and car park, the buildings have progressed significantly.

All major concrete pours in the Carpark and interconnecting ramps are complete, with only minor concrete works remaining. Likewise installation of the precast concrete is almost complete and stairs and trolley ramp steelwork installation has commenced. September will see installation of the façade steelwork and Carpark lift.

Enclosure of the Food Pavilion has progressed with fit out and services rough-ins begun. The majority of the external cladding has been installed and sheeting of mezzanine floors of various tenancies is complete. Outside the Food Pavilion, the installation of precast panels for the landscaping continues.

The third floor pour of the Multi-Purpose Building on 18 August was a mammoth effort with 99 trucks delivering 493m<sup>3</sup> of concrete between 3am and 4pm. Work commenced on the fourth floor columns in preparation for the slab pour.

Planning for the operational aspects of Stage 1 has continued. Small working groups, consisting of both State Government and Council staff, together with a representative from the Online Access Centre have continued to work through the building operations and customer service aspects of the relocation. The purpose of the working groups are to ensure efficiencies and consistency between the various tenants of the building.

Ben Milbourne has continued as ambassador of the Food Pavilion with his time predominately being spent providing introductions to food producers and marketing the food pavilion.

### **LIVING CITY Waterfront**

In July 2016, Council engaged architectural firm, Lyons to develop concept plans for the LIVING CITY Waterfront Precinct. The concept plans include a hotel, waterfront parkland, pedestrian accesses to the river and a marina.

In February 2017 (Res 19/17) Council resolved to:

1. note the feedback provided during the consultation period for consideration and inclusion where appropriate in later detailed design phases;
2. undertake further traffic modelling to identify options to maximise priority for pedestrians and public open space usage whilst maintaining adequate traffic flow in and around the CBD;
3. commence expression of interest processes to identify suitable private investment opportunities for the hotel and marina aspects of the plan;
4. progress with further detailed design of selected public open space elements of the Waterfront Precinct in preparation for future grant applications and permit approvals; and
5. adopt the Waterfront Precinct concept plan generally as exhibited, noting further refinement will occur as an outcome of the above recommended actions.

Council has continued to progress this decision over the past three months. Expressions of Interest for hotel developer/operator closed on 30 June. A number of parties registered an interest. An assessment has occurred and Council are working towards appointing a preferred proponent.

Pitt and Sherry's traffic engineering team have been engaged to undertake further traffic modelling to identify options to maximise priority for pedestrians and public open space usage of the waterfront site whilst maintaining traffic flow in and around the CBD. The final report has now been received and is provided as an attachment to this report.

In summary the traffic review looked at 7 options as follows:

Option 1: Existing Formby Road Arrangement: This option was included to provide a baseline for comparison purposes. It notes that the existing arrangement provides limited pedestrian crossing opportunities between the intersections.

Option 2: Lyons Concept Design of Formby Road: This layout will result in minor changes to the existing traffic operation with acceptable queues and delays on all intersections in the study area. Pitt and Sherry recommend modifications to the pedestrian crossings and the removal of the angled parking along Formby Road. Kerbside parking would be more

suitable in this location as a driver is well placed to see oncoming through traffic on Formby Road.

Option 3: Formby Road converted to One-Way: Pitt and Sherry notes that a conversion to one way does not improve the pedestrian crossing opportunity however it does create potential for considerable parking provision. Traffic (including Heavy Vehicles) travelling the opposite way will be directed onto CBD roads, which is in direct conflict with the purpose of the current CBD Ring Road system. Traffic modelling does reveal unacceptable delays at some CBD intersections as a result of the change, however they note this may be mitigated with additional analysis and intersection improvements.

Option 4: Buses Only on Formby Road: This layout will result in unacceptably long delays at the Best Street/Fenton Way Intersection. Traffic (including Heavy Vehicles) will be directed onto CBD roads, creating greater pedestrian and traffic issues on alternative routes within the CBD.

Option 5: Complete Closure of Formby Road: This layout will result in unacceptably long delays at the Best Street/Fenton Way and Best Street/Rooke Street Intersections. Traffic (including Heavy Vehicles) will be directed onto CBD roads, creating greater pedestrian and traffic issues on alternative routes within the CBD.

In addition to the above, Pitt and Sherry reviewed two pedestrian options as follows:

Option 6: Pedestrian Median Refuge: This would result in minor changes to traffic operation but provide limitations for higher pedestrian volumes. This option is considered an improvement on the current Zebra crossing proposal.

Option 7: Pedestrian Signals: This option maintains two-way traffic flow on Formby Road but will delay pedestrians and also vehicles when pedestrians are crossing.

As per the February Council resolution (Min No. 19/17 refers), the traffic study will be used by the project team to refine the concept design for the public open space elements of the Waterfront Precinct.

### **Refurbishment of the DECC to incorporate the Devonport Regional Gallery**

Work is about to start on the refurbishment of the Devonport Entertainment and Convention Centre to form a creative arts precinct adjacent to the LIVING CITY Stage 1 site.

The work will enable the relocation of the Devonport Regional Gallery from Stewart Street into the Historic former Court House building. This will provide the gallery with over double the display space of its current building, allowing it to showcase both permanent collections and temporary exhibitions at the same time. Improvements will also be made to the existing performing arts spaces including upgraded auditorium disability access. Visitor Services will also be provided from the site.

In adopting the LIVING CITY Masterplan, Council identified the advantages of relocating the Art Gallery close to the major tourist attractions including the food pavilion, conference centre and proposed hotel. The colocation of visual arts within the existing performing arts building will result in a vibrant cultural arts centre adjacent to Stage 1 of LIVING CITY.

Council conducted an open tender process from 24 June – 11 August. Fairbrother Pty Ltd submitted the lowest tender price and Council appointed them as head contractor at its August Meeting (Min No153/17). Work started on site in early September.



**COMMUNITY ENGAGEMENT**

Community consultation has been a major component of LIVING CITY throughout the project.

Regular updates have also been provided to the public through media releases, eNews and website updates.

In March the Devonport LINC launched The Living Room, a dedicated area in the LINC where they display information and engage with the LINC and Service Tasmania clients about the LIVING CITY project.

Community conversation sessions are held on the first Friday of every month between 10-11am. Recent conversations have included, the new LINC space, the history of LIVING CITY, an overview of the complete Master Plan and an overview of the design principles for Stage 1. Conversations have included sessions with the project architect, Fairbrother, the Deputy Premier and Minister for Education and Training, Jeremy Rockliff and Council's Executive Officer, Community Services.

**FINANCIAL IMPLICATIONS**

Council's 2017/18 Operational Budget has an allowance for income and expenditure associated with LIVING CITY. This includes the rent, and outgoings of commercial properties purchased to facilitate the implementation of LIVING CITY. It also includes staff resources, consultants, advertising and general materials along with finance related items such as depreciation, interest charges, internal charges and land tax.

The table below shows the LIVING CITY operational budget detail indicating current year to date actual income and expenditure in comparison to the budget allocation.

<b>Devonport City Council - LIVING CITY Financial Report</b>					
YTD to August 2017					
	Budget	YTD Actual	YTD Variance		Full Budget 2018
			\$	%	
<b>INCOME</b>					
Rates & Service Charges					
Fees & Charges	110,000	111,401	1,401	1.3%	660,000
Grants					
Contributions					
Investment Revenue					
Other Income					
<b>TOTAL INCOME</b>	<b>110,000</b>	<b>111,401</b>	<b>1,401</b>	<b>1.3%</b>	<b>660,000</b>
<b>EXPENSES</b>					
Employee Benefits	52,600	45,966	6,634	12.6%	332,288
Materials & Services	20,171	17,282	2,889	14.3%	327,128
Depreciation	34,950	37,001	(2,051)	-5.9%	209,700
Finance Costs	50,281	49,416	865	1.7%	1,149,103
Levies & Taxes	105,949	101,889	4,060	3.8%	178,019
Internal Charges	12,175	16,759	(4,584)	-37.7%	73,049
<b>TOTAL EXPENSES</b>	<b>276,126</b>	<b>268,313</b>	<b>7,813</b>	<b>2.8%</b>	<b>2,269,287</b>
<b>NET OPERATING SURPLUS / (DEFICIT)</b>	<b>(166,126)</b>	<b>(156,912)</b>	<b>9,214</b>	<b>-5.5%</b>	<b>(1,609,287)</b>

Both income and expenditure to date are consistent with the budget.

**LIVING CITY Capital Expenditure**

At its meeting in March 2016 Council adopted a funding model for LIVING CITY Stage 1 following a period of public consultation on the financial implications of the project.

As of 31 August 2017, Council had accrued costs of \$29.3M of the \$71.1M budget.

**RISK IMPLICATIONS**

Council has a risk register specifically for LIVING CITY. The risk register includes construction related incidences which need managing now that physical works have begun.

**CONCLUSION**

Progress on Stage 1 has been significant over the past three months, with construction of all three buildings now well advanced. The highest priorities in coming months are continuing the construction program for Stage 1 and progressing negotiations with a proponent for a hotel development on the waterfront.

**ATTACHMENTS**

1. LIVING CITY Waterfront Traffic Report

**RECOMMENDATION**

That Council:

1. receive the quarterly LIVING CITY progress report; and
2. note the LIVING CITY Waterfront Precinct Traffic Review dated 21 August 2017 by Pitt and Sherry.

Author:	Rebecca McKenna	Endorsed By:	Matthew Atkins
Position:	Project Officer Economic Development	Position:	Deputy General Manager

## Devonport Living City Waterfront Precinct Traffic Review

transport | community | mining | industrial | food & beverage | energy



**Prepared for:**

Devonport City Council

**Client representative:**

Rebecca McKenna

**Date:**

21 August 2017  
Rev01



## Table of Contents

1.	Introduction .....	1
1.1	Devonport Living City .....	1
1.2	Waterfront Precinct Development Proposal .....	2
2.	Existing Conditions .....	3
2.1	Site Location.....	3
2.2	Surrounding Road Network .....	5
2.3	Traffic Volumes and Existing Intersection Operation .....	7
2.4	Public Transport.....	11
3.	Formby Road Options.....	11
3.1	Options Proposed By Council.....	11
4.	Impacts of Each Option .....	12
4.1	Option 1 – Existing Formby Road Arrangement .....	12
4.2	Option 2 – Lyons Concept Design of Formby Road.....	15
4.3	Option 3 – Formby Road Converted to One-Way.....	19
4.4	Option 4 – Buses Only on Formby Road .....	22
4.5	Option 5 – Complete Closure of Formby Road .....	25
4.6	Results Assessment.....	28
4.7	Assessment of Alternative Pedestrian Crossing Options .....	28
4.8	Option 6 – Pedestrian Median Refuge.....	30
4.9	Option 7 – Pedestrian Signals .....	31
5.	Advantages and Disadvantages of Each Option.....	32
6.	Formby Road Tunnel .....	34

## List of figures

Figure 1:	Devonport Living City Precincts.....	1
Figure 2:	Staging Plan (Image Source: Devonport City Council).....	2
Figure 3:	Devonport Living City Waterfront Precinct Concept Plan .....	3
Figure 4:	Locality Plan (Basemap source: www.thelist.tas.gov.au).....	4
Figure 5:	Existing Site from Rooke Street .....	4
Figure 6:	Existing Site from Formby Road .....	4
Figure 7:	Formby Road (facing north).....	5
Figure 8:	Formby Road (facing south) .....	5
Figure 9:	Devonport Ring Road System .....	5
Figure 10:	Rooke Street (facing north) .....	6
Figure 11:	Rooke Street (facing south).....	6
Figure 12:	Best Street (facing east) .....	6
Figure 13:	Best Street (facing west).....	6
Figure 14:	Oldaker Street (facing west).....	7
Figure 15:	Oldaker Street (facing east).....	7
Figure 16:	Existing Traffic Volumes - Weekday AM Peak .....	9
Figure 17:	Existing Traffic Volumes – Weekday PM Peak.....	9
Figure 18:	Option 1 Traffic Volumes - AM Peak .....	13
Figure 19:	Option 2 Traffic Volumes - PM Peak.....	13
Figure 20:	Traffic Distribution Changes .....	16
Figure 21:	Option 2 Traffic Volumes – AM Peak.....	16
Figure 22:	Option 2 Traffic Volumes - PM Peak.....	17
Figure 23:	Option 3 Traffic Volumes - AM Peak .....	20
Figure 24:	Option 3 Traffic Volumes - PM Peak.....	20
Figure 25:	Options 4 Traffic Volumes - AM Peak.....	23
Figure 26:	Option 4 Traffic Volumes - PM Peak.....	23
Figure 27:	Option 5 Traffic Volumes - AM Peak .....	26



Figure 28: Option 5 Traffic Volumes - PM Peak.....26  
 Figure 29: Pedestrian Refuge Example.....30  
 Figure 30: Pedestrian Refuge Example.....31

**List of tables**

Table 1: SIDRA INTERSECTION Level of Service Criteria .....10  
 Table 2: Existing Operating Conditions.....10  
 Table 3: Option 1 Operating Conditions.....14  
 Table 4: Option 2 Operating Conditions.....18  
 Table 5: Option 3 Operating Conditions.....21  
 Table 6: Option 4 Operating Conditions.....24  
 Table 7: Option 5 Operating Conditions.....27  
 Table 8: Pedestrian Facility Tool Assessment.....29  
 Table 9: Advantages and Disadvantages .....32

**Appendices**

- Appendix A: SIDRA Intersection Traffic Modelling Results – Existing Traffic
- Appendix B: SIDRA Intersection Traffic Modelling Results – Option 1
- Appendix C: SIDRA Intersection Traffic Modelling Results – Option 2
- Appendix D: SIDRA Intersection Traffic Modelling Results – Option 3
- Appendix E: SIDRA Intersection Traffic Modelling Results – Option 4
- Appendix F: SIDRA Intersection Traffic Modelling Results – Option 5
- Appendix G: Austroads Pedestrian Facility Tool Assessment

Prepared by: Rebekah Giana Date: 21 August 2017

Reviewed by: Ross Mannering Date: 21 August 2017

Authorised by: Ross Mannering Date: 21 August 2017

Revision History					
Rev No.	Description	Prepared by	Reviewed by	Authorised by	Date
00	Traffic Review	R. Giana	R. Mannering	B. Hart	07/06/2017
01	Traffic Review	R. Giana	R. Mannering	R. Mannering	21/08/2017

**© 2017 pitt&sherry**

This document is and shall remain the property of **pitt&sherry**. The document may only be used for the purposes for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorised use of this document in any form is prohibited.

pitt&sherry ref: DV17026H001 rep 31P Rev01/RG/lc





## 1. Introduction

### 1.1 Devonport Living City

Devonport City Council adopted the Devonport Living City Master Plan in 2014. The Master Plan has been researched and prepared by Council with the vision to become the “leading commercial centre for the North West Tasmania region”. The research included extensive planning, community and stakeholder consultation.

The Devonport *Living City Master Plan 2014* outlines Council’s vision and the strategic strengths of the area. The following has been proposed as a framework in which to revitalise the City and the Devonport CBD:

- Strengthen the regional attraction for North West Tasmania and Tasmania’s tourist market
- Connect the CBD to the Mersey River
- Link existing retail and businesses through urban renewal
- Create economic and employment growth.

The Master Plan focuses on three major precincts (shown in Figure 1):

- Retail and Civic Precinct
- Waterfront Precinct
- Southern Precinct (Business and Professional).



Figure 1: Devonport Living City Precincts





A staging plan has been developed for the Retail and Civic Precinct and the Waterfront Precinct as shown in Figure 2 with the Southern (Business and Professional) Precinct to be constructed afterwards. The staging is as follows:

- **Stage 1: Retail and Civic** - this stage would include a new Multi-purpose Building, which would house the Council chambers and offices, the Devonport LINC and a convention hall, a food pavilion and a multi-storey car park
- **Stage 2: Regional Retail Precinct** – this stage would include a supermarket, a discount department store, mini majors and smaller retail stores
- **Stage 3: Waterfront Precinct** – this stage would include a large walkway which travels over the foreshore and water, a new waterfront hotel/ residential apartments, restaurants and parkland/ open space.

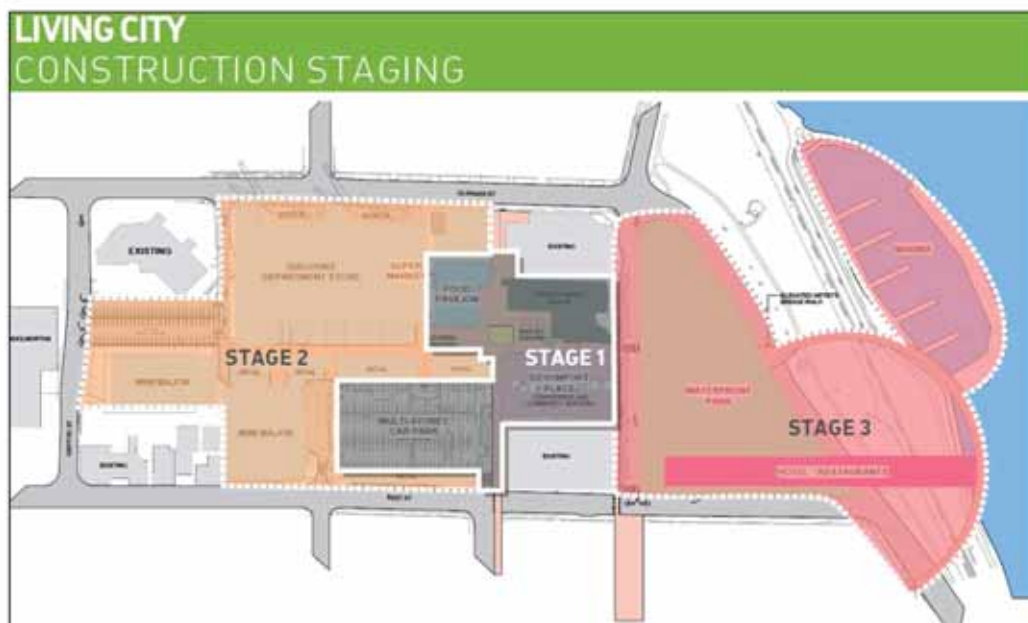


Figure 2: Staging Plan (Image Source: Devonport City Council)

It is understood construction of the Stage 1 Civic and Retail Precinct will be completed by Mid 2018.

## 1.2 Waterfront Precinct Development Proposal

Architectural firm Lyons have developed Concept Plans for the Devonport Living City Waterfront Precinct as shown in Figure 3. The Concept Plans include plans for a hotel, waterfront parkland, a marina and pedestrian access between each of these areas.

The Waterfront Precinct Concept Plan also includes concept road layouts for Formby Road and Rooke Street between Oldaker Street and Best Street.

The Formby Road layout has been modified to include angled parking on both sides of the road, resulting in a wider road reserve whilst maintaining two-way traffic flow. Two pedestrian crossings have also been added at grade. The layout of this road is crucial to the connection between the hotel site and the waterfront parkland which Formby Road currently divides.

The Rooke Street layout has also been modified from the existing layout. The existing bus stops remain on the east side of the road, while angled parking is shown on the west side of the road. The two-way flow is







offices as well as a convention centre and library. A multi-storey car park and public open space is also to be located on the site. The Rooke Street Mall is located to the south of the site and the Mersey River to the east.

Figure 4 shows the location of the site in the local context.



Figure 4: Locality Plan (Basemap source: www.thelist.tas.gov.au)

The site currently houses Harris Scarfe department store, two vehicle repair shops and a large at-grade car park. The car park operates with a voucher system at a fixed rate per hour and is accessed from Formby Road. It is understood that all existing land uses will be removed to make way for the Waterfront Precinct development.

Photos of the existing site are shown in Figure 5 and Figure 6.



Figure 5: Existing Site from Rooke Street



Figure 6: Existing Site from Formby Road



## 2.2 Surrounding Road Network

### Formby Road

Formby Road (shown in Figure 7 and Figure 8) operates as a major collector road and runs in a north-south direction. It connects the Devonport CBD with the Bass Highway and subsequently carries a significant amount of the traffic that arrives into/ departs Devonport because of this link. Formby Road is a two-way road with a single lane in each direction. A small amount of time-restricted, kerbside parallel parking is provided on the west side of Formby Road between Best Street and Oldaker Street.

Formby Road is part of the CBD ring road which also includes Steele Street, Gunn Street and Oldaker Street as shown in Figure 9. The purpose of the CBD ring road is to improve access in and round the CBD by removing unnecessary traffic from the CBD, with this traffic instead using the ring road. The ring road is also a key route for freight vehicles. The link of Formby Road between Best Street is a key component of the CBD ring road and removal of traffic from this section will result in more traffic being re-introduced to the Devonport CBD roads.

Formby Road carries approximately 10,000 vehicles per day<sup>1</sup>.



Figure 7: Formby Road (facing north)



Figure 8: Formby Road (facing south)



Figure 9: Devonport Ring Road System

<sup>1</sup> Traffic counts undertaken for **pitt&sherry** at Best Street/ Formby Road in May 2015 and assuming a peak to daily volume ratio of 10%.



### Rooke Street

Rooke Street (shown in Figure 10 and Figure 11) operates as local road and runs in a north-south direction. Due to the placement of the Rooke Street Mall to the south of Best Street, between Best Street and Oldaker Street Rooke Street acts as a local link between these roads.

Rooke Street is a two-way with a single lane in each direction and is the major bus centre for local and regional bus services. As a result, parking is not permitted on the east side of the road during bus operation times to allow for the bus stops to operate. A mixture of time restricted and metered parking is permitted on the west side. Wide pedestrian paths are located on both sides of Rooke Street to allow for pedestrian volumes and bus waiting areas. Rooke Street carries approximately 2,500 vehicles per day<sup>2</sup> between Best Street and Oldaker Street.



Figure 10: Rooke Street (facing north)



Figure 11: Rooke Street (facing south)

### Best Street

Best Street (shown in Figure 12 and Figure 13) operates as a major collector road and runs in an east-west direction. It is a two-way road configured generally with a single lane in each direction. Additional lanes are provided on the approach to signalised intersections. Best Street connects the CBD with residential areas to the west and is used by several bus routes resulting in high volumes of buses. A mixture of time restricted free parking and time restricted metered parking is permitted on both sides of the road. Wide footpaths are located on both sides of Best Street.

Best Street carries approximately 7,000 vehicles per day<sup>3</sup> in the vicinity of the site. To the west of Fenton Street the traffic volumes are higher.



Figure 12: Best Street (facing east)



Figure 13: Best Street (facing west)

<sup>2</sup> Traffic counts undertaken for **pitt&sherry** at Best Street/ Rooke Street in July 2015 and assuming a peak to daily volume ratio of 10%.

<sup>3</sup> Traffic counts undertaken for **pitt&sherry** Best Street/ Rooke Street, Best Street/ Edward Street and Best Street/ Fenton Way in July 2015 and assuming a peak to daily volume ratio of 10%.





### Oldaker Street

Oldaker Street (shown in Figure 14 and Figure 15) operates as a major collector road and runs in an east-west direction in the vicinity of the site. It is a two-way road configured with a single lane in each direction. Oldaker Street connects the CBD with residential areas to the west. Time restricted metered parking is permitted on both sides of the road. Wide footpaths are located on both sides of Oldaker Street.

Oldaker Street carries approximately 7,000 vehicles per day<sup>4</sup>.



Figure 14: Oldaker Street (facing west)



Figure 15: Oldaker Street (facing east)

## 2.3 Traffic Volumes and Existing Intersection Operation

The following intersections have been assessed for the impacts of changes to Formby Road:

- Best Street/ Rooke Street (signalised, T-intersection)
- Best Street/ Edward Street (unsignalised, T-intersection)
- Best Street/Fenton Way (signalised, four-way intersection)
- Best Street/ Griffiths Street (unsignalised, T-intersection)
- Best Street/ Gunn Street (signalised, four-way intersection)
- Best Street/ William Street (signalised, four-way intersection)
- Oldaker Street/ William Street (signalised, four-way intersection)
- Oldaker Street/ Gunn Street (roundabout, four-way intersection)
- Oldaker Street/ Griffiths Street (unsignalised, T-intersection)
- Oldaker Street/ Fenton Street (unsignalised, T-intersection)
- Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade (roundabout, four-way intersection).

Some proposals may also have an impact on the following road links outside the study area:

- Steele Street between Formby Road and William Street
- Formby Road between Best Street and the Bass Highway
- William Street/ Middle Road between Best Street and the Bass Highway.

<sup>4</sup> Traffic counts undertaken for **pitt&sherry** at Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade in June 2013 and assuming a peak to daily volume ratio of 10%.





**pitt&sherry** undertook traffic volume counts at the Oldaker Street/Rooke Street/Formby Road/Victoria Parade roundabout in June 2013 as part of the Devonport Living City traffic study. A growth rate of 2% compounding per year was applied to these volumes to estimate the current traffic volumes.

Traffic surveys were undertaken by Tracsis Traffic Data (now Matrix Traffic and Transport Data) at the intersections listed below. The counts were completed in July 2015 as part of the Devonport Living City Civic and Retail Precinct. A growth rate of 2% compounding per year was applied to these volumes to estimate the current traffic volumes.

- Best Street/Fenton Way
- Best Street/Edward Street
- Best Street/Rooke Street

Traffic surveys were undertaken by Matrix Traffic and Transport Data for the remaining intersections. The surveys were undertaken on Tuesday 9 May 2017 during the following peak periods:

- AM Peak                7:30am to 9:30am
- PM Peak                2:30pm to 4:30pm

From the traffic count data it was determined that the AM peak hour occurs between 8:15am and 9:15am and the PM peak hour occurs between 3:00pm and 4:00pm.

A summary of the weekday AM and PM peak traffic volumes are shown in Figure 16 and Figure 17.

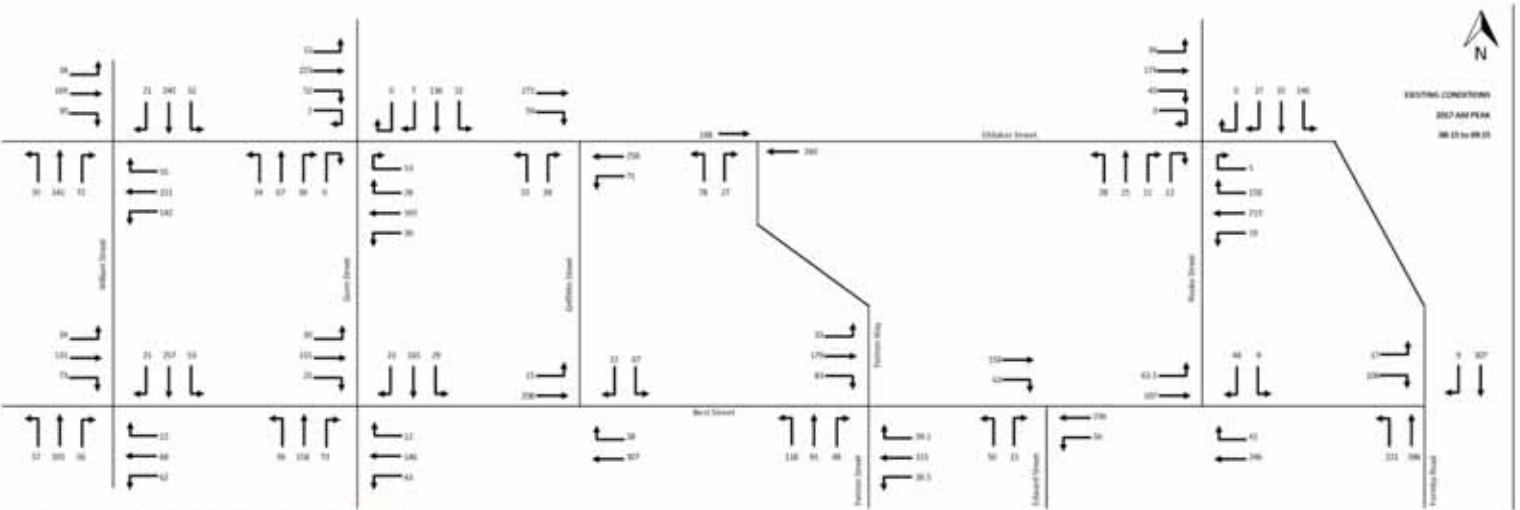


Figure 16: Existing Traffic Volumes - Weekday AM Peak

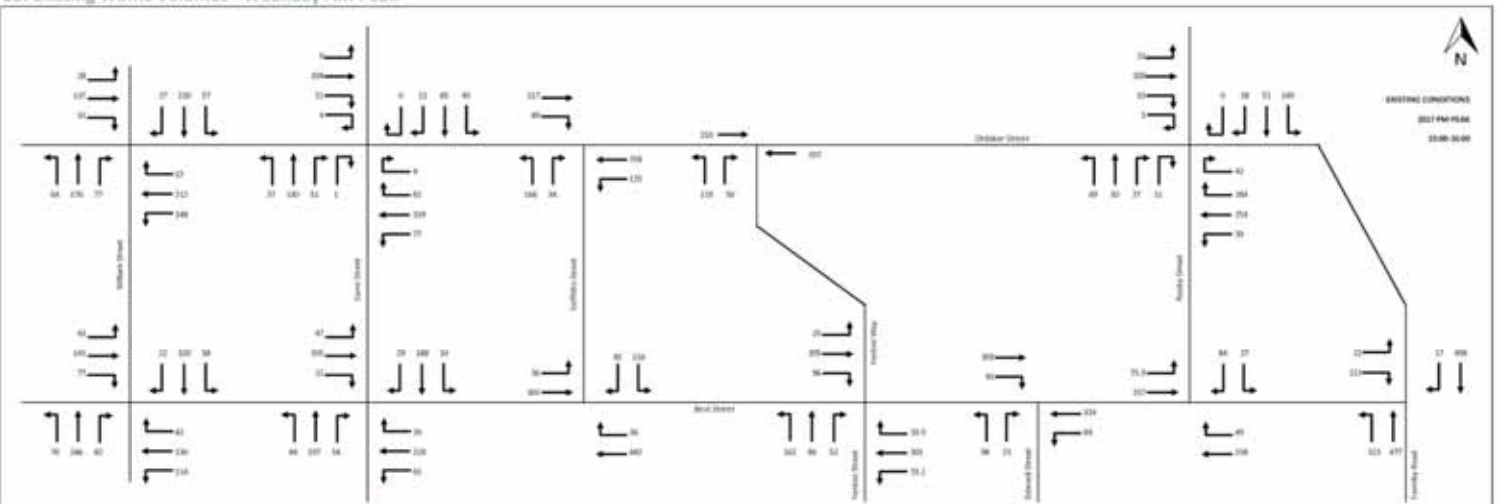


Figure 17: Existing Traffic Volumes - Weekday PM Peak

pitt&sherry ref: DV17026H001 rep 31P Rev01/RG/lc



The traffic operation at each of the intersections has been assessed using SIDRA INTERSECTION. The intersection performance is based on the vehicle delay and the corresponding Level of Service (LOS). It is generally accepted that an intersection operates well if it is at LOS D or higher. Table 1 shows the criteria that SIDRA intersection adopts in assessing the LOS.

Table 1: SIDRA INTERSECTION Level of Service Criteria

LOS	Delay per Vehicle (secs)		
	Signals	Roundabout	Sign Control
A	10 or less	10 or less	10 or less
B	10 to 20	10 to 20	10 to 15
C	20 to 35	20 to 35	15 to 25
D	35 to 55	35 to 50	25 to 35
E	55 to 80	50 to 70	35 to 50
F	Greater than 80	Greater than 70	Greater than 50

It is noted that pedestrian volumes have also been considered in the SIDRA intersection modelling but would have minimal impacts on the traffic operation. The signalised intersections have been modelled to run during all traffic signal phases which would be a worst case scenario. The pedestrian volumes for the unsignalised intersections have been modelled as 50 movements on each leg, which is significantly higher than the existing, to allow for variations in volumes.

Table 2 presents a summary of the existing traffic operation with full results presented in Appendix A.

Table 2: Existing Operating Conditions

Intersection	Peak	Degree of Saturation (DOS)	Average Delay (secs)	95 <sup>th</sup> Percentile Queue (m)	LOS
Best Street/ Formby Road	AM	0.75	27	100	C
	PM	0.84	35	162	C
Best Street/ Rooke Street	AM	0.39	11	27	B
	PM	0.51	12	35	B
Best Street/ Edward Street	AM	0.17	2	4	A
	PM	0.26	2	7	A
Best Street/ Fenton Way	AM	0.46	13	30	B
	PM	0.64	14	62	B
Best Street/ Griffiths Street	AM	0.19	1	3	A
	PM	0.28	2	5	A
Best Street/ Gunn Street	AM	0.39	12	25	B
	PM	0.45	12	31	B
Best Street/ William Street	AM	0.48	13	33	B
	PM	0.64	13	45	B
Oldaker Street/ William Street	AM	0.46	13	31	B
	PM	0.52	13	34	B
Oldaker Street/ Gunn Street	AM	0.27	6	11	A
	PM	0.46	6	24	A
Oldaker Street/ Griffiths Street	AM	0.18	2	4	A
	PM	0.26	3	6	A
Oldaker Street/ Fenton Way	AM	0.15	1	2	A
	PM	0.20	2	5	A
Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade	AM	0.34	6	14	A
	PM	0.46	6	22	A



On the basis of the above assessment it is clear that each of the intersections in the study area currently operate well with minimal queues and delays on all approaches.

## 2.4 Public Transport

Merseylink Buses provide the public transport services within Devonport. As discussed, Rooke Street located opposite the site, is the main bus terminal for the Merseylink Buses. Eleven bus routes operate from the Rooke Street bus terminal, which amounts to approximately 80 trips each way on weekdays and 25 trips each way on weekends. Buses travel from the interchange to the southern, eastern and western suburbs of Devonport along with trips to Latrobe, Ambleside and Quoiba/Stony Rise.

The bus terminal is located within a convenient walking distance from the Stage 1 development making it a viable option for trips to the area.

Each of the Merseylink bus routes have been reviewed on the Merseylink website which indicates no standard routes operate on Formby Road between Best Street and Rooke Street. Buses, however have been counted on this road link in the traffic counts.

Taxis also operate in Devonport, a taxi zone is located adjacent to the Waterfront Precinct site on Best Street.

## 3. Formby Road Options

Each of the Formby Road options discussed below consider the link of Formby Road between Best Street and Oldaker Street only.

### 3.1 Options Proposed By Council

#### Option 1

Option 1 is to leave Formby Road in its existing layout with two -way traffic and pedestrian crossing locations limited to the Best Street/ Formby Road signalised intersection and the Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade roundabout.

#### Option 2

Option 2 is the Waterfront Precinct Concept Design prepared by Lyons as discussed in Section 1.2. This option involves maintaining two-way traffic flow on Formby Road as well as the installation of angled parking and two pedestrian (zebra) crossings.

#### Option 3

Option 3 involves reducing Formby Road to one-way traffic only. As Fenton Way provides a northbound link, a southbound link on Formby Road would provide the opposite movement. For this option the layout of Fenton Way is proposed to remain largely unchanged, apart from changes proposed as part of the Devonport Living City Civic and Retail Precinct. All northbound traffic on Formby Road will need to be redirected to other routes. This would provide improved safety for pedestrians as they would only be required to cross traffic in one direction.

#### Option 4

Option 4 involves allowing bus and pedestrian traffic on Formby Road. As there are low bus traffic volumes in Devonport, large gaps (of several minutes) between buses would allow ample crossing opportunities. All remaining traffic on Formby Road would need to be directed onto other roads including truck (freight) movements.



#### Option 5

Option 5 involves a full closure of Formby Road therefore allowing pedestrian movements only. All traffic on Formby Road including bus and truck movements would need to be directed onto other roads.

## 4. Impacts of Each Option

### 4.1 Option 1 – Existing Formby Road Arrangement

#### 4.1.1 Traffic Impacts

The traffic impact at each of the intersections after the Waterfront Precinct development has been assessed using SIDRA INTERSECTION.

Several assumptions have been made with regards to the traffic volumes and timing of the Waterfront Precinct construction completion. The Waterfront Precinct has been assumed to have a completion date of 2019 for the purposes of the traffic modelling.

The hotel development is expected to generate similar or less traffic to the Waterfront Precinct site than the current volumes due to the lowering of car parking supply at the site and the removal of the Harris Scarfe store. The traffic volumes also include the anticipated additional volumes from the Retail and Civic Precinct, taken from the Traffic Impact Assessment completed by **pitt&sherry** (October 2016).

It has therefore been assumed that any slight additions to traffic volumes are covered by the conservative 2% per annum compounding traffic growth that has been applied.

The existing traffic distribution is expected not to be affected by the Formby Road Option 1 arrangement as it is the same as the existing arrangement.

Based on the 2019 traffic with the inclusion of traffic generated by the Civic and Retail Precinct, the anticipated AM and PM peak traffic volumes at the study intersections are shown in Figure 18 and Figure 19.



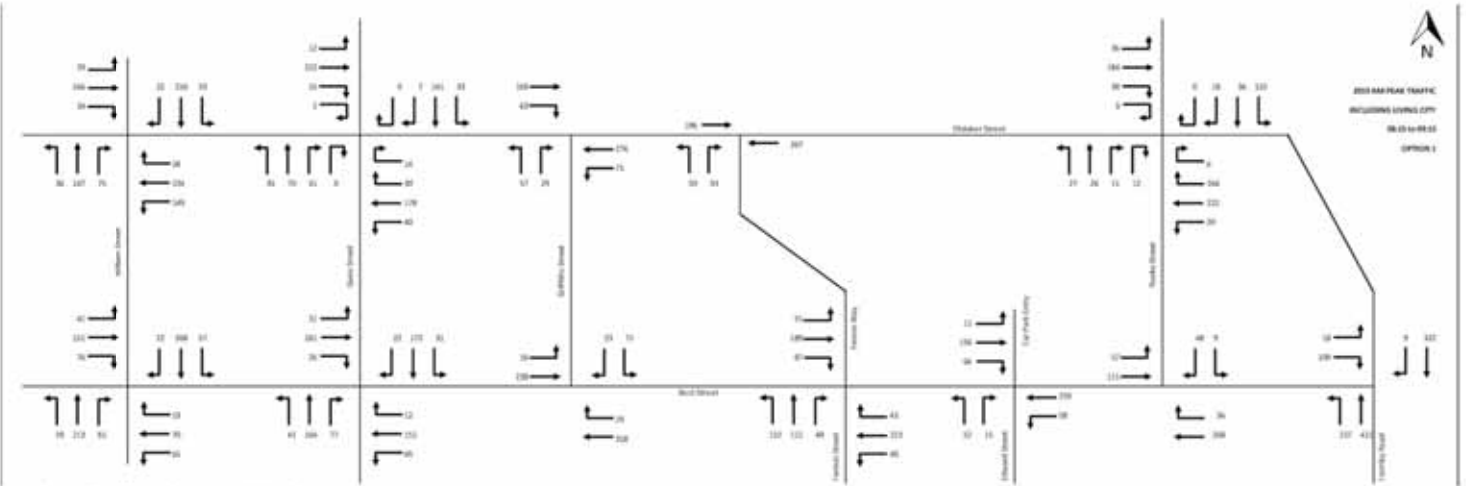


Figure 18: Option 1 Traffic Volumes - AM Peak

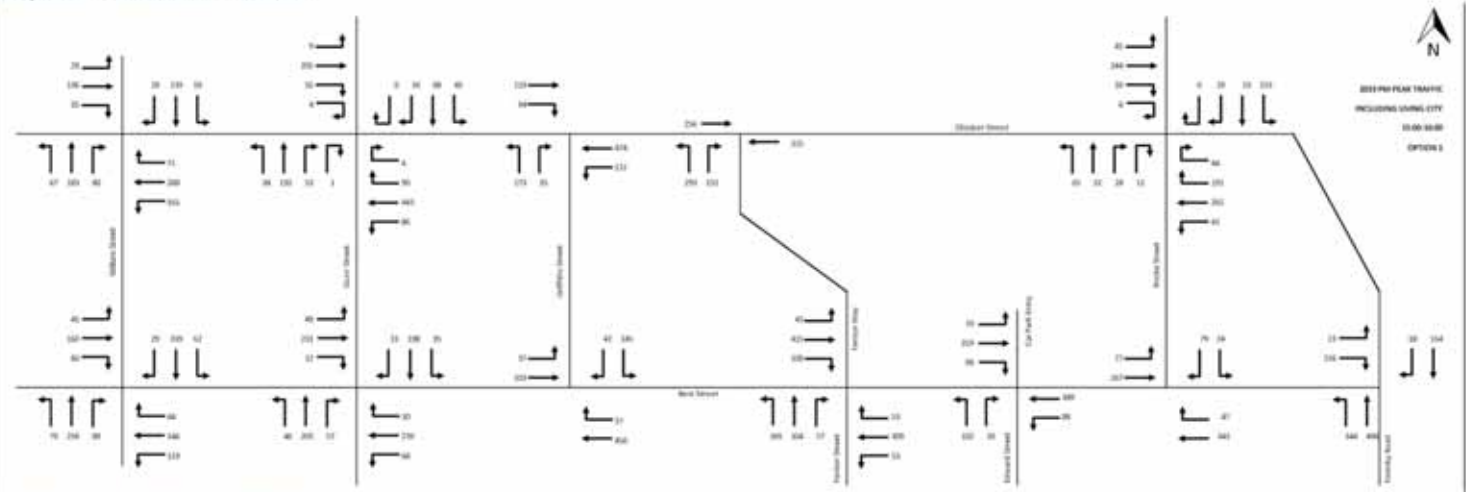


Figure 19: Option 2 Traffic Volumes - PM Peak

pitt&sherry ref: DV17026H001 rep 31P Rev01/RG/lc





Table 3 presents a summary of the anticipated operation of the study intersections in 2019 with the Option 1 layout of Formby Road, with full results presented in Appendix B.

Table 3: Option 1 Operating Conditions

Intersection	Peak	Degree of Saturation (DOS)	Average Delay (secs)	95 <sup>th</sup> Percentile Queue (m)	LOS
Best Street/ Formby Road	AM	0.77	28	107	C
	PM	0.87	38	200	D
Best Street/ Rooke Street	AM	0.41	11	29	B
	PM	0.53	12	38	B
Best Street/ Edward Street	AM	0.18	2	4	A
	PM	0.28	3	9	A
Best Street/ Fenton Way	AM	0.52	13	35	B
	PM	0.70	15	69	B
Best Street/ Griffiths Street	AM	0.20	1	3	A
	PM	0.29	2	6	A
Best Street/ Gunn Street	AM	0.41	12	26	B
	PM	0.47	12	33	B
Best Street/ William Street	AM	0.51	13	35	B
	PM	0.68	14	49	B
Oldaker Street/ William Street	AM	0.49	13	33	B
	PM	0.60	13	45	B
Oldaker Street/ Gunn Street	AM	0.27	6	12	A
	PM	0.56	6	35	A
Oldaker Street/ Griffiths Street	AM	0.20	2	4	A
	PM	0.34	3	8	A
Oldaker Street/ Fenton Way	AM	0.15	1	3	A
	PM	0.44	3	17	A
Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade	AM	0.35	6	14	A
	PM	0.48	7	23	A

On the basis of the above assessment it is clear that each of the intersections in the study area are anticipated to operate well with the Option 1 Formby Road layout in 2019. There are minimal queues and delays and an acceptable LOS on all approaches.

#### 4.1.2 Pedestrians

The existing arrangement provides limited pedestrian crossing opportunities between the Waterfront Precinct sites. To cross Formby Road safely pedestrians are required to walk to the Best Street/ Formby Road signalised intersection which has a signalised crossing or the Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade roundabout which has a pedestrian island.

There are no crossing points along the pedestrian desire line between the hotel direct to the Devonport Foreshore. This may lead to pedestrians crossing the road unsafely in this location.

#### 4.1.3 Parking

The existing arrangement provides limited parking (two car parking spaces and an RV space). This option will not be able to accommodate any of the parking that will be lost from the removal of the existing Council voucher car park located on the Waterfront Precinct site.



## 4.2 Option 2 – Lyons Concept Design of Formby Road

### 4.2.1 Changes to Traffic Routes

The Lyons concept design may result in a slight reduction in the volumes of vehicles using Formby Road due to some delays that could be experienced by vehicles at the zebra crossings. Although the delays would likely be short it is expected that the reduction in traffic using Formby Road could be around 10%, however as a conservative approach a 15% reduction has been assumed with the traffic redirected to other routes.

The distribution of the 15% traffic volumes onto other routes is shown in Figure 20. It is noted that the percentages in Figure 20 are to equal 100%.

Based on the modified routes, the anticipated AM and PM peak traffic volumes at the study intersections with the introduction of Option 2 are shown in Figure 21 and Figure 22.

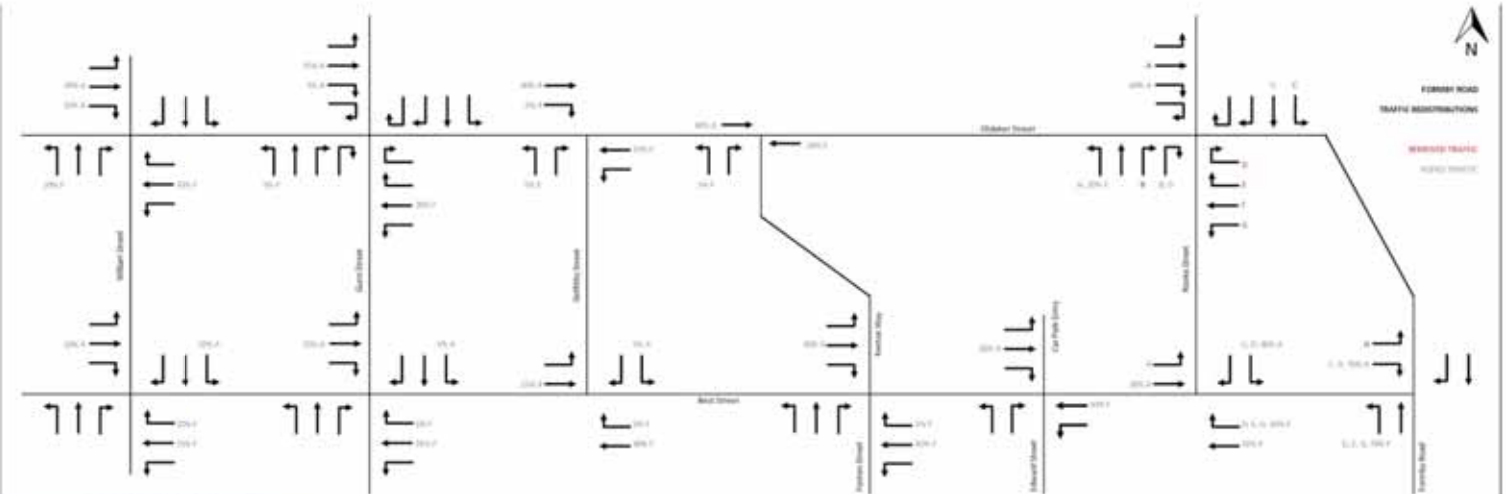


Figure 20: Traffic Distribution Changes

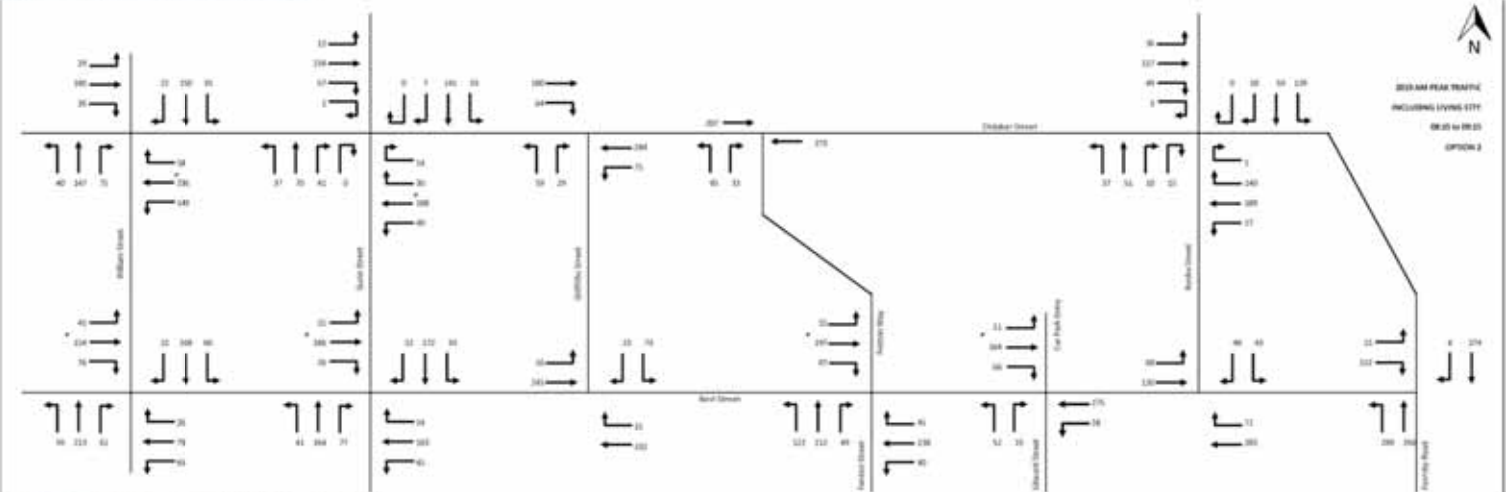


Figure 21: Option 2 Traffic Volumes – AM Peak

pitt&sherry ref: DV17026H001 rep 31P Rev01/RG/lc

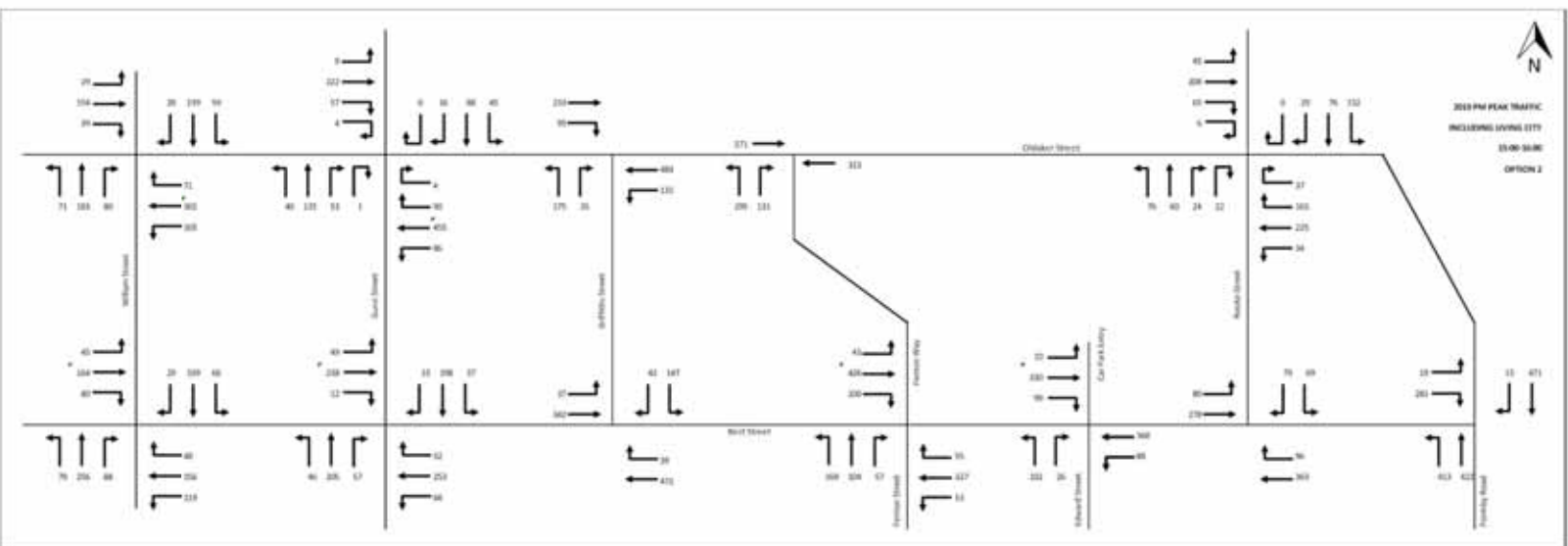


Figure 22: Option 2 Traffic Volumes - PM Peak



#### 4.2.2 Traffic Impacts

Table 4 presents a summary of the anticipated operation of the study intersections in 2019 with the Option 2 layout of Formby Road, with full results presented in Appendix C.

Table 4: Option 2 Operating Conditions

Intersection	Peak	Degree of Saturation (DOS)	Average Delay (secs)	95 <sup>th</sup> Percentile Queue (m)	LOS
Best Street/ Formby Road	AM	0.76	30	93	C
	PM	0.84	37	164	D
Best Street/ Rooke Street	AM	0.49	12	35	B
	PM	0.68	13	51	B
Best Street/ Edward Street	AM	0.19	2	4	A
	PM	0.29	3	9	A
Best Street/ Fenton Way	AM	0.53	13	36	B
	PM	0.71	15	72	B
Best Street/ Griffiths Street	AM	0.21	1	3	A
	PM	0.30	2	7	A
Best Street/ Gunn Street	AM	0.41	12	26	B
	PM	0.51	12	34	B
Best Street/ William Street	AM	0.51	13	35	B
	PM	0.69	14	50	B
Oldaker Street/ William Street	AM	0.50	13	35	B
	PM	0.63	14	48	B
Oldaker Street/ Gunn Street	AM	0.29	6	12	A
	PM	0.58	6	36	A
Oldaker Street/ Griffiths Street	AM	0.20	2	4	A
	PM	0.34	3	8	A
Oldaker Street/ Fenton Way	AM	0.15	1	3	A
	PM	0.45	3	18	A
Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade	AM	0.32	6	13	A
	PM	0.44	7	19	A

On the basis of the above assessment it is clear that each of the intersections in the study area are anticipated to operate well with the Option 2 Formby Road layout in 2019. There are minimal queues and delays and an acceptable LOS on all approaches.

It is expected that vehicles travelling on Formby Road between Best Street and Oldaker Street would experience delays at each of the zebra crossings.





### 4.2.3 Impact of Angled Parking

The Option 2 design prepared by Lyons includes 45 degree angle parking on Formby Road. Angle parking such as this is not ideal for use on roads with traffic volumes and speeds similar to Formby Road. Exiting from angled parking spaces requires some of a vehicle to protrude into the road carriageway before a driver can see oncoming vehicles. This has the potential to result in a vehicle exiting from parking colliding with a through vehicle.

Kerbside parallel parking would be more suitable in this location as a driver is well placed to see oncoming through traffic on Formby Road. Using the approximate lengths of 45 degree angled parking, the supply of parking would be expected to reduce from approximately 50 spaces as shown in the Lyons Concept Design to about 30 parallel parking spaces.

Currently there are only two kerbside car parking spaces and an RV parking space located on Formby Road between Best Street and Oldaker Street. A supply of 30 spaces would result in an increase of 28 spaces on Formby Road. This would accommodate some of the parking lost at the existing Council voucher car park located on the Waterfront Precinct site. The adoption of 45 degree angle parking would prevent provision for RV parking being retained.

It is noted that there would still be less car parking available than the current layout, the multi-storey car park (under construction) and additional car parking on Victoria Parade could help to accommodate some vehicles.

### 4.2.4 Pedestrians

It is expected that the addition of two zebra crossings would result in improved safety for pedestrians travelling across Formby Road between the proposed hotel and the foreshore when compared with the existing arrangement.

The alignment of the zebra crossings, at a sharp angle compared with the direction of traffic, does not comply with the Australian Standard, AS1742.10-2009 Manual of Uniform Traffic Control Devices – Pedestrian Control and Protection. Zebra crossings should be located at a 90 degree angle to traffic movements in order to maximise the sight distances for pedestrians and ensure pedestrians can easily turn to see vehicles travelling in both directions.

The *Vicroads Supplement to Austroads Guide to Traffic Management Part 10 (2015)* states that a crossing may be appropriate where, for any one hour of an average weekday, the following apply:

- The number of pedestrians crossing the road exceeds 60 persons per hour
- The number of vehicles per hour which pedestrians have to cross in one bound exceeds 500.

Based on the warrants above, a crossing across Formby Road would be likely to exceed both vehicle and pedestrian requirements. There may not however be sufficient pedestrian volumes for two crossings.

## 4.3 Option 3 – Formby Road Converted to One-Way

### 4.3.1 Changes to Traffic Routes

The reduction of Formby Road to one-way southbound between Best Street and Oldaker Street will result in northbound traffic taking alternative routes. The distribution of the traffic volumes has been assumed as the same as the distributions in Figure 20, however it is for 100% of volumes and for the northbound traffic only.

Based on the modified routes, the anticipated AM and PM peak traffic volumes at the study intersections with the introduction of Option 3 are shown in Figure 23 and Figure 24.

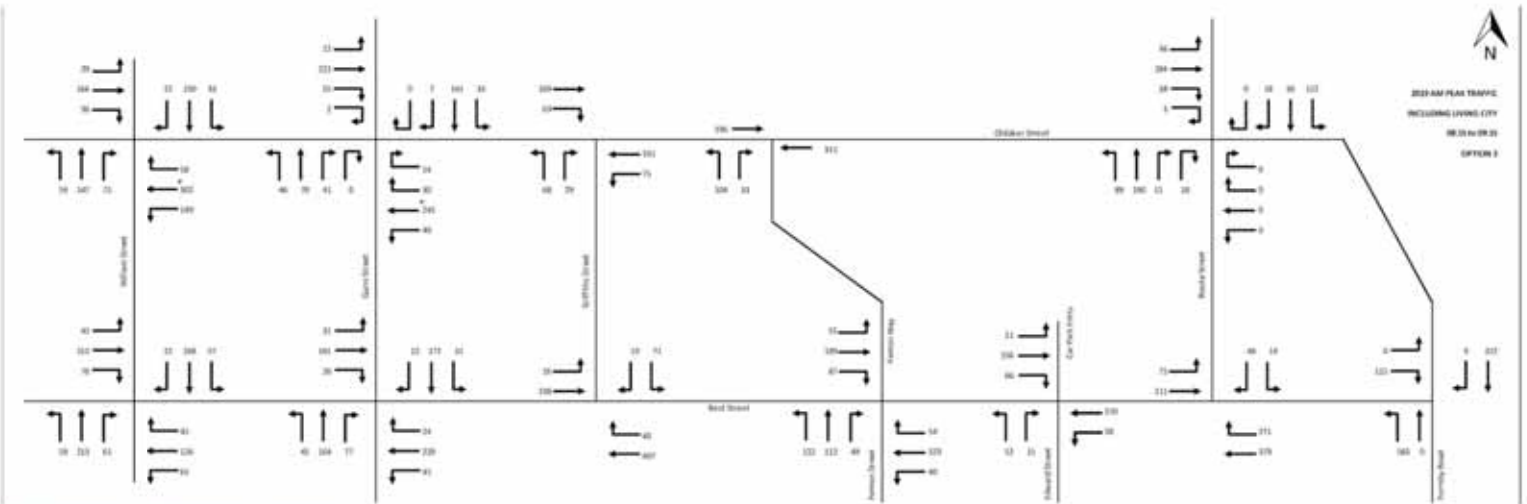


Figure 23: Option 3 Traffic Volumes - AM Peak

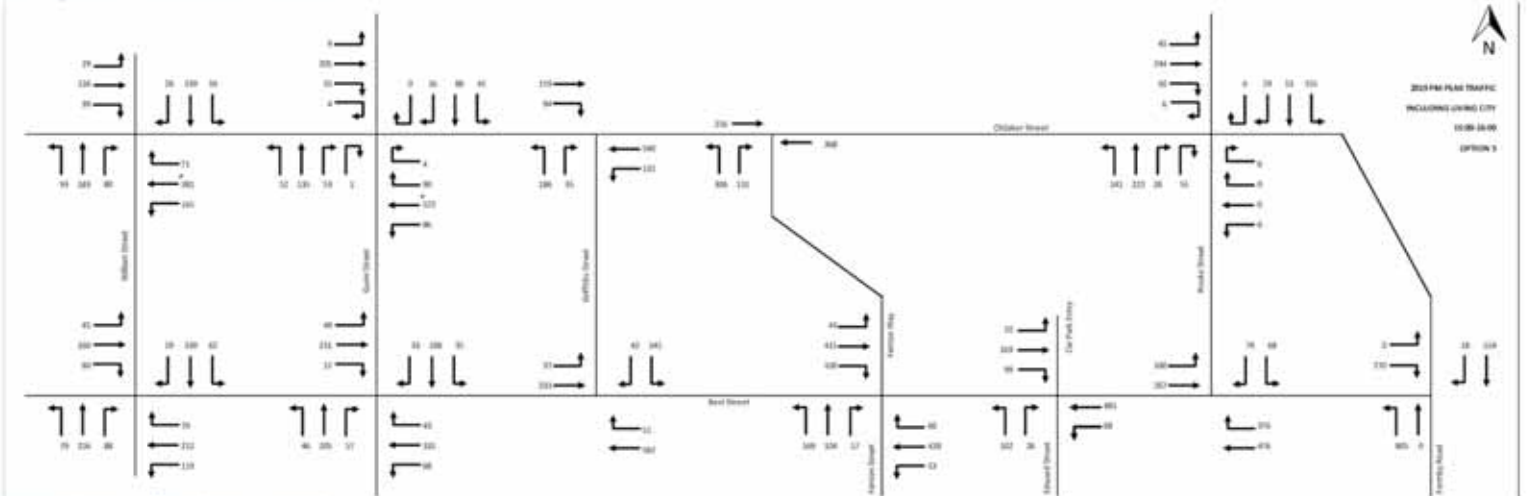


Figure 24: Option 3 Traffic Volumes - PM Peak

pitt&sherry ref: DV17026H001 rep 31P Rev01/RG/bc



### 4.3.2 Traffic Impacts

Table 5 presents a summary of the anticipated operation of the study intersections in 2019 with the Option 3 layout of Formby Road, with full results presented in Appendix D.

Table 5: Option 3 Operating Conditions

Intersection	Peak	Degree of Saturation (DOS)	Average Delay (secs)	95 <sup>th</sup> Percentile Queue (m)	LOS
Best Street/ Formby Road	AM	0.86	33	189	C
	PM	0.88	42	412	D*
Best Street/ Rooke Street	AM	0.79	15	93	B
	PM	0.87	19	184	B
Best Street/ Edward Street	AM	0.25	2	5	A
	PM	0.33	3	11	A
Best Street/ Fenton Way	AM	0.64	14	47	B
	PM	0.78	19	84	B
Best Street/ Griffiths Street	AM	0.26	1	3	A
	PM	0.36	2	7	A
Best Street/ Gunn Street	AM	0.44	12	32	B
	PM	0.60	12	46	B
Best Street/ William Street	AM	0.51	13	35	B
	PM	0.68	14	49	B
Oldaker Street/ William Street	AM	0.60	13	45	B
	PM	0.79	15	71	B
Oldaker Street/ Gunn Street	AM	0.33	6	15	A
	PM	0.63	7	43	A
Oldaker Street/ Griffiths Street	AM	0.23	2	4	A
	PM	0.37	3	10	A
Oldaker Street/ Fenton Way	AM	0.17	1	3	A
	PM	0.48	3	20	A
Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade	AM	0.26	5	12	A
	PM	0.56	8	32	A

\*Includes some LOS F movements

On the basis of the above assessment, the restriction of Formby Road to one-way southbound is expected to put additional pressure on the surrounding intersections as the northbound traffic is required to take an alternate route.

The addition of turning movements at the Best Street/ Formby Road intersection has resulted in some LOS F delays for movements on the north and west legs.



The remainder of the intersections in the study area are anticipated to operate well with the one-way southbound arrangement in 2019. There are minimal queues and delays and an acceptable LOS on all approaches.

#### 4.3.3 Effect on CBD Ring Road and Heavy Vehicle Routes

As discussed in Section 2.2, Formby Road is part of the CBD ring road which also includes Steele Street, Gunn Street and Oldaker Street. The link of Formby Road between Best Street is a key component of the CBD ring road.

The Formby Road Option 3 arrangement would have a significant impact on the operation of the current CBD Ring Road as the removal of northbound traffic from the route will result in this traffic being required to take an alternative route. There are, however, benefits of removing the CBD Ring Road including a more even spread of traffic around the Devonport CBD, therefore reducing heavy vehicle volumes on Formby Road. This aligns with the Living City purpose of 'connecting the CBD to the Mersey River' through implementation of Formby Road as a pedestrian connection as well as a vehicle route.

#### 4.3.4 Pedestrian Safety

The Option 3 arrangement would be expected to have some improvement for pedestrians compared with the existing Formby Road arrangement as pedestrians are only required to look one way for vehicles and that the opposing vehicles are essentially halved.

Option 3 does however still provide limited pedestrian crossing opportunities. To cross Formby Road safely pedestrians would still be required to walk to the Best Street/ Formby Road signalised intersection or the Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade roundabout which has a pedestrian island.

It is noted that a pedestrian crossing could be installed on Formby Road for this option at a relatively low cost which would improve the pedestrian crossing opportunity.

#### 4.3.5 Parking

There is opportunity for additional car parking relative to Option 2 to be provided in this option due to the narrower road with required for one-way travel. This could accommodate some of the parking lost at the existing Council voucher car park located on the Waterfront Precinct site.

### 4.4 Option 4 – Buses Only on Formby Road

#### 4.4.1 Changes to Traffic Routes

The reduction of Formby Road to buses, pedestrians and emergency vehicles only between Best Street and Oldaker Street will result in all other traffic taking alternative routes. It is also suggested that this route could also be used by taxis to encourage people to use them and reduce the demand for parking.

The distribution of the traffic volumes has been assumed as the same as the distributions in Figure 20, however it is for all traffic that is not buses, taxis and emergency vehicles. The traffic using Formby Road between Best Street and Oldaker Street has been assumed as 30 vehicles in each direction (or 1 vehicle a minute total) for the Option 4 scenario.

Based on the modified routes, the anticipated AM and PM peak traffic volumes at the study intersections with the introduction of Option 4 are shown in Figure 25 and Figure 26.



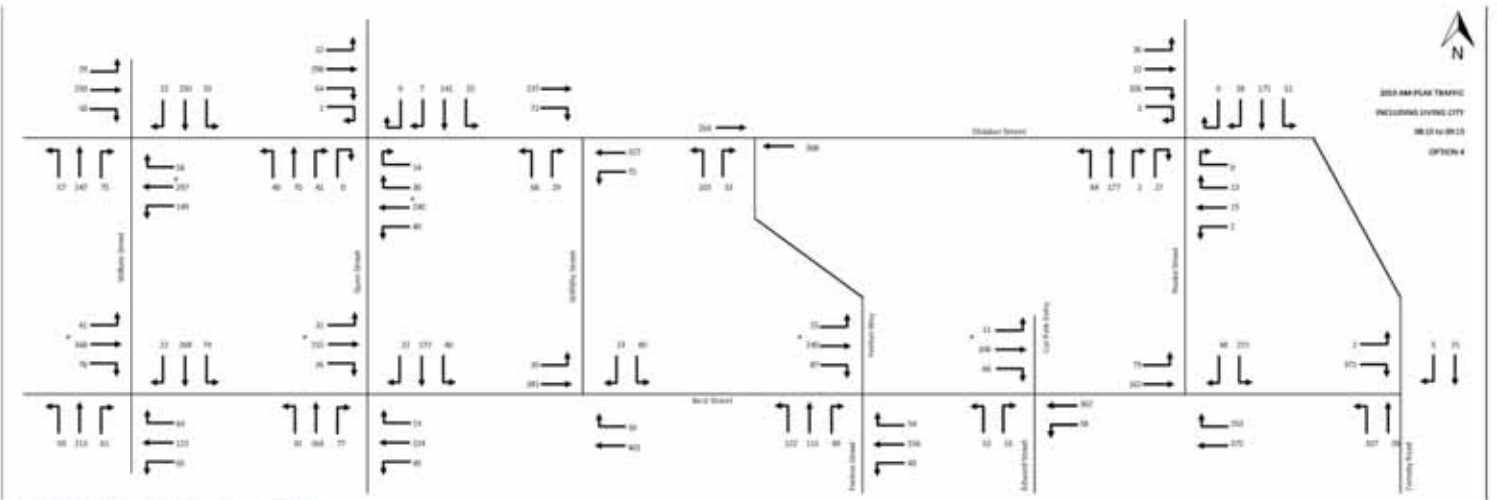


Figure 25: Options 4 Traffic Volumes - AM Peak

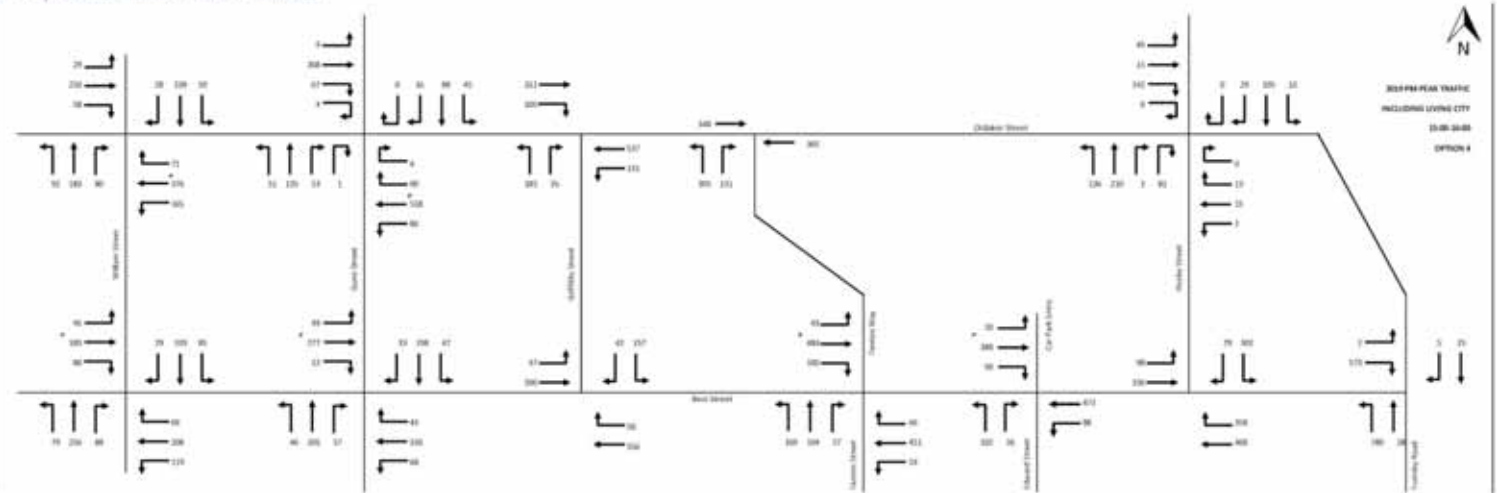


Figure 26: Option 4 Traffic Volumes - PM Peak

pitt&sherry ref: DV17026H001 rep 31P Rev01/RG/lc





#### 4.4.2 Traffic Impacts

Table 6 presents a summary of the anticipated operation of the study intersections in 2019 with the Option 4 layout of Formby Road, with full results presented in Appendix E.

Table 6: Option 4 Operating Conditions

Intersection	Peak	Degree of Saturation (DOS)	Average Delay (secs)	95 <sup>th</sup> Percentile Queue (m)	LOS
Best Street/ Formby Road	AM	3.77	1724	1623	F
	PM	5.28	2609	2458	F
Best Street/ Rooke Street	AM	0.79	16	89	B
	PM	1.01	64	494	E
Best Street/ Edward Street	AM	0.24	2	5	A
	PM	0.33	3	12	A
Best Street/ Fenton Way	AM	0.64	14	46	B
	PM	2.28	332	502	F
Best Street/ Griffiths Street	AM	0.26	1	3	A
	PM	0.36	2	8	A
Best Street/ Gunn Street	AM	0.45	12	31	B
	PM	0.60	12	46	B
Best Street/ William Street	AM	0.51	13	35	B
	PM	0.69	14	50	B
Oldaker Street/ William Street	AM	0.61	13	45	B
	PM	0.84	16	77	B
Oldaker Street/ Gunn Street	AM	0.35	6	15	A
	PM	0.64	7	44	A
Oldaker Street/ Griffiths Street	AM	0.23	2	5	A
	PM	0.37	3	12	A
Oldaker Street/ Fenton Way	AM	0.17	1	3	A
	PM	0.50	3	21	A
Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade	AM	0.24	5	10	A
	PM	0.34	6	14	A

On the basis of the above assessment, the restriction of Formby Road to buses only is expected to put additional pressure on the surrounding intersections as the traffic diverted from the Formby Road link is required to take an alternate route.



The addition of turning movements at the Best Street/ Formby Road intersection, Best Street/ Rooke Street intersection and Best Street/ Fenton Way intersection has resulted in overall average LOS E and F delays at the intersections. Significant queueing is anticipated from these delays which is expected to impact other intersections in the road network.

The remainder of the intersections in the study area are anticipated to operate well with the restriction of Formby Road to buses only in 2019. There are minimal queues and delays and an acceptable LOS on all approaches.

#### 4.4.3 Effect on CBD Ring Road and Heavy Vehicle Routes

As discussed in Section 2.2, Formby Road is part of the CBD ring road which also includes Steele Street, Gunn Street and Oldaker Street. The link of Formby Road between Best Street is a key component of the CBD ring road.

The Formby Road Option 4 arrangement would have a similar impact to the CBD Ring Road as discussed in Option 3.

#### 4.4.4 Pedestrian Safety

The reduction of Formby Road to buses, pedestrians and emergency vehicles only between Best Street and Oldaker Street would be expected to significantly improve pedestrian safety. The traffic volumes would be lowered considerably resulting in more pedestrian crossing opportunities.

Due to the low volumes, about 1 vehicle a minute maximum, it is likely that pedestrian crossings would not be required.

#### 4.4.5 Parking

There is opportunity to provide car parking similar to Option 2 to accommodate some of the parking lost at the existing Council voucher car park located on the Waterfront Precinct site.

### 4.5 Option 5 – Complete Closure of Formby Road

#### 4.5.1 Changes to Traffic Routes

The closure of Formby between Best Street and Oldaker Street will result in all traffic taking alternative routes. The distribution of the traffic volumes has been assumed as the same as the distributions in Figure 20, however it is for 100% of volumes.

Based on the modified routes, the anticipated AM and PM peak traffic volumes at the study intersections with the introduction of Option 5 are shown in Figure 27 and Figure 28.

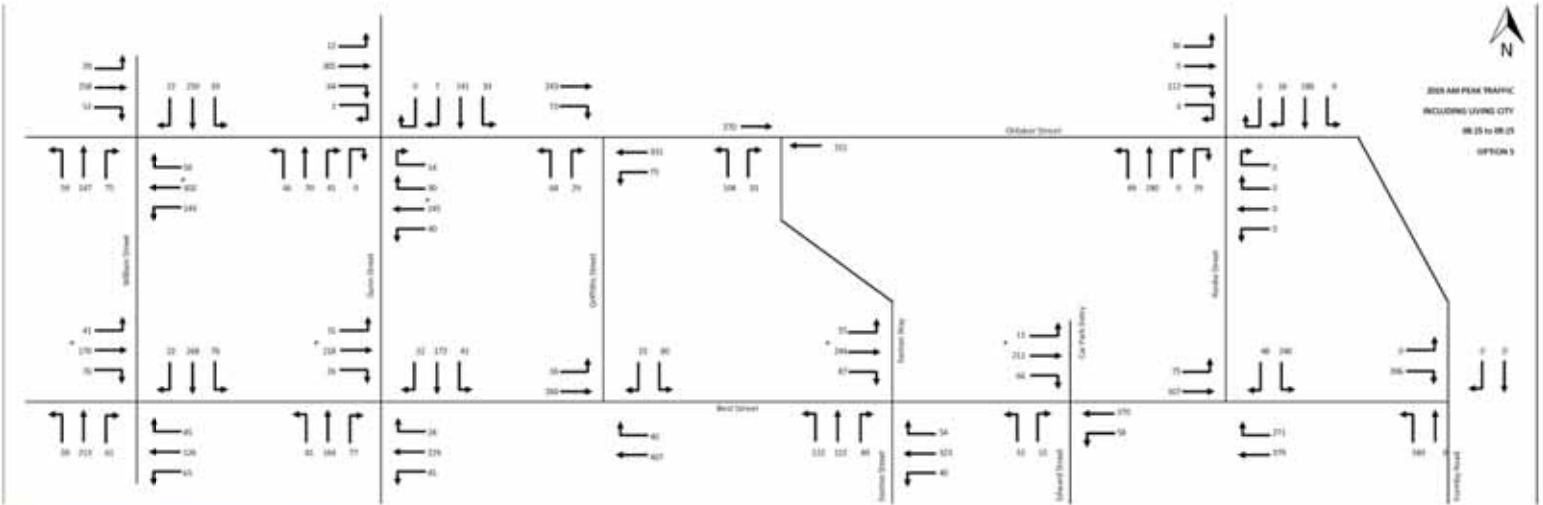


Figure 27: Option 5 Traffic Volumes - AM Peak

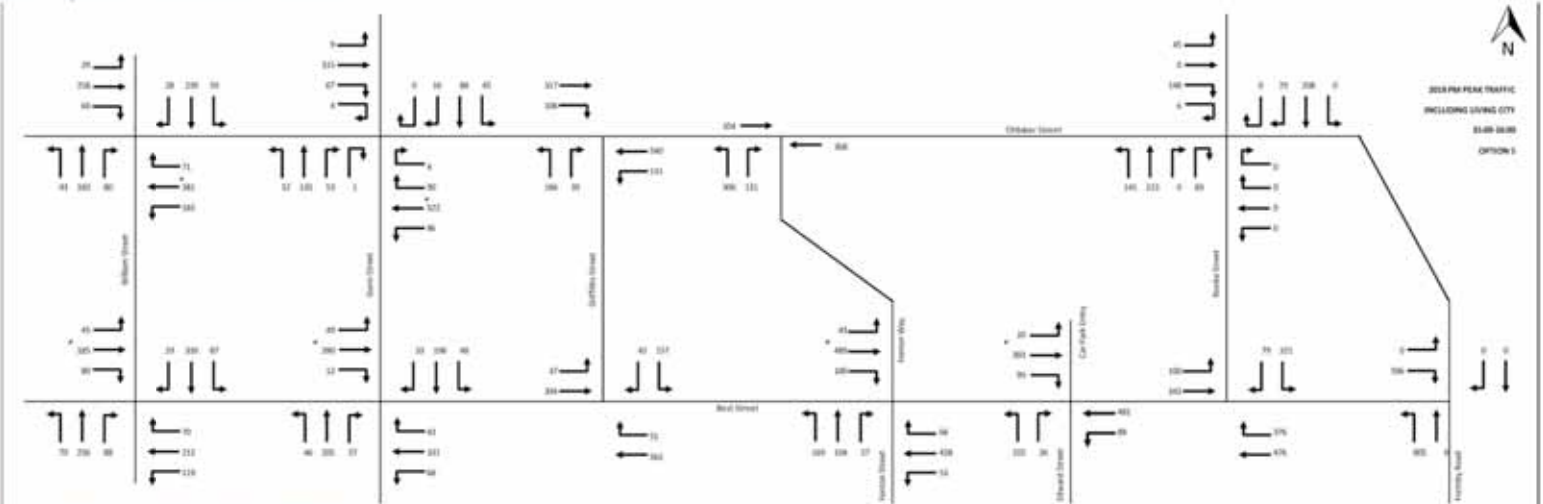


Figure 28: Option 5 Traffic Volumes - PM Peak

pitt&sherry ref: DV17026H001 rep 31P Rev01/RG/lc



#### 4.5.2 Traffic Impacts

Table 7 presents a summary of the anticipated operation of the study intersections in 2019 with the Option 5 layout of Formby Road, with full results presented in Appendix F.

Table 7: Option 5 Operating Conditions

Intersection	Peak	Degree of Saturation (DOS)	Average Delay (secs)	95 <sup>th</sup> Percentile Queue (m)	LOS
Best Street/ Formby Road	No intersection				
Best Street/ Rooke Street	AM	0.83	18	103	B
	PM	1.05	79	557	E
Best Street/ Edward Street	AM	0.25	2	5	A
	PM	0.34	3	13	A
Best Street/ Fenton Way	AM	0.65	14	47	B
	PM	2.12	312	338	F
Best Street/ Griffiths Street	AM	0.26	1	3	A
	PM	0.36	2	8	A
Best Street/ Gunn Street	AM	0.45	12	32	B
	PM	0.61	12	46	B
Best Street/ William Street	AM	0.51	13	35	B
	PM	0.69	15	50	B
Oldaker Street/ William Street	AM	0.62	13	46	B
	PM	0.85	16	80	B
Oldaker Street/ Gunn Street	AM	0.36	6	16	A
	PM	0.64	7	44	A
Oldaker Street/ Griffiths Street	AM	0.23	2	5	A
	PM	0.37	3	13	A
Oldaker Street/ Fenton Way	AM	0.17	1	3	A
	PM	0.51	3	22	A
Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade	AM	0.24	5	10	A
	PM	0.33	6	14	A

On the basis of the above assessment, the closure of Formby Road between Best Street and Oldaker Street is expected to put additional pressure on the surrounding intersections as the traffic diverted from the Formby Road link is required to take an alternate route.

The addition of turning movements at the Best Street/ Rooke Street intersection and Best Street/ Fenton Way intersection has resulted in overall average LOS E and F delays at the intersections. Significant queuing is anticipated from these delays which is expected to impact other intersections in the road network.





The remainder of the intersections in the study area are anticipated to operate well with the closure of Formby Road in 2019. There are minimal queues and delays and an acceptable LOS on all approaches.

#### 4.5.3 Effect on CBD Ring Road and Heavy Vehicle Routes

As discussed in Section 2.2, Formby Road is part of the CBD ring road which also includes Steele Street, Gunn Street and Oldaker Street. The link of Formby Road between Best Street is a key component of the CBD ring road.

The Formby Road Option 5 arrangement would have a similar impact to the CBD Ring Road as discussed in Option 3.

#### 4.5.4 Pedestrian Safety

The closure of Formby Road would offer the highest level of pedestrian safety for movements to and from the waterfront.

#### 4.5.5 Parking

As Option 5 allows no vehicular access to Formby Road, there would be no car parking provision. This option will not be able to accommodate any of the parking that will be lost from the removal of the existing Council voucher car park located on the Waterfront Precinct site.

### 4.6 Results Assessment

Based on the results above, it appears that unacceptable queues and delays would be expected on one or more intersections in the study area for Options 4 and 5. These options do, however, provide the greatest benefits for pedestrians.

Option 2 appears to have a modest impact on vehicle movements, with a small improvement in safety for pedestrians.

Option 3 is potentially also feasible, however the Best St / Formby Rd intersection may be problematic. The operation of this intersection will largely depend on the proportions of northbound traffic on Formby Rd that exit at Steele St, Stewart St and Best St. The modelling does not include Steele St to understand the impacts of this additional volume on the CBD Ring Road. Some improvements could also be made at the Best St / Formby Rd intersection to improve the operation of this intersection. More analysis of this option would be required to fully understand the impacts on the wider CBD.

Options 2, 3 and 4 have the potential to provide additional parking to accommodate some of the parking that will be lost from the removal of the existing Council voucher car park located on the Waterfront Precinct site.

It has therefore been determined that Option 2, providing a pedestrian crossing whilst keeping Formby Road with two-way traffic, may provide the greatest overall benefit for vehicles and pedestrians by providing short delays for each. Option 3 would provide a further increase in pedestrian safety, but with some additional consequences for vehicle movements that should be further explored.

### 4.7 Assessment of Alternative Pedestrian Crossing Options

The Austroads Pedestrian Facility Tool has been used to identify suitable crossing treatments for Formby Road between Best Street and Oldaker Street.

Physical site variables have been input into the tool including crossing width and pedestrian visibility, as well as operational variables such as speed limit, traffic volumes and pedestrian crossing volumes to identify suitable pedestrian crossing facilities.





Based on the variables, the tool suggested the following facilities could be feasible for Formby Road between Best Street and Oldaker Street:

- Pedestrian platform
- Kerb extensions
- Median refuge
- Kerb extensions and median refuge
- Zebra crossing with platform
- Zebra crossing with platform and kerb extensions
- Pedestrian signals
- Pedestrian signals with kerb extensions
- Grade separation.

It is noted that the tool did not consider a zebra crossing without a platform as an appropriate crossing type.

After the feasible facilities were determined, costs for constructing the facilities were also input into the tool. It is expected that significant construction works will be completed on Formby Road for each of the options as part of the Waterfront Precinct development. The construction costs have therefore been estimated as the relative additional cost for including the treatment.

The tool provided an assessment of each facility. The assessment includes a rating for the perceived delay to pedestrians, the perceived safety to pedestrians and the pedestrian LOS. Each of these ratings were given a LOS score from A to F with A being very good and F being very poor. A Benefit Cost Ratio was also included in the assessment which has taken into account the delay costs to pedestrians and vehicles, the delay saving to pedestrians, the crash cost and the safety saving.

The results of the assessment are summarised in Table 8. A copy of the full pedestrian facility assessment is included in Appendix G.

Table 8: Pedestrian Facility Tool Assessment

Facility	Suitable for Site	Perceived Delay	Perceived Safety	Pedestrian LOS	Benefit Cost Ratio
No Facility	-	B	D	C	
Platform	Yes	B	C	C	-89.1
Kerb extensions	Yes	B	C	C	2.7
Median refuge	Yes	B	B	B	8.5
Kerb extensions and median refuge	Yes	B	B	B	4.3
Zebra with platform	Yes	B	B	B	-92.5
Zebra with platform and kerb extensions	Yes	B	B	B	-41.0
Pedestrian signals	Yes	B	B	B	-3.8
Pedestrian signals with kerb extensions	Yes	B	B	B	-3.2
Grade separation	Maybe	B	B	A	0.3



The results of the pedestrian facility tool show that of the suitable facilities, median refuges provide the highest benefit for the cost of installation with a slightly positive Benefit Cost Ratio.

Pedestrian signals could also be used as the Benefit Cost Ratio is only slightly negative. The negative result for the pedestrian signals is due to both vehicles and pedestrians being required to wait for short periods of time for a green signal.

The grade separation operation has an almost neutral Cost Benefit Ratio but is only considered as “maybe” suitable, likely due to the costs required to install the facility. It should also be noted that the cost estimated for grade separation allows for a pedestrian bridge structure over Formby Road as construction of an underpass would potentially have geotechnical challenges due to the close proximity to the Mersey River. The use of a grade separated crossing may be low in an environment such as Formby Road where traffic volumes are moderate and vehicle speeds are low.

Zebra crossings have a highly negative Benefit Cost Ratio due to the vehicle delay costs.

Based on the results of the pedestrian facility tool either a median refuge or pedestrian signals could be appropriate treatments for Formby Road. Based on this, a further two options have been added.

## 4.8 Option 6 – Pedestrian Median Refuge

### 4.8.1 Overview

Option 6 involves maintaining two-way traffic flow on Formby Road and installing one or more pedestrian median treatments on the pedestrian desire line between the hotel development and the foreshore.

Pedestrian refuges could be installed similar to the photo shown in Figure 29. Design details are included in the *LGAT Tasmanian Standard Drawings TSD-R20-v1*.



Figure 29: Pedestrian Refuge Example

### 4.8.2 Traffic Impacts

The existing traffic distribution is not expected to be affected by the addition of pedestrian median islands to Formby Road. Based on this the traffic operation is expected to be similar to that of Option 1.



### 4.8.3 Pedestrians

It is expected that the addition of one or more pedestrian median treatment would result in improved safety for pedestrians travelling across Formby Road between the proposed hotel and the foreshore when compared with the existing arrangement.

The median treatments are a cost-effective solution when pedestrian volumes are low. As pedestrian volumes become higher, however, the median islands can become full resulting in increased wait times for pedestrians while the island clears or spillage of crowds onto the road lanes.

Median treatments also have impacts for children and the elderly as they take longer to cross the road. There are no warning signs for pedestrian medians as drivers are not required to slow or stop, a drivers may take longer to react and stop if slower pedestrian appears in front of them compared with a signed pedestrian crossing.

### 4.8.4 Parking

This layout has the potential supply of approximately 30 spaces would result in an increase of 28 spaces on Formby Road. This would accommodate some of the parking lost at the existing Council voucher car park located on the Waterfront Precinct site.

## 4.9 Option 7 – Pedestrian Signals

### 4.9.1 Overview

Option 7 involves maintaining two-way traffic flow on Formby Road and installing pedestrian signals on the pedestrian desire line between the hotel development and the foreshore.

Pedestrian signals could be installed similar to the Elizabeth Street pedestrian signals in North Hobart as shown in Figure 30. Design details are included in the Department of State Growth Standard Drawing G/10/449B.



Figure 30: Pedestrian Refuge Example

### 4.9.2 Traffic Impacts

The Option 7 design may result in a slight reduction in the volumes of vehicles using Formby Road due to delays for vehicles while pedestrians are using the crossing. Similar to Option 2, a 15% reduction has been assumed with the traffic redirected to other routes.

Based on this the traffic operation is expected to be similar to that of Option 2.





### 4.9.3 Pedestrians

It is expected that the addition of pedestrian signals will result in significantly improved safety for pedestrians travelling across Formby Road between the proposed hotel and the foreshore when compared with the existing arrangement.

The signals assign pedestrians dedicated green time to cross the road safely and allow time for elderly people and children to cross the road. The risk of a driver continuing through a signalised crossing is very low compared with a signed pedestrian crossing.

### 4.9.4 Parking

This layout has the potential supply of approximately 30 spaces would result in an increase of 28 spaces on Formby Road. This would accommodate some of the parking lost at the existing Council voucher car park located on the Waterfront Precinct site.

## 5. Advantages and Disadvantages of Each Option

A summary of the advantages and disadvantages of each option are shown in Table 9.

Table 9: Advantages and Disadvantages

Option	Advantages	Disadvantages
Option 1 – Existing Layout	<ul style="list-style-type: none"> <li>Minor changes to traffic operation</li> <li>Acceptable queues and delays on all intersections in the study area</li> </ul>	<ul style="list-style-type: none"> <li>Limited pedestrian crossing options</li> <li>No crossing points on desire line may lead to pedestrians crossing unsafely</li> <li>Minimal parking provision</li> </ul>
Option 2 – Lyons Concept Design	<ul style="list-style-type: none"> <li>Zebra crossings improve the safety and crossing opportunity for pedestrians</li> <li>Minor changes to traffic operation</li> <li>Acceptable queues and delays on all intersections in the study area</li> <li>Considerable parking provision potential</li> </ul>	<ul style="list-style-type: none"> <li>Safety issues with the crossing design: <ul style="list-style-type: none"> <li>Angled parking on a major road is not desirable as sight distances are limited</li> <li>Pedestrian crossings on angles other than 90 degrees are not desirable as sight distances are impacted</li> </ul> </li> <li>Vehicles could be delayed twice at crossings</li> <li>The Pedestrian Crossing Facility Tool does not suggest that a zebra crossing is suitable for this location</li> </ul>
Option 3 – Conversion to One-Way	<ul style="list-style-type: none"> <li>Pedestrians only required to look one way to cross the road and opposing traffic halved</li> <li>Considerable parking provision potential</li> </ul>	<ul style="list-style-type: none"> <li>A conversion to one-way does not improve the pedestrian crossing opportunity</li> <li>Northbound traffic is required to take an alternative route</li> <li>Additional traffic movements at other study intersections has resulted in unacceptable delays, which may be mitigated with additional analysis and intersection improvements</li> <li>CBD ring road and freight route impacted. Exact impact difficult to quantify with current modelling.</li> </ul>



Option	Advantages	Disadvantages
Option 4 – Buses Only	<ul style="list-style-type: none"> <li>• Pedestrian safety improvement and more crossing opportunities due to lower traffic volumes</li> <li>• Considerable parking provision potential</li> </ul>	<ul style="list-style-type: none"> <li>• Traffic is required to take an alternative route</li> <li>• Additional traffic movements at other study intersections has resulted in many unacceptable delays</li> <li>• CBD ring road and freight route impacted</li> </ul>
Option 5 – Full Closure	<ul style="list-style-type: none"> <li>• Safest option for pedestrians</li> </ul>	<ul style="list-style-type: none"> <li>• Traffic is required to take an alternative route</li> <li>• Additional traffic movements at other study intersections has resulted in many unacceptable delays</li> <li>• CBD ring road and freight route impacted</li> <li>• No parking provision</li> </ul>
Option 6 – Pedestrian Median	<ul style="list-style-type: none"> <li>• Minor changes to traffic operation</li> <li>• Acceptable queues and delays on all intersections in the study area</li> <li>• Positive Benefit Cost Ratio from the Pedestrian Crossing Facility Selection Tool</li> <li>• Considerable parking provision potential</li> </ul>	<ul style="list-style-type: none"> <li>• Limitations for higher pedestrian volumes</li> <li>• Not the safest option for pedestrians, particularly elderly and children</li> </ul>
Option 7 – Pedestrian Signals	<ul style="list-style-type: none"> <li>• Minor changes to traffic operation</li> <li>• Acceptable queues and delays on all intersections in the study area</li> <li>• Considerable parking provision potential</li> </ul>	<ul style="list-style-type: none"> <li>• Pedestrians are delayed</li> <li>• Delays to vehicles when a pedestrian is crossing</li> <li>• A slightly negative BCR due to pedestrian and vehicle delays introduced by the signals</li> </ul>





## 6. Formby Road Tunnel

From a traffic and pedestrian safety and efficiency perspective, a grade separated facility involving a tunnel for traffic under the existing Formby Road would be beneficial.

To determine whether the tunnel would be feasible the geotechnical implications of the tunnel would need to be considered. It is expected that the tunnel would fall below the water table due to the close proximity to the Mersey River which would result in drainage issues that would need to be resolved. Furthermore there is significant high level rock which would increase the cost of the tunnel construction significantly. In reality, the tunnel would be a cut and cover tunnel, not a bored tunnel.

Refer to Pitt & Sherry report "Engineering Review of Living City proposal Civic Area and Waterfront Precinct" dated 6<sup>th</sup> June 2013 for more details on this issue. This report concluded that a tunnel for road or rail at this location would be very expensive to and difficult to construct.

An alternative way to provide grade separation for pedestrians would be provide a pedestrian bridge over Formby Road. Another approach is to provide a pedestrian tunnel below Formby Rd. Both these option can be considered in more detail if required.



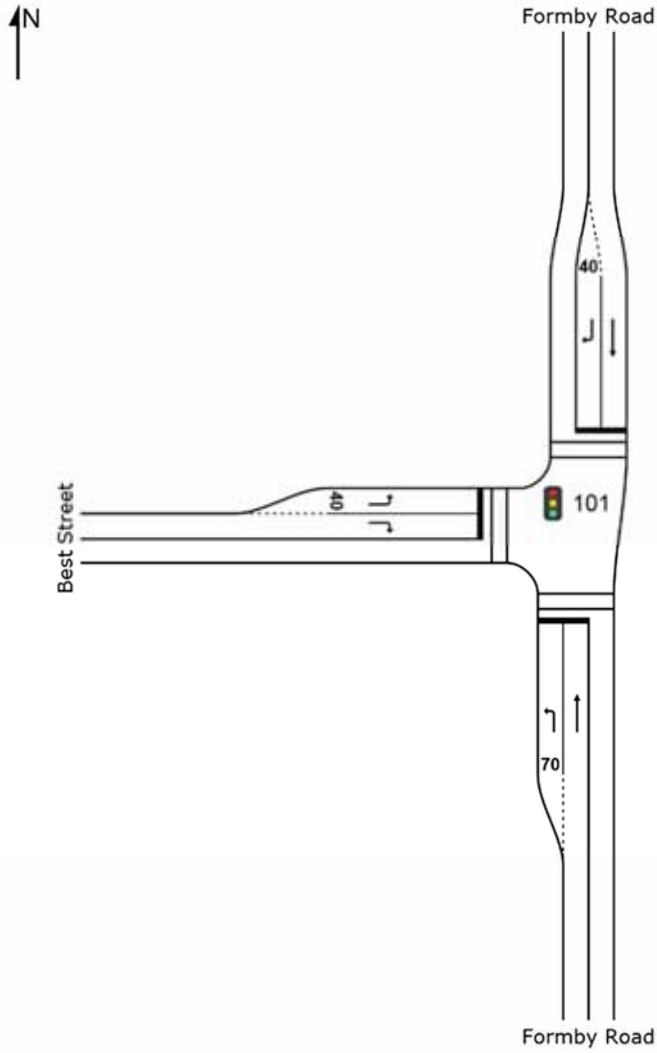
Appendix A

SIDRA Intersection Traffic Modelling Results – Existing Traffic

### SITE LAYOUT

 Site: 101 [Best Street/ Formby Road - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 3:52:39 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Formby Road.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Formby Road - Existing AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 70 seconds (Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Formby Road												
1	L2	233	5.0	0.432	26.3	LOS C	6.5	47.7	0.85	0.79	36.5	
2	T1	417	5.0	0.736	25.9	LOS C	13.7	99.9	0.96	0.88	36.9	
Approach		649	5.0	0.736	26.0	LOS C	13.7	99.9	0.92	0.85	36.8	
North: Formby Road												
8	T1	323	5.0	0.570	22.8	LOS C	9.5	69.6	0.90	0.76	38.1	
9	R2	9	5.0	0.062	38.1	LOS D	0.3	2.3	0.94	0.06	32.5	
Approach		333	5.0	0.570	23.2	LOS C	9.5	69.6	0.90	0.76	37.9	
West: Best Street												
10	L2	18	2.0	0.053	30.3	LOS C	0.5	3.7	0.85	0.68	35.1	
12	R2	112	10.0	0.751	43.5	LOS D	4.2	32.2	1.00	0.91	31.0	
Approach		129	8.9	0.751	41.6	LOS D	4.2	32.2	0.98	0.87	31.5	
All Vehicles		1112	5.5	0.751	27.0	LOS C	13.7	99.9	0.92	0.83	36.4	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	29.3	LOS C	0.1	0.1	0.92	0.92	
P3	North Full Crossing	53	29.3	LOS C	0.1	0.1	0.92	0.92	
P4	West Full Crossing	53	22.4	LOS C	0.1	0.1	0.80	0.80	
All Pedestrians		158	27.0	LOS C			0.88	0.88	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 7:01:12 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Formby Road.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Formby Road - Existing PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Formby Road											
1	L2	340	2.0	0.522	29.5	LOS C	11.9	84.7	0.84	0.81	35.4
2	T1	502	5.0	0.835	34.0	LOS C	22.1	161.1	0.94	0.95	34.1
Approach		842	3.8	0.835	32.2	LOS C	22.1	161.1	0.90	0.89	34.6
North: Formby Road											
8	T1	524	5.0	0.799	31.5	LOS C	22.2	162.3	0.96	0.91	34.9
9	R2	16	2.0	0.147	49.9	LOS D	0.6	5.6	0.97	0.69	29.4
Approach		542	4.9	0.799	32.1	LOS C	22.2	162.3	0.96	0.91	34.7
West: Best Street											
10	L2	23	2.0	0.088	41.3	LOS D	0.9	6.4	0.90	0.70	31.7
12	R2	233	5.0	0.780	48.0	LOS D	10.7	78.5	1.00	0.91	29.9
Approach		256	4.7	0.780	47.4	LOS D	10.7	78.5	0.99	0.89	30.0
All Vehicles		1640	4.3	0.835	34.5	LOS C	22.2	162.3	0.93	0.90	33.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94	
P3	North Full Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94	
P4	West Full Crossing	53	23.5	LOS C	0.1	0.1	0.72	0.72	
All Pedestrians		158	34.0	LOS D			0.86	0.86	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 7:01:52 PM

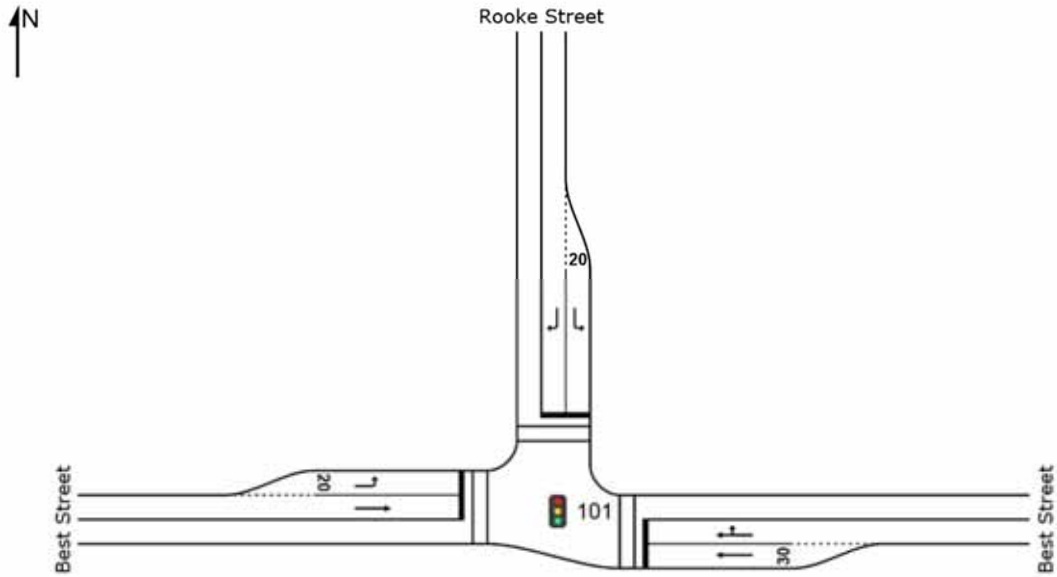
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Formby Road.sip7



### SITE LAYOUT

 Site: 101 [Best Street/ Rooke Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:01:42 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Rooke Street.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Rooke Street - Existing Weekday AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: Best Street												
5	T1	259	5.0	0.385	10.0	LOS A	3.7	26.9	0.75	0.63	43.7	
6	R2	43	5.0	0.385	14.9	LOS B	3.7	26.9	0.77	0.67	42.8	
Approach		302	5.0	0.385	10.7	LOS B	3.7	26.9	0.75	0.64	43.5	
North: Rooke Street												
7	L2	9	20.0	0.018	14.8	LOS B	0.1	1.1	0.70	0.64	41.1	
9	R2	51	20.0	0.096	15.3	LOS B	0.7	5.8	0.73	0.70	40.7	
Approach		60	20.0	0.096	15.2	LOS B	0.7	5.8	0.72	0.69	40.8	
West: Best Street												
10	L2	66	20.0	0.109	13.8	LOS B	0.9	7.1	0.68	0.69	41.6	
11	T1	113	5.0	0.159	9.2	LOS A	1.5	11.0	0.70	0.55	44.4	
Approach		179	10.6	0.159	10.9	LOS B	1.5	11.0	0.69	0.60	43.3	
All Vehicles		541	8.5	0.385	11.2	LOS B	3.7	26.9	0.73	0.63	43.1	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Pedestrian	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		158	13.9	LOS B			0.84	0.84	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Rooke Street - Existing Weekday PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: Best Street												
5	T1	335	2.0	0.506	10.5	LOS B	4.9	35.2	0.79	0.67	43.4	
6	R2	52	2.0	0.506	15.5	LOS B	4.9	35.2	0.82	0.71	42.6	
Approach		386	2.0	0.506	11.1	LOS B	4.9	35.2	0.79	0.67	43.3	
North: Rooke Street												
7	L2	28	15.0	0.052	15.0	LOS B	0.4	3.1	0.71	0.67	41.1	
9	R2	88	10.0	0.157	15.4	LOS B	1.3	9.7	0.74	0.72	40.7	
Approach		117	11.2	0.157	15.3	LOS B	1.3	9.7	0.74	0.71	40.8	
West: Best Street												
10	L2	80	10.0	0.123	13.7	LOS B	1.1	8.0	0.69	0.70	41.7	
11	T1	271	2.0	0.375	10.1	LOS B	4.0	28.3	0.77	0.64	43.9	
Approach		351	3.8	0.375	11.0	LOS B	4.0	28.3	0.75	0.65	43.4	
All Vehicles		854	4.0	0.506	11.6	LOS B	4.9	35.2	0.77	0.67	43.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Pedestrian	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		158	13.9	LOS B			0.84	0.84	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

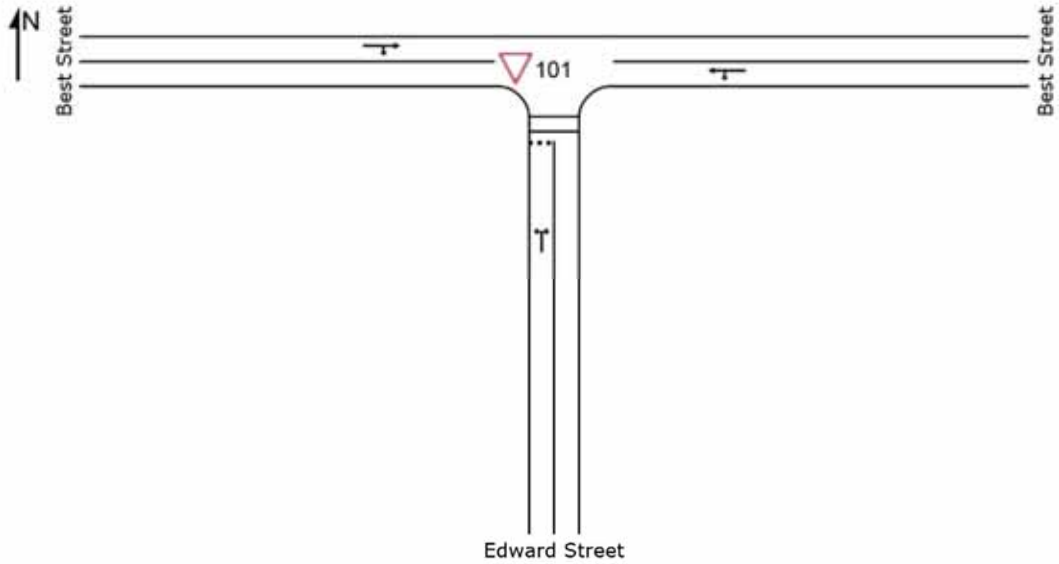
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### SITE LAYOUT

▽ Site: 101 [Best Street/ Edward Street - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:19:33 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Edward Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Edward Street - Existing AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Edward Street												
1	L2	53	2.0	0.060	5.5	LOS A	0.3	1.9	0.34	0.55	45.8	
3	R2	16	10.0	0.060	6.8	LOS A	0.3	1.9	0.34	0.55	45.3	
Approach		68	3.8	0.060	5.8	LOS A	0.3	1.9	0.34	0.55	45.7	
East: Best Street												
4	L2	59	10.0	0.170	4.7	LOS A	0.0	0.0	0.00	0.10	48.7	
5	T1	248	10.0	0.170	0.0	LOS A	0.0	0.0	0.00	0.10	49.4	
Approach		307	10.0	0.170	0.9	NA	0.0	0.0	0.00	0.10	49.3	
West: Best Street												
11	T1	166	10.0	0.141	0.6	LOS A	0.5	3.9	0.21	0.17	48.5	
12	R2	66	5.0	0.141	5.9	LOS A	0.5	3.9	0.21	0.17	47.5	
Approach		233	8.6	0.141	2.1	NA	0.5	3.9	0.21	0.17	48.2	
All Vehicles		608	8.8	0.170	1.9	NA	0.5	3.9	0.12	0.18	48.4	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:12:31 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Edward Street.sip7



### MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Edward Street - Existing PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Edward Street												
1	L2	103	2.0	0.126	5.9	LOS A	0.6	3.9	0.42	0.61	45.5	
3	R2	26	2.0	0.126	8.5	LOS A	0.6	3.9	0.42	0.61	45.1	
Approach		129	2.0	0.126	6.4	LOS A	0.6	3.9	0.42	0.61	45.4	
East: Best Street												
4	L2	88	2.0	0.229	4.6	LOS A	0.0	0.0	0.00	0.11	48.8	
5	T1	341	5.0	0.229	0.0	LOS A	0.0	0.0	0.00	0.11	49.3	
Approach		429	4.4	0.229	1.0	NA	0.0	0.0	0.00	0.11	49.2	
West: Best Street												
11	T1	325	5.0	0.256	0.9	LOS A	1.0	7.4	0.23	0.14	48.5	
12	R2	100	2.0	0.256	6.8	LOS A	1.0	7.4	0.23	0.14	47.5	
Approach		425	4.3	0.256	2.3	NA	1.0	7.4	0.23	0.14	48.2	
All Vehicles		984	4.0	0.256	2.3	NA	1.0	7.4	0.16	0.19	48.3	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

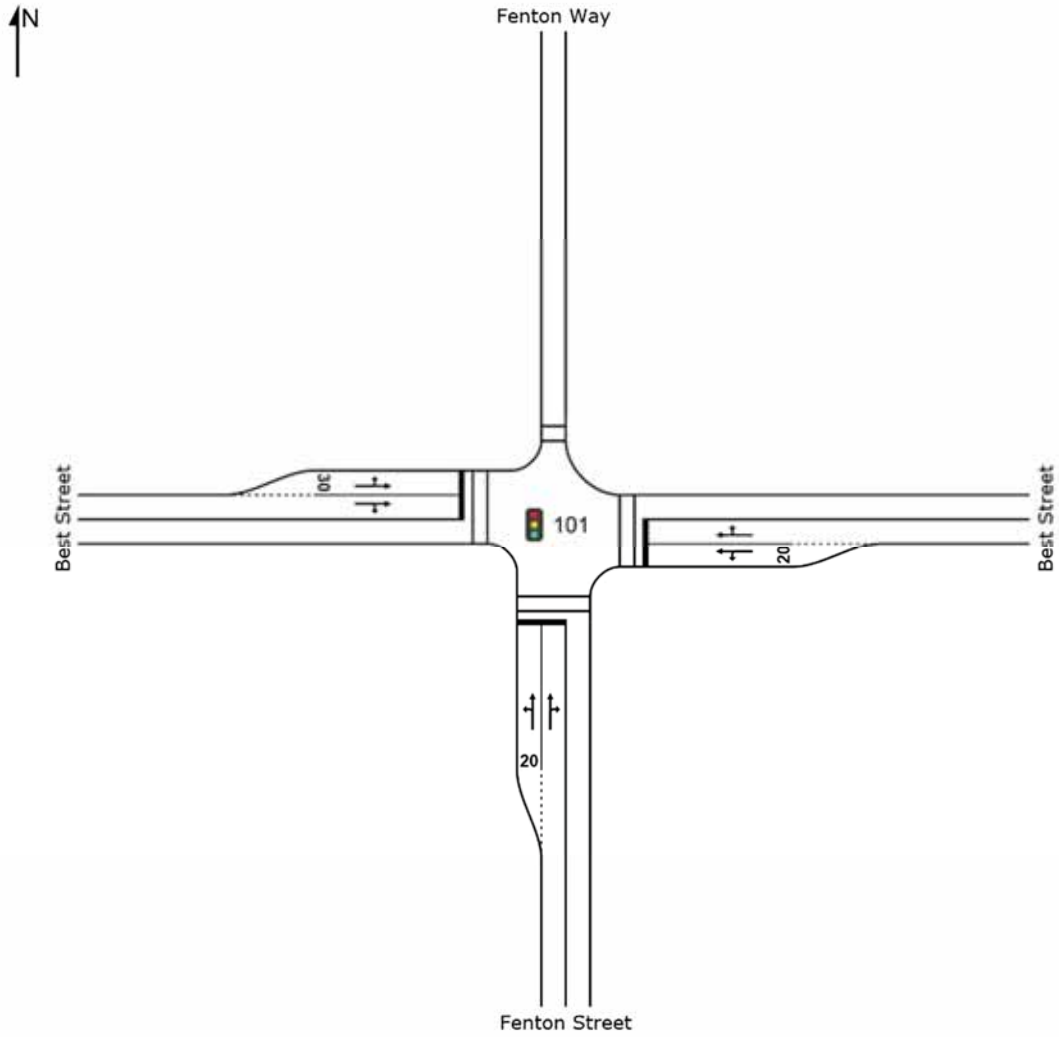
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:12:27 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Edward Street.sip7

### SITE LAYOUT

 Site: 101 [Best Street/ Fenton Way - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:39:06 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Fenton Way.sip7

### MOVEMENT SUMMARY

**Site: 101 [Best Street/ Fenton Way - Existing AM Peak]**

08:30-09:30

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fenton Street											
1	L2	124	2.0	0.209	15.5	LOS B	1.8	13.0	0.76	0.73	40.9
2	T1	96	2.0	0.243	11.1	LOS B	2.2	15.9	0.77	0.66	42.7
3	R2	51	10.0	0.243	15.7	LOS B	2.2	15.9	0.77	0.66	42.0
Approach		271	3.5	0.243	14.0	LOS B	2.2	15.9	0.77	0.69	41.7
East: Best Street											
4	L2	42	10.0	0.079	13.5	LOS B	0.7	5.1	0.67	0.65	42.2
5	T1	226	10.0	0.395	10.3	LOS B	3.7	27.9	0.77	0.66	43.4
6	R2	31	2.0	0.395	15.2	LOS B	3.7	27.9	0.78	0.66	42.6
Approach		299	9.2	0.395	11.2	LOS B	3.7	27.9	0.76	0.66	43.2
West: Best Street											
10	L2	35	2.0	0.093	13.5	LOS B	0.8	6.0	0.68	0.61	42.8
11	T1	188	10.0	0.463	11.1	LOS B	3.9	30.0	0.80	0.70	42.5
12	R2	87	10.0	0.463	16.1	LOS B	3.9	30.0	0.82	0.72	41.8
Approach		311	9.1	0.463	12.8	LOS B	3.9	30.0	0.79	0.70	42.3
All Vehicles		880	7.4	0.463	12.6	LOS B	3.9	30.0	0.77	0.68	42.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	9.1	LOS A	0.0	0.0	0.68	0.68	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		211	12.7	LOS B			0.80	0.80	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Fenton Way - Existing PM Peak]**

14:45-15:45

Signals - Fixed Time Isolated Cycle Time = 50 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fenton Street											
1	L2	171	2.0	0.358	21.5	LOS C	3.5	25.2	0.86	0.77	38.3
2	T1	91	2.0	0.296	16.6	LOS B	3.0	21.0	0.84	0.71	40.0
3	R2	55	2.0	0.296	21.2	LOS C	3.0	21.0	0.84	0.71	39.5
Approach		316	2.0	0.358	20.1	LOS C	3.5	25.2	0.85	0.74	39.0
East: Best Street											
4	L2	54	5.0	0.096	11.7	LOS B	1.1	8.2	0.55	0.58	43.6
5	T1	313	5.0	0.478	10.5	LOS B	5.9	42.7	0.73	0.66	43.2
6	R2	55	2.0	0.478	15.7	LOS B	5.9	42.7	0.75	0.66	42.2
Approach		421	4.6	0.478	11.3	LOS B	5.9	42.7	0.71	0.65	43.1
West: Best Street											
10	L2	44	2.0	0.127	11.8	LOS B	1.6	11.2	0.56	0.54	44.1
11	T1	420	2.0	0.637	11.2	LOS B	8.7	61.7	0.77	0.71	42.8
12	R2	101	2.0	0.637	16.6	LOS B	8.7	61.7	0.82	0.74	41.9
Approach		565	2.0	0.637	12.2	LOS B	8.7	61.7	0.77	0.70	42.7
All Vehicles		1302	2.8	0.637	13.8	LOS B	8.7	61.7	0.77	0.69	41.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	10.3	LOS B	0.0	0.0	0.64	0.64	
P2	East Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P3	North Full Crossing	53	7.3	LOS A	0.0	0.0	0.54	0.54	
P4	West Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
All Pedestrians		211	14.1	LOS B			0.74	0.74	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

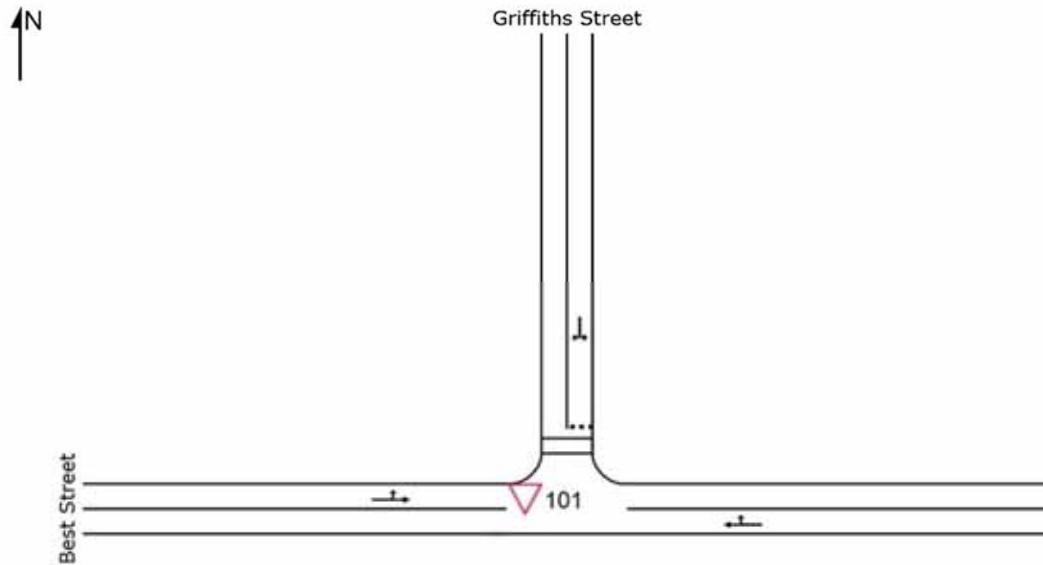
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:36:33 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Fenton Way.sip7

### SITE LAYOUT

▽ Site: 101 [Best Street/ Griffiths Street - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:44:24 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Griffiths Street.sip7



## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Griffiths Street - Existing AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: Best Street												
5	T1	323	5.0	0.193	0.1	LOS A	0.2	1.8	0.06	0.05	49.6	
6	R2	29	5.0	0.193	5.6	LOS A	0.2	1.8	0.06	0.05	48.5	
Approach		353	5.0	0.193	0.6	NA	0.2	1.8	0.06	0.05	49.5	
North: Griffiths Street												
7	L2	71	5.0	0.084	5.4	LOS A	0.3	2.5	0.33	0.57	45.8	
9	R2	23	5.0	0.084	7.3	LOS A	0.3	2.5	0.33	0.57	45.4	
Approach		94	5.0	0.084	5.8	LOS A	0.3	2.5	0.33	0.57	45.7	
West: Best Street												
10	L2	16	2.0	0.125	4.6	LOS A	0.0	0.0	0.00	0.04	49.3	
11	T1	219	5.0	0.125	0.0	LOS A	0.0	0.0	0.00	0.04	49.8	
Approach		235	4.8	0.125	0.3	NA	0.0	0.0	0.00	0.04	49.7	
All Vehicles		681	4.9	0.193	1.2	NA	0.3	2.5	0.08	0.12	49.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:46:44 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Griffiths Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Griffiths Street - Existing PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: Best Street												
5	T1	465	5.0	0.276	0.2	LOS A	0.4	2.8	0.08	0.04	49.5	
6	R2	38	2.0	0.276	6.4	LOS A	0.4	2.8	0.08	0.04	48.5	
Approach		503	4.8	0.276	0.7	NA	0.4	2.8	0.08	0.04	49.4	
North: Griffiths Street												
7	L2	140	2.0	0.180	5.8	LOS A	0.8	5.4	0.43	0.63	45.4	
9	R2	37	5.0	0.180	9.7	LOS A	0.8	5.4	0.43	0.63	45.0	
Approach		177	2.6	0.180	6.6	LOS A	0.8	5.4	0.43	0.63	45.3	
West: Best Street												
10	L2	38	5.0	0.189	4.6	LOS A	0.0	0.0	0.00	0.06	49.1	
11	T1	317	5.0	0.189	0.0	LOS A	0.0	0.0	0.00	0.06	49.6	
Approach		355	5.0	0.189	0.5	NA	0.0	0.0	0.00	0.06	49.6	
All Vehicles		1035	4.5	0.276	1.6	NA	0.8	5.4	0.11	0.15	48.7	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

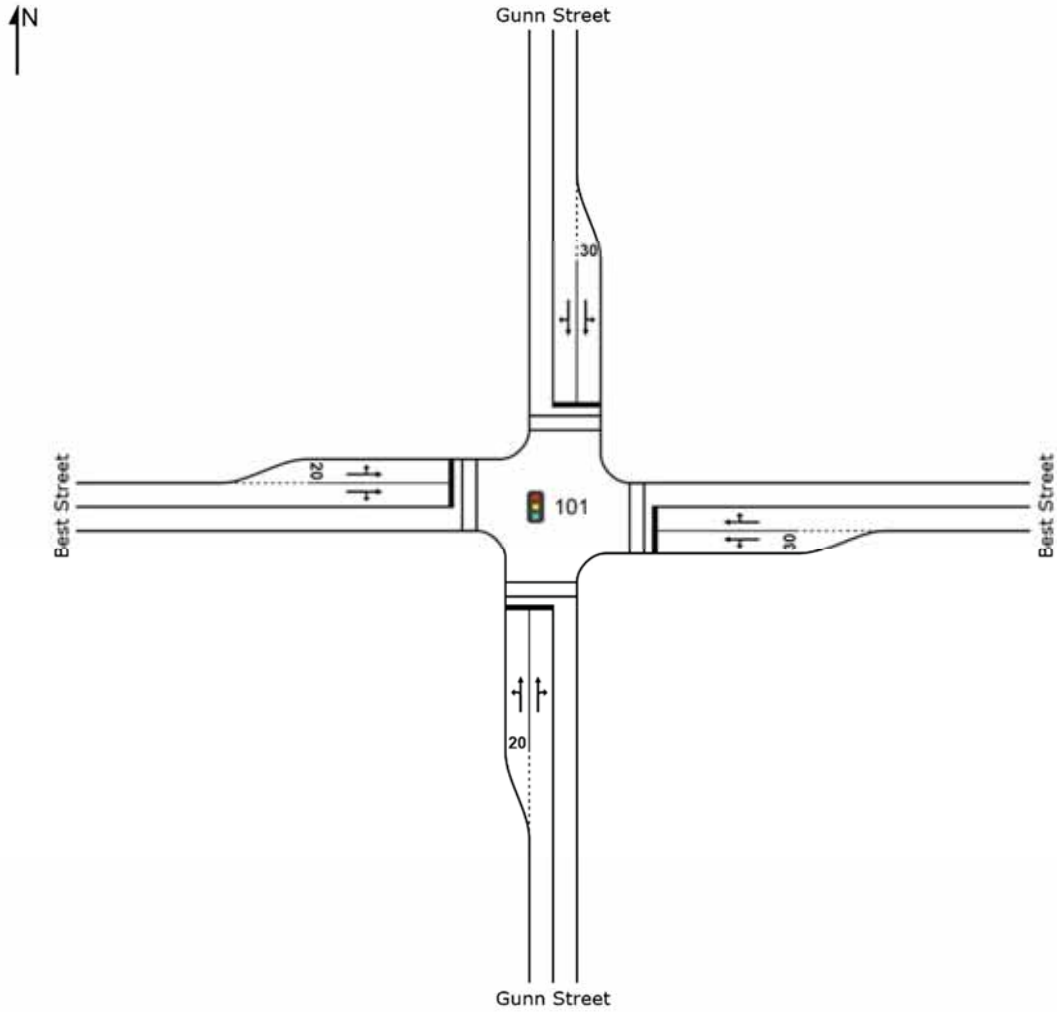
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:47:16 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Griffiths Street.sip7

### SITE LAYOUT

 Site: 101 [Best Street/ Gunn Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:49:52 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Gunn Street.sip7

## MOVEMENT SUMMARY

 Site: 101 [Best Street/ Gunn Street - Existing AM Peak]

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	41	5.0	0.079	13.5	LOS B	0.7	5.0	0.67	0.64	42.4
2	T1	166	2.0	0.393	10.2	LOS B	3.5	24.6	0.77	0.68	43.0
3	R2	77	2.0	0.393	14.9	LOS B	3.5	24.6	0.78	0.69	42.5
Approach		284	2.4	0.393	12.0	LOS B	3.5	24.6	0.76	0.68	42.8
East: Best Street											
4	L2	45	2.0	0.076	14.9	LOS B	0.6	4.5	0.72	0.69	41.2
5	T1	154	15.0	0.302	11.4	LOS B	2.5	20.0	0.79	0.65	43.0
6	R2	13	2.0	0.302	16.0	LOS B	2.5	20.0	0.79	0.65	42.5
Approach		212	11.4	0.302	12.4	LOS B	2.5	20.0	0.77	0.66	42.6
North: Gunn Street											
7	L2	31	2.0	0.056	13.3	LOS B	0.5	3.5	0.66	0.63	42.4
8	T1	174	2.0	0.282	9.7	LOS A	2.7	18.9	0.73	0.62	43.8
9	R2	22	2.0	0.282	14.4	LOS B	2.7	18.9	0.74	0.62	43.2
Approach		226	2.0	0.282	10.7	LOS B	2.7	18.9	0.72	0.62	43.5
West: Best Street											
10	L2	32	5.0	0.067	14.9	LOS B	0.5	4.0	0.72	0.65	41.6
11	T1	163	10.0	0.336	11.5	LOS B	2.8	21.3	0.79	0.67	42.8
12	R2	26	5.0	0.336	16.2	LOS B	2.8	21.3	0.80	0.67	42.2
Approach		221	8.7	0.336	12.6	LOS B	2.8	21.3	0.78	0.67	42.5
All Vehicles		943	5.8	0.393	11.9	LOS B	3.5	24.6	0.76	0.66	42.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P2	East Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P4	West Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Gunn Street - Existing PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	46	10.0	0.089	14.3	LOS B	0.7	5.6	0.70	0.67	41.8
2	T1	207	2.0	0.447	11.3	LOS B	4.0	28.8	0.81	0.70	42.7
3	R2	57	2.0	0.447	15.9	LOS B	4.0	28.8	0.82	0.70	42.2
Approach		311	3.2	0.447	12.6	LOS B	4.0	28.8	0.79	0.70	42.5
East: Best Street											
4	L2	68	2.0	0.107	14.3	LOS B	0.9	6.6	0.71	0.70	41.5
5	T1	240	5.0	0.448	11.3	LOS B	4.3	31.1	0.82	0.69	43.0
6	R2	31	2.0	0.448	15.9	LOS B	4.3	31.1	0.82	0.69	42.5
Approach		339	4.1	0.448	12.3	LOS B	4.3	31.1	0.79	0.69	42.6
North: Gunn Street											
7	L2	35	2.0	0.072	14.1	LOS B	0.6	4.4	0.69	0.64	42.1
8	T1	198	2.0	0.360	10.8	LOS B	3.3	23.4	0.78	0.66	43.1
9	R2	31	2.0	0.360	15.5	LOS B	3.3	23.4	0.79	0.67	42.6
Approach		263	2.0	0.360	11.8	LOS B	3.3	23.4	0.77	0.66	42.9
West: Best Street											
10	L2	49	2.0	0.077	14.2	LOS B	0.7	4.7	0.70	0.68	41.5
11	T1	216	5.0	0.364	10.9	LOS B	3.5	25.3	0.79	0.66	43.4
12	R2	13	2.0	0.364	15.5	LOS B	3.5	25.3	0.79	0.66	42.8
Approach		278	4.3	0.364	11.7	LOS B	3.5	25.3	0.77	0.66	43.0
All Vehicles		1191	3.5	0.448	12.1	LOS B	4.3	31.1	0.78	0.68	42.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
P2	East Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
P3	North Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
P4	West Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
All Pedestrians		211	13.6	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

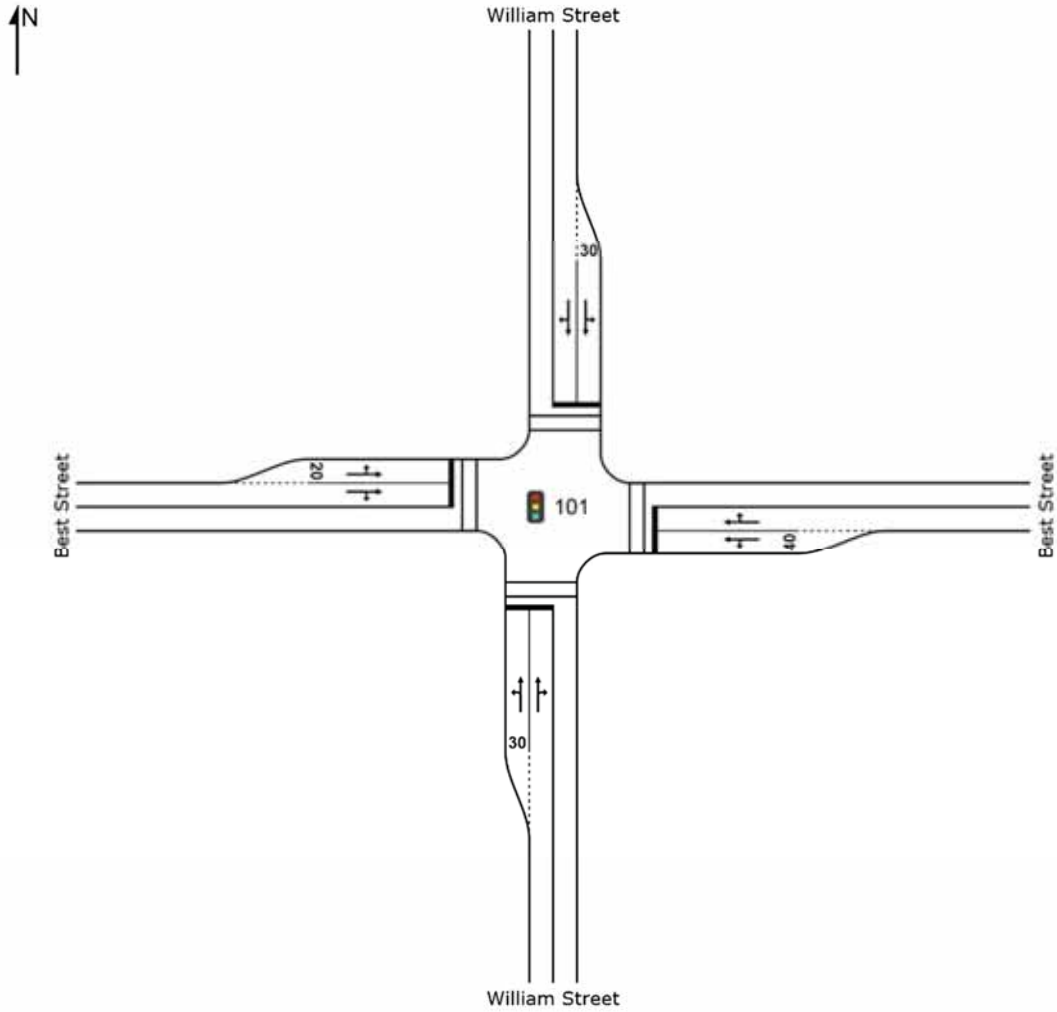
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.



### SITE LAYOUT

 Site: 101 [Best Street/ William Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:54:04 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-William Street.sip7

## MOVEMENT SUMMARY

 Site: 101 [Best Street/ William Street - Existing AM Peak]

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	60	5.0	0.096	13.6	LOS B	0.8	6.2	0.68	0.68	41.9
2	T1	216	10.0	0.481	11.5	LOS B	4.3	33.3	0.82	0.71	42.7
3	R2	59	15.0	0.481	16.2	LOS B	4.3	33.3	0.83	0.71	42.0
Approach		335	10.0	0.481	12.7	LOS B	4.3	33.3	0.80	0.71	42.4
East: Best Street											
4	L2	65	15.0	0.120	15.3	LOS B	0.9	7.3	0.73	0.70	40.9
5	T1	72	10.0	0.184	10.9	LOS B	1.4	10.6	0.75	0.63	42.9
6	R2	23	10.0	0.184	15.6	LOS B	1.4	10.6	0.75	0.63	42.3
Approach		160	12.0	0.184	13.4	LOS B	1.4	10.6	0.74	0.66	42.0
North: William Street											
7	L2	56	10.0	0.088	13.6	LOS B	0.7	5.7	0.67	0.68	41.8
8	T1	271	5.0	0.442	10.5	LOS B	4.4	32.3	0.79	0.68	43.5
9	R2	22	2.0	0.442	15.1	LOS B	4.4	32.3	0.79	0.68	42.9
Approach		348	5.6	0.442	11.3	LOS B	4.4	32.3	0.77	0.68	43.2
West: Best Street											
10	L2	41	2.0	0.080	14.9	LOS B	0.7	4.8	0.72	0.67	41.5
11	T1	138	5.0	0.402	11.8	LOS B	3.3	24.6	0.81	0.71	42.2
12	R2	77	10.0	0.402	16.6	LOS B	3.3	24.6	0.82	0.71	41.5
Approach		256	6.0	0.402	13.8	LOS B	3.3	24.6	0.80	0.70	41.9
All Vehicles		1099	8.0	0.481	12.6	LOS B	4.4	33.3	0.78	0.69	42.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P2	East Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P4	West Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### MOVEMENT SUMMARY

**Site: 101 [Best Street/ William Street - Existing PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	80	5.0	0.127	13.7	LOS B	1.1	8.3	0.69	0.69	41.9
2	T1	259	5.0	0.637	13.5	LOS B	6.2	45.4	0.90	0.81	41.6
3	R2	87	10.0	0.637	18.3	LOS B	6.2	45.4	0.90	0.82	41.0
Approach		426	6.0	0.637	14.5	LOS B	6.2	45.4	0.86	0.79	41.5
East: Best Street											
4	L2	120	10.0	0.213	15.6	LOS B	1.8	13.5	0.76	0.73	40.8
5	T1	143	5.0	0.357	11.7	LOS B	2.9	21.7	0.81	0.69	42.6
6	R2	44	10.0	0.357	16.3	LOS B	2.9	21.7	0.81	0.69	41.9
Approach		307	7.7	0.357	13.9	LOS B	2.9	21.7	0.79	0.70	41.8
North: William Street											
7	L2	61	5.0	0.106	13.6	LOS B	0.9	6.8	0.68	0.67	42.1
8	T1	337	2.0	0.529	10.9	LOS B	5.6	39.6	0.82	0.71	43.3
9	R2	23	2.0	0.529	15.6	LOS B	5.6	39.6	0.83	0.71	42.8
Approach		421	2.4	0.529	11.6	LOS B	5.6	39.6	0.80	0.70	43.1
West: Best Street											
10	L2	45	2.0	0.088	15.0	LOS B	0.7	5.2	0.72	0.67	41.4
11	T1	148	2.0	0.440	12.0	LOS B	3.6	25.7	0.83	0.72	42.0
12	R2	81	2.0	0.440	16.7	LOS B	3.6	25.7	0.83	0.72	41.5
Approach		275	2.0	0.440	13.9	LOS B	3.6	25.7	0.81	0.71	41.8
All Vehicles		1429	4.5	0.637	13.4	LOS B	6.2	45.4	0.82	0.73	42.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P2	East Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P4	West Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

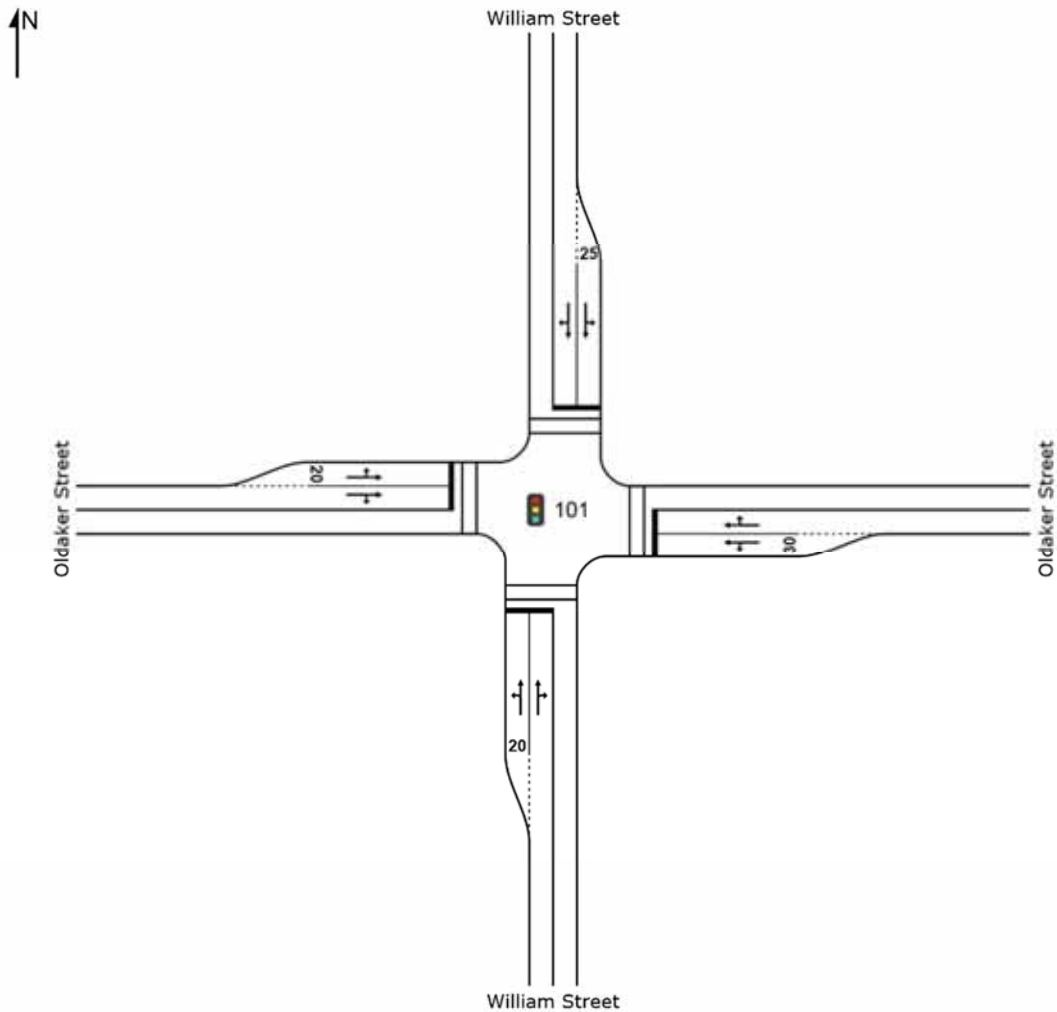
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### SITE LAYOUT

 Site: 101 [Oldaker Street/ William Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:59:50 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street -William Street.sip7

## MOVEMENT SUMMARY

**Site: 101 [Oldaker Street/ William Street - Existing AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	36	2.0	0.092	15.0	LOS B	0.8	5.6	0.72	0.65	41.8
2	T1	148	10.0	0.458	12.7	LOS B	3.5	26.0	0.84	0.72	41.7
3	R2	76	5.0	0.458	17.6	LOS B	3.5	26.0	0.86	0.74	41.0
Approach		260	7.4	0.458	14.5	LOS B	3.5	26.0	0.83	0.72	41.5
East: Oldaker Street											
4	L2	149	5.0	0.222	14.1	LOS B	2.1	15.0	0.72	0.73	41.5
5	T1	222	2.0	0.446	10.6	LOS B	4.3	30.6	0.80	0.69	43.2
6	R2	58	2.0	0.446	15.2	LOS B	4.3	30.6	0.80	0.69	42.6
Approach		429	3.0	0.446	12.4	LOS B	4.3	30.6	0.77	0.70	42.5
North: William Street											
7	L2	34	2.0	0.089	15.0	LOS B	0.7	5.4	0.72	0.64	41.9
8	T1	253	5.0	0.443	11.9	LOS B	4.1	30.0	0.83	0.70	42.7
9	R2	22	2.0	0.443	16.6	LOS B	4.1	30.0	0.83	0.70	42.2
Approach		308	4.5	0.443	12.6	LOS B	4.1	30.0	0.81	0.69	42.6
West: Oldaker Street											
10	L2	29	2.0	0.063	13.4	LOS B	0.6	4.0	0.67	0.62	42.6
11	T1	178	2.0	0.314	9.9	LOS A	2.8	20.0	0.74	0.64	43.6
12	R2	32	2.0	0.314	14.5	LOS B	2.8	20.0	0.75	0.64	43.0
Approach		239	2.0	0.314	10.9	LOS B	2.8	20.0	0.73	0.63	43.4
All Vehicles		1237	4.1	0.458	12.6	LOS B	4.3	30.6	0.79	0.69	42.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.



## MOVEMENT SUMMARY

**Site: 101 [Oldaker Street/ William Street - Existing PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	67	2.0	0.098	13.5	LOS B	0.9	6.2	0.68	0.69	41.8
2	T1	185	5.0	0.481	11.5	LOS B	4.3	31.0	0.83	0.72	42.5
3	R2	81	2.0	0.481	16.1	LOS B	4.3	31.0	0.83	0.72	41.9
Approach		334	3.7	0.481	13.1	LOS B	4.3	31.0	0.80	0.72	42.2
East: Oldaker Street											
4	L2	156	5.0	0.267	15.8	LOS B	2.3	17.1	0.78	0.74	40.7
5	T1	223	2.0	0.516	12.4	LOS B	4.7	33.7	0.86	0.74	42.2
6	R2	60	2.0	0.516	17.0	LOS B	4.7	33.7	0.86	0.74	41.7
Approach		439	3.1	0.516	14.3	LOS B	4.7	33.7	0.83	0.74	41.6
North: William Street											
7	L2	60	2.0	0.087	13.5	LOS B	0.8	5.5	0.67	0.69	41.9
8	T1	242	5.0	0.418	10.4	LOS B	4.1	29.8	0.78	0.67	43.5
9	R2	28	2.0	0.418	15.0	LOS B	4.1	29.8	0.78	0.67	42.9
Approach		331	4.2	0.418	11.4	LOS B	4.1	29.8	0.76	0.67	43.1
West: Oldaker Street											
10	L2	29	2.0	0.065	14.9	LOS B	0.5	3.9	0.72	0.65	41.7
11	T1	144	2.0	0.325	11.5	LOS B	2.6	18.6	0.79	0.67	42.7
12	R2	34	2.0	0.325	16.1	LOS B	2.6	18.6	0.79	0.67	42.2
Approach		207	2.0	0.325	12.7	LOS B	2.6	18.6	0.78	0.67	42.4
All Vehicles		1311	3.3	0.516	13.0	LOS B	4.7	33.7	0.80	0.71	42.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P2	East Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P4	West Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

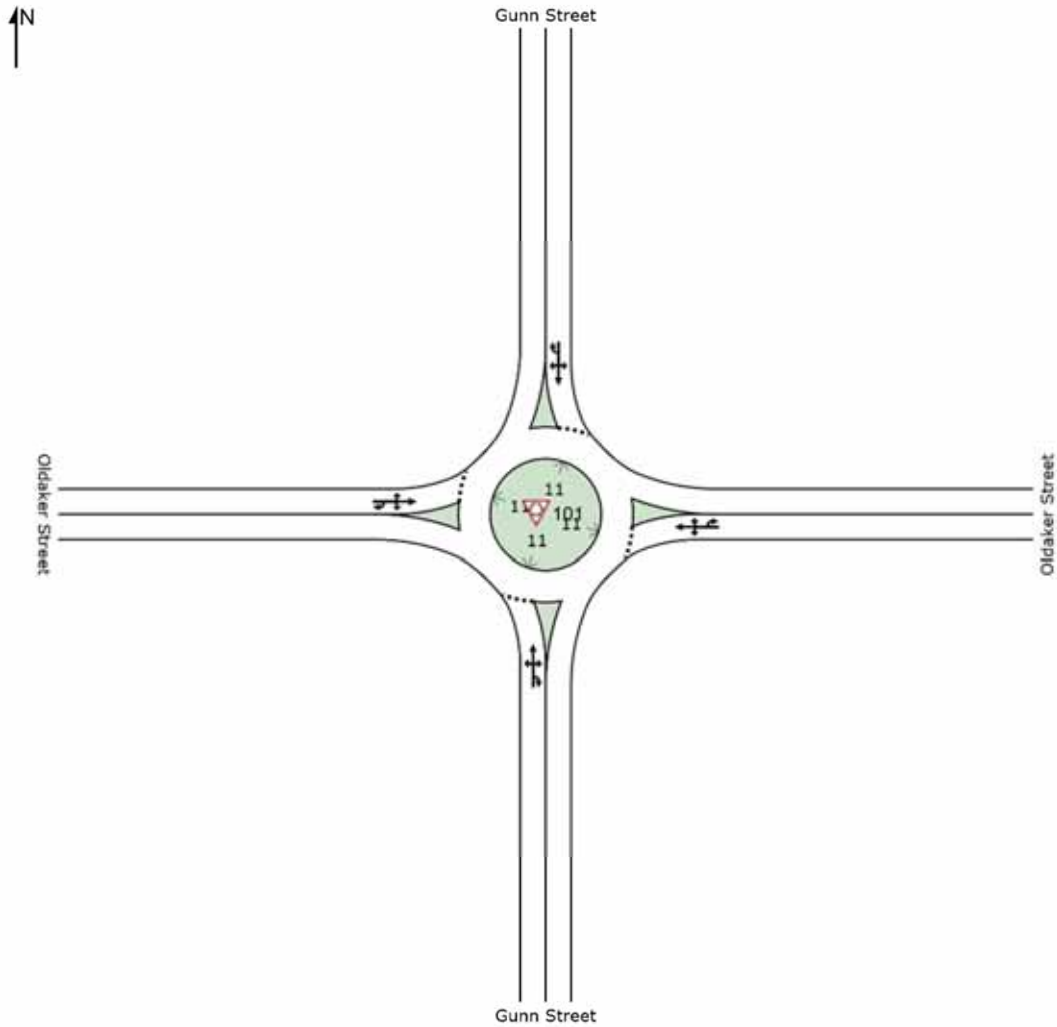
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### SITE LAYOUT

▽ Site: 101 [Oldaker Street/ Gunn Street - Existing Layout]

Roundabout



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:04:45 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Gunn Street.sip7

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Gunn Street - Existing AM Peak]

08:15-09:15

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	36	2.0	0.146	4.9	LOS A	0.7	4.8	0.35	0.56	45.7
2	T1	71	2.0	0.146	4.8	LOS A	0.7	4.8	0.35	0.56	46.5
3	R2	41	2.0	0.146	8.2	LOS A	0.7	4.8	0.35	0.56	46.3
3u	U	1	2.0	0.146	9.7	LOS A	0.7	4.8	0.35	0.56	46.8
Approach		148	2.0	0.146	5.8	LOS A	0.7	4.8	0.35	0.56	46.2
East: Oldaker Street											
4	L2	40	5.0	0.246	5.0	LOS A	1.5	10.6	0.45	0.56	45.6
5	T1	174	2.0	0.246	4.8	LOS A	1.5	10.6	0.45	0.56	46.3
6	R2	29	2.0	0.246	8.2	LOS A	1.5	10.6	0.45	0.56	46.2
6u	U	14	2.0	0.246	9.8	LOS A	1.5	10.6	0.45	0.56	46.7
Approach		257	2.5	0.246	5.5	LOS A	1.5	10.6	0.45	0.56	46.2
North: Gunn Street											
7	L2	34	5.0	0.195	5.9	LOS A	1.2	8.8	0.54	0.58	45.5
8	T1	143	2.0	0.195	5.8	LOS A	1.2	8.8	0.54	0.58	46.3
9	R2	7	2.0	0.195	9.1	LOS A	1.2	8.8	0.54	0.58	46.1
9u	U	1	2.0	0.195	10.7	LOS B	1.2	8.8	0.54	0.58	46.6
Approach		185	2.5	0.195	6.0	LOS A	1.2	8.8	0.54	0.58	46.1
West: Oldaker Street											
10	L2	13	2.0	0.270	4.6	LOS A	1.5	10.6	0.31	0.50	45.9
11	T1	235	5.0	0.270	4.6	LOS A	1.5	10.6	0.31	0.50	46.7
12	R2	55	2.0	0.270	7.9	LOS A	1.5	10.6	0.31	0.50	46.5
12u	U	2	2.0	0.270	9.4	LOS A	1.5	10.6	0.31	0.50	47.1
Approach		304	4.3	0.270	5.2	LOS A	1.5	10.6	0.31	0.50	46.6
All Vehicles		895	3.0	0.270	5.5	LOS A	1.5	10.6	0.41	0.54	46.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:15:51 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Gunn Street.sip7

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Gunn Street - Existing PM Peak]

15:00-16:00

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	39	2.0	0.283	6.7	LOS A	1.5	10.4	0.52	0.68	44.9
2	T1	137	2.0	0.283	6.7	LOS A	1.5	10.4	0.52	0.68	45.6
3	R2	54	5.0	0.283	10.2	LOS B	1.5	10.4	0.52	0.68	45.4
3u	U	1	2.0	0.283	11.6	LOS B	1.5	10.4	0.52	0.68	46.0
Approach		231	2.7	0.283	7.5	LOS A	1.5	10.4	0.52	0.68	45.4
East: Oldaker Street											
4	L2	81	2.0	0.455	4.9	LOS A	3.4	24.4	0.49	0.55	45.6
5	T1	357	2.0	0.455	4.8	LOS A	3.4	24.4	0.49	0.55	46.3
6	R2	85	2.0	0.455	8.2	LOS A	3.4	24.4	0.49	0.55	46.2
6u	U	4	2.0	0.455	9.7	LOS A	3.4	24.4	0.49	0.55	46.7
Approach		527	2.0	0.455	5.4	LOS A	3.4	24.4	0.49	0.55	46.2
North: Gunn Street											
7	L2	45	2.0	0.159	5.6	LOS A	1.0	6.9	0.52	0.58	45.5
8	T1	89	2.0	0.159	5.5	LOS A	1.0	6.9	0.52	0.58	46.3
9	R2	16	2.0	0.159	8.9	LOS A	1.0	6.9	0.52	0.58	46.1
9u	U	1	2.0	0.159	10.4	LOS B	1.0	6.9	0.52	0.58	46.6
Approach		152	2.0	0.159	5.9	LOS A	1.0	6.9	0.52	0.58	46.0
West: Oldaker Street											
10	L2	9	2.0	0.287	5.5	LOS A	1.6	11.1	0.42	0.58	45.5
11	T1	215	2.0	0.287	5.4	LOS A	1.6	11.1	0.42	0.58	46.3
12	R2	55	2.0	0.287	8.8	LOS A	1.6	11.1	0.42	0.58	46.1
12u	U	4	2.0	0.287	10.3	LOS B	1.6	11.1	0.42	0.58	46.7
Approach		283	2.0	0.287	6.2	LOS A	1.6	11.1	0.42	0.58	46.2
All Vehicles		1193	2.1	0.455	6.0	LOS A	3.4	24.4	0.48	0.58	46.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

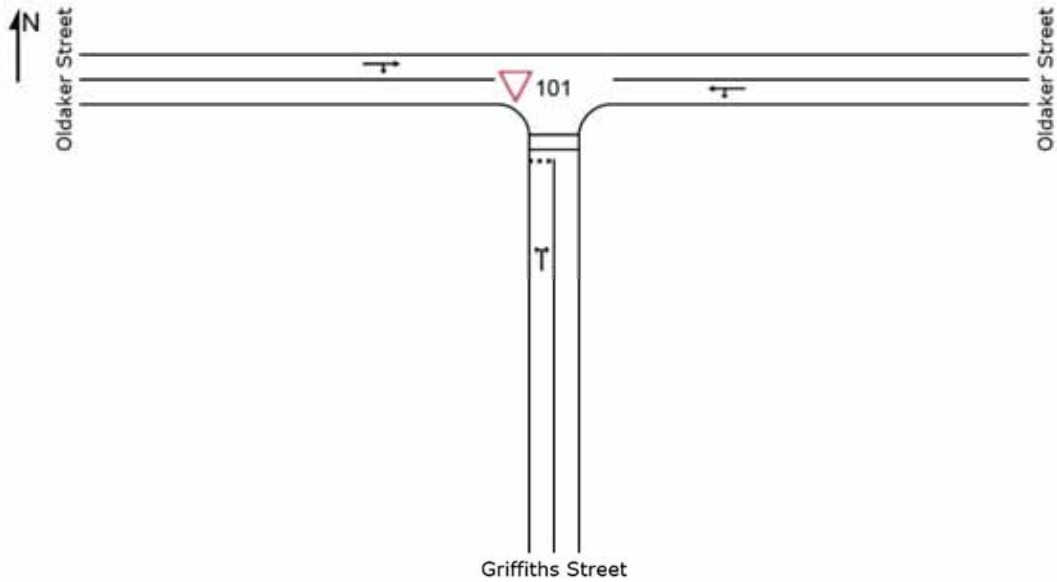
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:16:21 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Gunn Street.sip7

**SITE LAYOUT**

▽ Site: 101 [Oldaker Street/ Griffiths Street - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:07:51 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Griffiths Street.sip7



## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Griffiths Street - Existing AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Griffiths Street												
1	L2	58	5.0	0.086	5.6	LOS A	0.3	2.1	0.34	0.60	45.7	
3	R2	29	2.0	0.086	7.2	LOS A	0.3	2.1	0.34	0.60	45.3	
Approach		87	4.0	0.086	6.1	LOS A	0.3	2.1	0.34	0.60	45.5	
East: Oldaker Street												
4	L2	75	5.0	0.183	4.6	LOS A	0.0	0.0	0.00	0.12	48.8	
5	T1	272	2.0	0.183	0.0	LOS A	0.0	0.0	0.00	0.12	49.3	
Approach		346	2.6	0.183	1.0	NA	0.0	0.0	0.00	0.12	49.2	
West: Oldaker Street												
11	T1	181	5.0	0.147	0.6	LOS A	0.5	3.5	0.23	0.15	48.6	
12	R2	62	5.0	0.147	6.1	LOS A	0.5	3.5	0.23	0.15	47.6	
Approach		243	5.0	0.147	2.0	NA	0.5	3.5	0.23	0.15	48.3	
All Vehicles		677	3.7	0.183	2.0	NA	0.5	3.5	0.13	0.19	48.4	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:23:55 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Griffiths Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Griffiths Street - Existing PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Griffiths Street												
1	L2	175	2.0	0.212	6.2	LOS A	0.9	6.4	0.47	0.66	45.4	
3	R2	36	5.0	0.212	9.2	LOS A	0.9	6.4	0.47	0.66	44.9	
Approach		211	2.5	0.212	6.7	LOS A	0.9	6.4	0.47	0.66	45.3	
East: Oldaker Street												
4	L2	121	2.0	0.262	4.6	LOS A	0.0	0.0	0.00	0.13	48.7	
5	T1	377	2.0	0.262	0.0	LOS A	0.0	0.0	0.00	0.13	49.2	
Approach		498	2.0	0.262	1.1	NA	0.0	0.0	0.00	0.13	49.1	
West: Oldaker Street												
11	T1	228	2.0	0.206	1.3	LOS A	0.9	6.3	0.34	0.19	48.1	
12	R2	94	2.0	0.206	7.0	LOS A	0.9	6.3	0.34	0.19	47.1	
Approach		322	2.0	0.206	2.9	NA	0.9	6.3	0.34	0.19	47.8	
All Vehicles		1031	2.1	0.262	2.8	NA	0.9	6.4	0.20	0.26	47.9	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

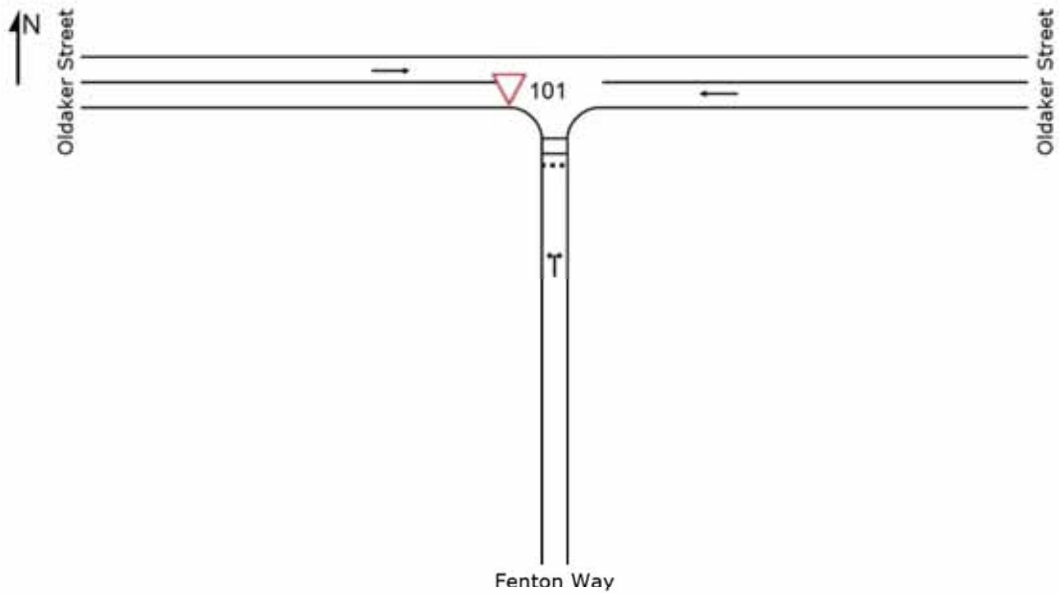
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:24:16 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Griffiths Street.sip7

**SITE LAYOUT**

▽ Site: 101 [Oldaker Street/ Fenton Way - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:11:43 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Fenton Way.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Fenton Way - Existing AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Fenton Way												
1	L2	82	2.0	0.099	5.6	LOS A	0.3	2.4	0.29	0.59	45.8	
3	R2	28	2.0	0.099	7.0	LOS A	0.3	2.4	0.29	0.59	45.2	
Approach		111	2.0	0.099	5.9	LOS A	0.3	2.4	0.29	0.59	45.7	
East: Oldaker Street												
5	T1	274	5.0	0.145	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		274	5.0	0.145	0.0	NA	0.0	0.0	0.00	0.00	50.0	
West: Oldaker Street												
11	T1	208	5.0	0.110	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		208	5.0	0.110	0.0	NA	0.0	0.0	0.00	0.00	50.0	
All Vehicles		593	4.4	0.145	1.1	NA	0.3	2.4	0.05	0.11	49.1	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Fenton Way - Existing PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Fenton Way												
1	L2	125	2.0	0.193	6.1	LOS A	0.7	4.7	0.38	0.66	45.3	
3	R2	59	2.0	0.193	8.3	LOS A	0.7	4.7	0.38	0.66	44.8	
Approach		184	2.0	0.193	6.8	LOS A	0.7	4.7	0.38	0.66	45.1	
East: Oldaker Street												
5	T1	376	2.0	0.195	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		376	2.0	0.195	0.0	NA	0.0	0.0	0.00	0.00	50.0	
West: Oldaker Street												
11	T1	266	5.0	0.141	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		266	5.0	0.141	0.0	NA	0.0	0.0	0.00	0.00	50.0	
All Vehicles		826	3.0	0.195	1.5	NA	0.7	4.7	0.09	0.15	48.8	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

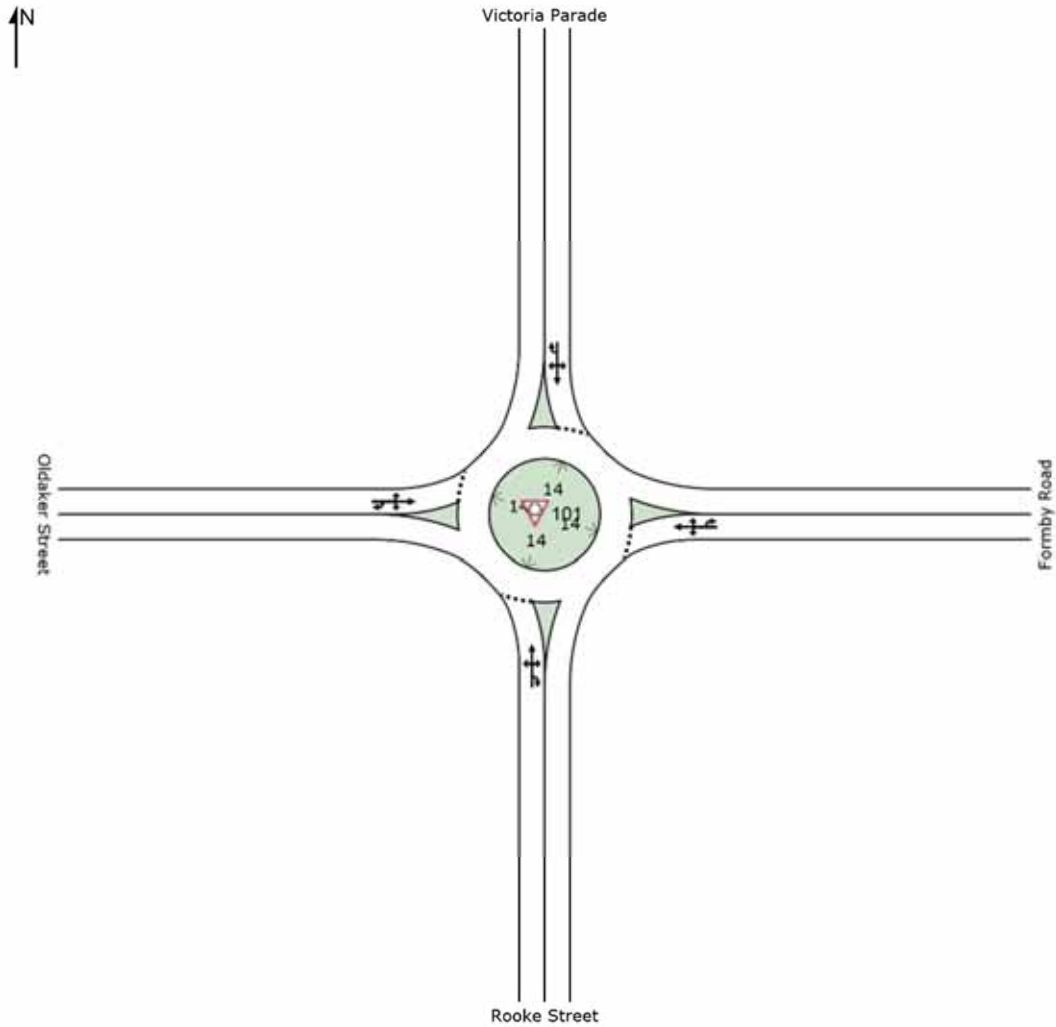
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



### SITE LAYOUT

▽ Site: 101 [Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade - Existing Layout]

Roundabout



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:16:32 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker-Rooke-Formby-Victoria.sip7

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade - Existing AM Peak]

08:15-09:15

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Rooke Street											
1	L2	29	5.0	0.097	5.7	LOS A	0.5	3.8	0.45	0.59	45.3
2	T1	26	10.0	0.097	5.8	LOS A	0.5	3.8	0.45	0.59	46.1
3	R2	12	10.0	0.097	9.7	LOS A	0.5	3.8	0.45	0.59	46.0
3u	U	13	75.0	0.097	13.3	LOS B	0.5	3.8	0.45	0.59	45.7
Approach		80	18.4	0.097	7.5	LOS A	0.5	3.8	0.45	0.59	45.8
East: Formby Road											
4	L2	20	20.0	0.339	4.3	LOS A	1.9	13.6	0.30	0.53	45.6
5	T1	224	2.0	0.339	4.0	LOS A	1.9	13.6	0.30	0.53	46.7
6	R2	166	2.0	0.339	7.8	LOS A	1.9	13.6	0.30	0.53	46.6
6u	U	5	20.0	0.339	9.8	LOS A	1.9	13.6	0.30	0.53	47.0
Approach		416	3.1	0.339	5.6	LOS A	1.9	13.6	0.30	0.53	46.6
North: Victoria Parade											
7	L2	154	2.0	0.208	4.9	LOS A	1.2	8.5	0.49	0.58	46.1
8	T1	37	2.0	0.208	4.8	LOS A	1.2	8.5	0.49	0.58	47.0
9	R2	18	5.0	0.208	8.7	LOS A	1.2	8.5	0.49	0.58	46.9
9u	U	1	2.0	0.208	10.3	LOS B	1.2	8.5	0.49	0.58	47.6
Approach		209	2.3	0.208	5.2	LOS A	1.2	8.5	0.49	0.58	46.3
West: Oldaker Street											
10	L2	36	5.0	0.252	4.8	LOS A	1.6	11.3	0.46	0.54	45.8
11	T1	183	2.0	0.252	4.7	LOS A	1.6	11.3	0.46	0.54	46.7
12	R2	45	5.0	0.252	8.6	LOS A	1.6	11.3	0.46	0.54	46.6
12u	U	3	30.0	0.252	10.8	LOS B	1.6	11.3	0.46	0.54	46.8
Approach		267	3.2	0.252	5.4	LOS A	1.6	11.3	0.46	0.54	46.5
All Vehicles		973	4.2	0.339	5.6	LOS A	1.9	13.6	0.40	0.55	46.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 7:16:56 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker-Rooke-Formby-Victoria.sip7

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade - Existing PM Peak]

15:00-16:00

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Rooke Street											
1	L2	73	2.0	0.177	6.8	LOS A	1.0	6.9	0.53	0.65	44.7
2	T1	32	2.0	0.177	6.8	LOS A	1.0	6.9	0.53	0.65	45.6
3	R2	28	2.0	0.177	10.6	LOS B	1.0	6.9	0.53	0.65	45.5
3u	U	12	10.0	0.177	12.5	LOS B	1.0	6.9	0.53	0.65	46.0
Approach		144	2.6	0.177	8.0	LOS A	1.0	6.9	0.53	0.65	45.2
East: Formby Road											
4	L2	41	15.0	0.462	4.7	LOS A	3.0	21.6	0.40	0.57	45.3
5	T1	267	2.0	0.462	4.4	LOS A	3.0	21.6	0.40	0.57	46.3
6	R2	194	2.0	0.462	8.2	LOS A	3.0	21.6	0.40	0.57	46.3
6u	U	44	2.0	0.462	9.9	LOS A	3.0	21.6	0.40	0.57	46.9
Approach		546	3.0	0.462	6.2	LOS A	3.0	21.6	0.40	0.57	46.3
North: Victoria Parade											
7	L2	157	2.0	0.260	5.5	LOS A	1.6	11.3	0.58	0.64	45.7
8	T1	54	5.0	0.260	5.6	LOS A	1.6	11.3	0.58	0.64	46.5
9	R2	29	2.0	0.260	9.3	LOS A	1.6	11.3	0.58	0.64	46.5
9u	U	1	2.0	0.260	11.0	LOS B	1.6	11.3	0.58	0.64	47.2
Approach		241	2.7	0.260	6.0	LOS A	1.6	11.3	0.58	0.64	46.0
West: Oldaker Street											
10	L2	33	2.0	0.309	5.4	LOS A	2.0	14.5	0.56	0.60	45.4
11	T1	211	2.0	0.309	5.4	LOS A	2.0	14.5	0.56	0.60	46.3
12	R2	58	2.0	0.309	9.2	LOS A	2.0	14.5	0.56	0.60	46.2
12u	U	5	2.0	0.309	10.8	LOS B	2.0	14.5	0.56	0.60	46.8
Approach		306	2.0	0.309	6.2	LOS A	2.0	14.5	0.56	0.60	46.2
All Vehicles		1238	2.6	0.462	6.4	LOS A	3.0	21.6	0.49	0.60	46.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 7:17:33 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker-Rooke-Formby-Victoria.sip7



**Appendix B**

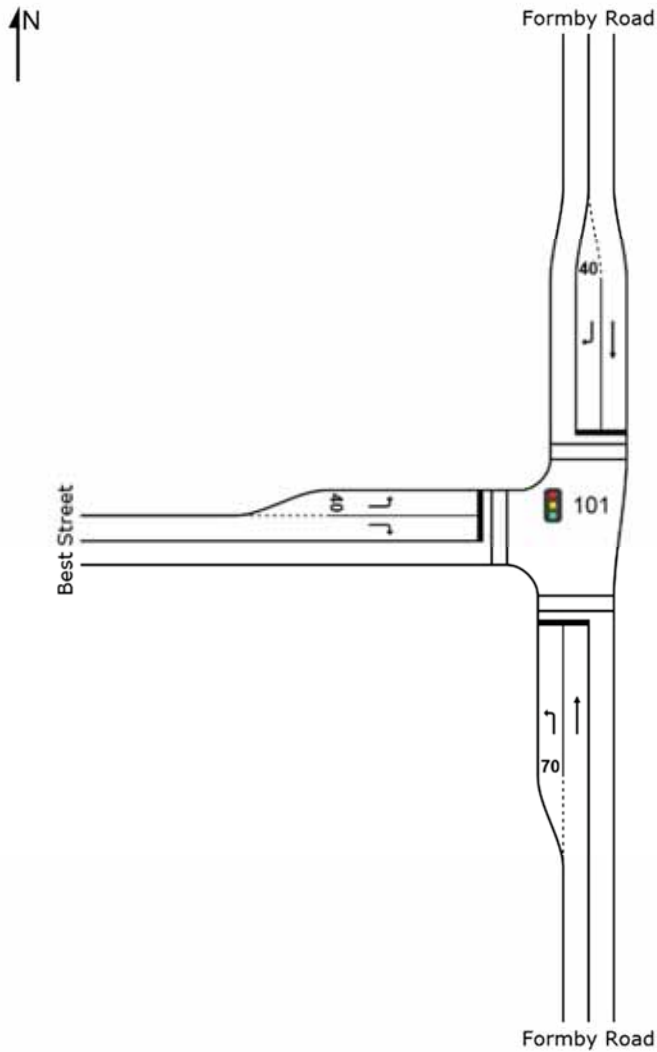
**SIDRA Intersection Traffic Modelling Results – Option 1**

---

### SITE LAYOUT

 Site: 101 [Best Street/ Formby Road - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 3:52:39 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Formby Road.sip7



## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Formby Road - 2019 Option 1 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 70 seconds (Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Formby Road												
1	L2	249	5.0	0.464	26.6	LOS C	7.1	51.8	0.86	0.79	36.4	
2	T1	434	5.0	0.765	27.0	LOS C	14.7	107.3	0.97	0.92	36.5	
Approach		683	5.0	0.765	26.8	LOS C	14.7	107.3	0.93	0.87	36.5	
North: Formby Road												
8	T1	339	5.0	0.601	23.0	LOS C	10.1	73.8	0.91	0.77	38.0	
9	R2	9	5.0	0.062	38.1	LOS D	0.3	2.3	0.94	0.66	32.5	
Approach		348	5.0	0.601	23.4	LOS C	10.1	73.8	0.91	0.77	37.8	
West: Best Street												
10	L2	19	2.0	0.056	30.3	LOS C	0.5	3.9	0.85	0.68	35.1	
12	R2	115	10.0	0.772	44.0	LOS D	4.4	33.4	1.00	0.92	30.9	
Approach		134	8.9	0.772	42.0	LOS D	4.4	33.4	0.98	0.89	31.4	
All Vehicles		1165	5.4	0.772	27.6	LOS C	14.7	107.3	0.93	0.84	36.2	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	29.3	LOS C	0.1	0.1	0.92	0.92	
P3	North Full Crossing	53	29.3	LOS C	0.1	0.1	0.92	0.92	
P4	West Full Crossing	53	22.4	LOS C	0.1	0.1	0.80	0.80	
All Pedestrians		158	27.0	LOS C			0.88	0.88	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 7:03:16 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Formby Road.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Formby Road - 2019 Option 1 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Formby Road											
1	L2	362	2.0	0.539	28.9	LOS C	12.6	89.9	0.84	0.81	35.6
2	T1	522	5.0	0.866	36.9	LOS D	24.1	176.1	0.94	1.00	33.2
Approach		884	3.8	0.866	33.6	LOS C	24.1	176.1	0.90	0.92	34.1
North: Formby Road											
8	T1	583	5.0	0.861	36.5	LOS D	27.4	199.9	0.98	1.02	33.3
9	R2	19	2.0	0.155	49.9	LOS D	0.6	5.9	0.97	0.70	29.4
Approach		602	4.9	0.861	36.9	LOS D	27.4	199.9	0.98	1.01	33.2
West: Best Street											
10	L2	24	2.0	0.092	41.3	LOS D	0.9	6.7	0.90	0.70	31.7
12	R2	238	5.0	0.858	53.5	LOS D	11.8	86.3	1.00	0.98	28.6
Approach		262	4.7	0.858	52.3	LOS D	11.8	86.3	0.99	0.95	28.9
All Vehicles		1748	4.3	0.866	37.6	LOS D	27.4	199.9	0.94	0.96	32.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94	
P3	North Full Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94	
P4	West Full Crossing	53	22.8	LOS C	0.1	0.1	0.71	0.71	
All Pedestrians		158	33.8	LOS D			0.86	0.86	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

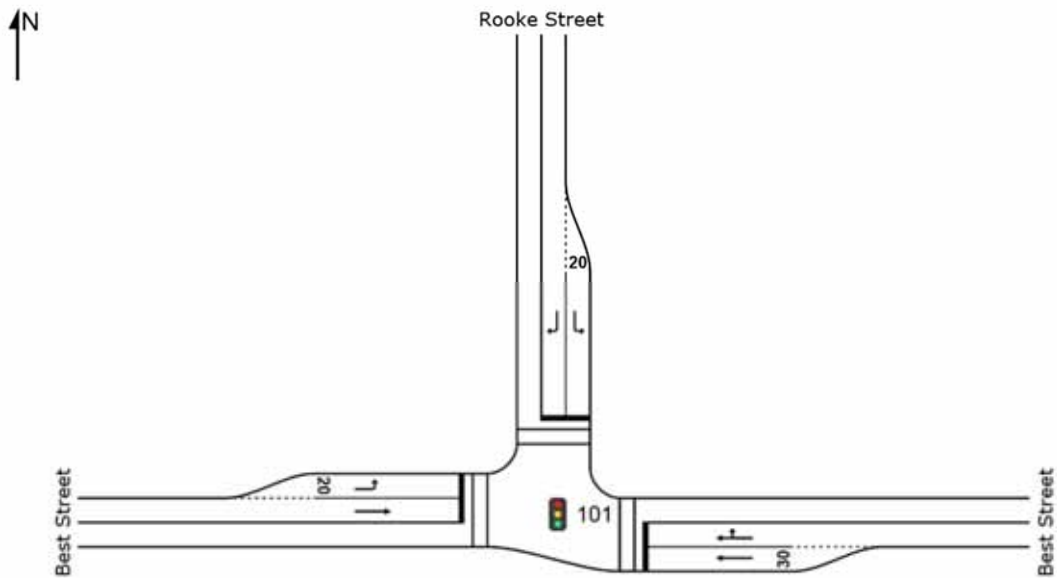
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 7:04:19 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Formby Road.sip7

### SITE LAYOUT

 Site: 101 [Best Street/ Rooke Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:01:42 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Rooke Street.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Rooke Street - 2019 Option 1 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: Best Street												
5	T1	282	5.0	0.405	10.0	LOS B	3.9	28.8	0.76	0.64	43.7	
6	R2	38	5.0	0.405	15.0	LOS B	3.9	28.8	0.78	0.67	42.8	
Approach		320	5.0	0.405	10.6	LOS B	3.9	28.8	0.76	0.64	43.6	
North: Rooke Street												
7	L2	9	20.0	0.018	14.8	LOS B	0.1	1.1	0.70	0.64	41.1	
9	R2	51	20.0	0.096	15.3	LOS B	0.7	5.8	0.73	0.70	40.7	
Approach		60	20.0	0.096	15.2	LOS B	0.7	5.8	0.72	0.69	40.8	
West: Best Street												
10	L2	60	20.0	0.098	13.7	LOS B	0.8	6.4	0.68	0.69	41.6	
11	T1	117	5.0	0.165	9.2	LOS A	1.6	11.4	0.70	0.55	44.4	
Approach		177	10.1	0.165	10.8	LOS B	1.6	11.4	0.69	0.60	43.4	
All Vehicles		557	8.2	0.405	11.2	LOS B	3.9	28.8	0.73	0.63	43.2	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		158	13.9	LOS B			0.84	0.84	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
 Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:25:34 PM  
 Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Rooke Street.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Rooke Street - 2019 Option 1 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: Best Street												
5	T1	361	2.0	0.534	10.6	LOS B	5.3	38.0	0.80	0.68	43.4	
6	R2	49	2.0	0.534	15.6	LOS B	5.3	38.0	0.83	0.72	42.5	
Approach		411	2.0	0.534	11.2	LOS B	5.3	38.0	0.80	0.68	43.3	
North: Rooke Street												
7	L2	25	15.0	0.046	14.9	LOS B	0.3	2.7	0.71	0.67	41.1	
9	R2	83	10.0	0.148	15.4	LOS B	1.2	9.1	0.74	0.72	40.7	
Approach		108	11.2	0.148	15.3	LOS B	1.2	9.1	0.73	0.71	40.8	
West: Best Street												
10	L2	81	10.0	0.125	13.7	LOS B	1.1	8.1	0.69	0.70	41.7	
11	T1	281	2.0	0.389	10.2	LOS B	4.2	29.6	0.77	0.65	43.9	
Approach		362	3.8	0.389	11.0	LOS B	4.2	29.6	0.75	0.66	43.3	
All Vehicles		881	3.9	0.534	11.6	LOS B	5.3	38.0	0.77	0.68	43.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Pedestrian	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		158	13.9	LOS B			0.84	0.84	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

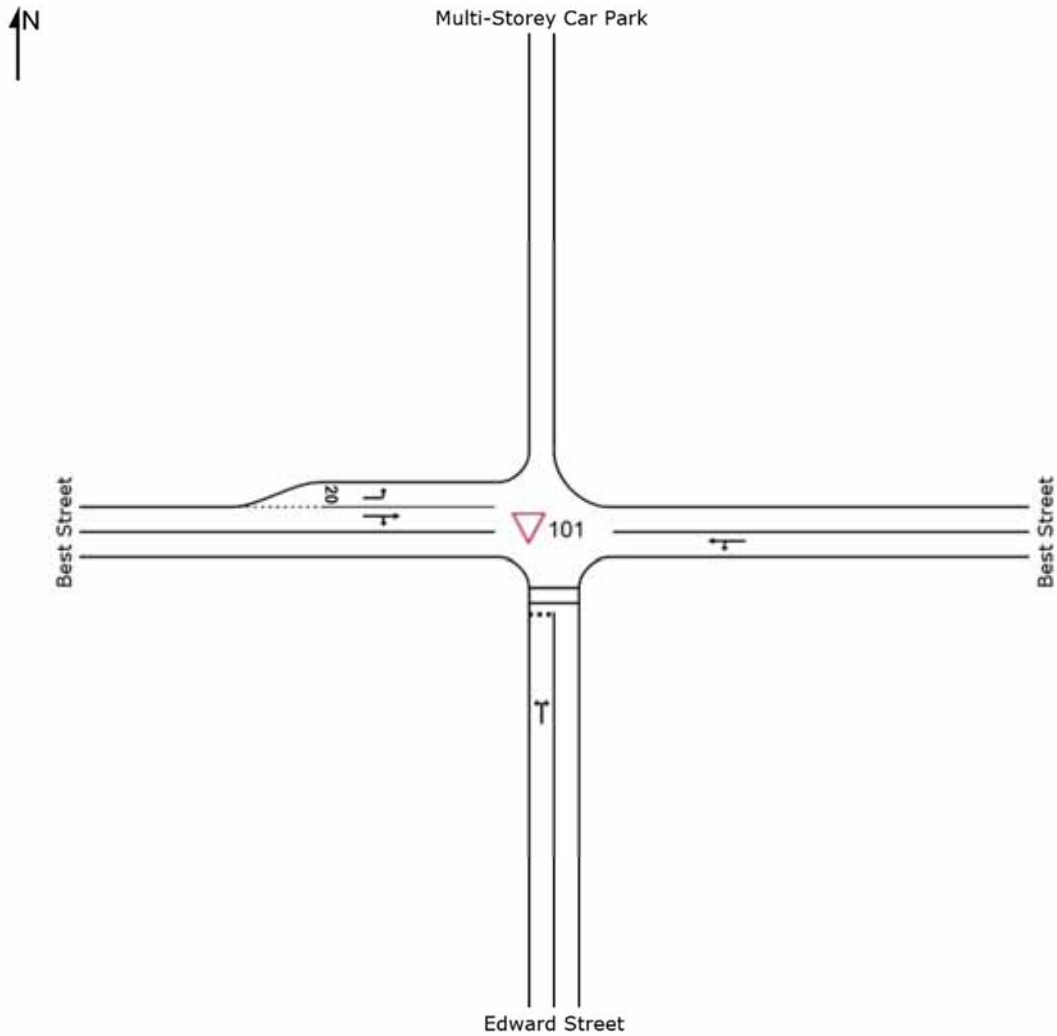
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.



### SITE LAYOUT

▽ Site: 101 [Best Street/ Edward Street - Living City Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:20:36 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Edward Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Edward Street - 2019 Option 1 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Edward Street												
1	L2	55	2.0	0.073	5.6	LOS A	0.3	2.3	0.40	0.57	45.5	
3	R2	16	10.0	0.073	9.5	LOS A	0.3	2.3	0.40	0.57	45.0	
Approach		71	3.8	0.073	6.4	LOS A	0.3	2.3	0.40	0.57	45.4	
East: Best Street												
4	L2	61	10.0	0.184	4.7	LOS A	0.0	0.0	0.00	0.10	48.8	
5	T1	273	10.0	0.184	0.0	LOS A	0.0	0.0	0.00	0.10	49.4	
Approach		334	10.0	0.184	0.9	NA	0.0	0.0	0.00	0.10	49.3	
West: Best Street												
10	L2	12	2.0	0.006	5.6	LOS A	0.0	0.0	0.00	0.58	53.5	
11	T1	164	10.0	0.144	0.7	LOS A	0.6	4.2	0.22	0.18	48.4	
12	R2	69	5.0	0.144	6.1	LOS A	0.6	4.2	0.22	0.18	47.4	
Approach		245	8.2	0.144	2.5	NA	0.6	4.2	0.21	0.19	48.4	
All Vehicles		649	8.6	0.184	2.1	NA	0.6	4.2	0.12	0.19	48.5	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:15:04 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Edward Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Edward Street - 2019 Option 1 PM Peak]

16:00-17:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Edward Street												
1	L2	107	2.0	0.175	6.1	LOS A	0.8	5.5	0.51	0.65	44.6	
3	R2	27	10.0	0.175	15.5	LOS C	0.8	5.5	0.51	0.65	44.1	
Approach		135	3.6	0.175	8.0	LOS A	0.8	5.5	0.51	0.65	44.5	
East: Best Street												
4	L2	94	10.0	0.255	4.7	LOS A	0.0	0.0	0.00	0.11	48.7	
5	T1	367	10.0	0.255	0.0	LOS A	0.0	0.0	0.00	0.11	49.3	
Approach		461	10.0	0.255	1.0	NA	0.0	0.0	0.00	0.11	49.2	
West: Best Street												
10	L2	11	2.0	0.006	5.6	LOS A	0.0	0.0	0.00	0.58	53.5	
11	T1	336	10.0	0.276	1.1	LOS A	1.2	8.7	0.27	0.15	48.3	
12	R2	104	5.0	0.276	7.2	LOS A	1.2	8.7	0.27	0.15	47.3	
Approach		451	8.7	0.276	2.6	NA	1.2	8.7	0.26	0.16	48.1	
All Vehicles		1046	8.6	0.276	2.6	NA	1.2	8.7	0.18	0.20	48.1	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

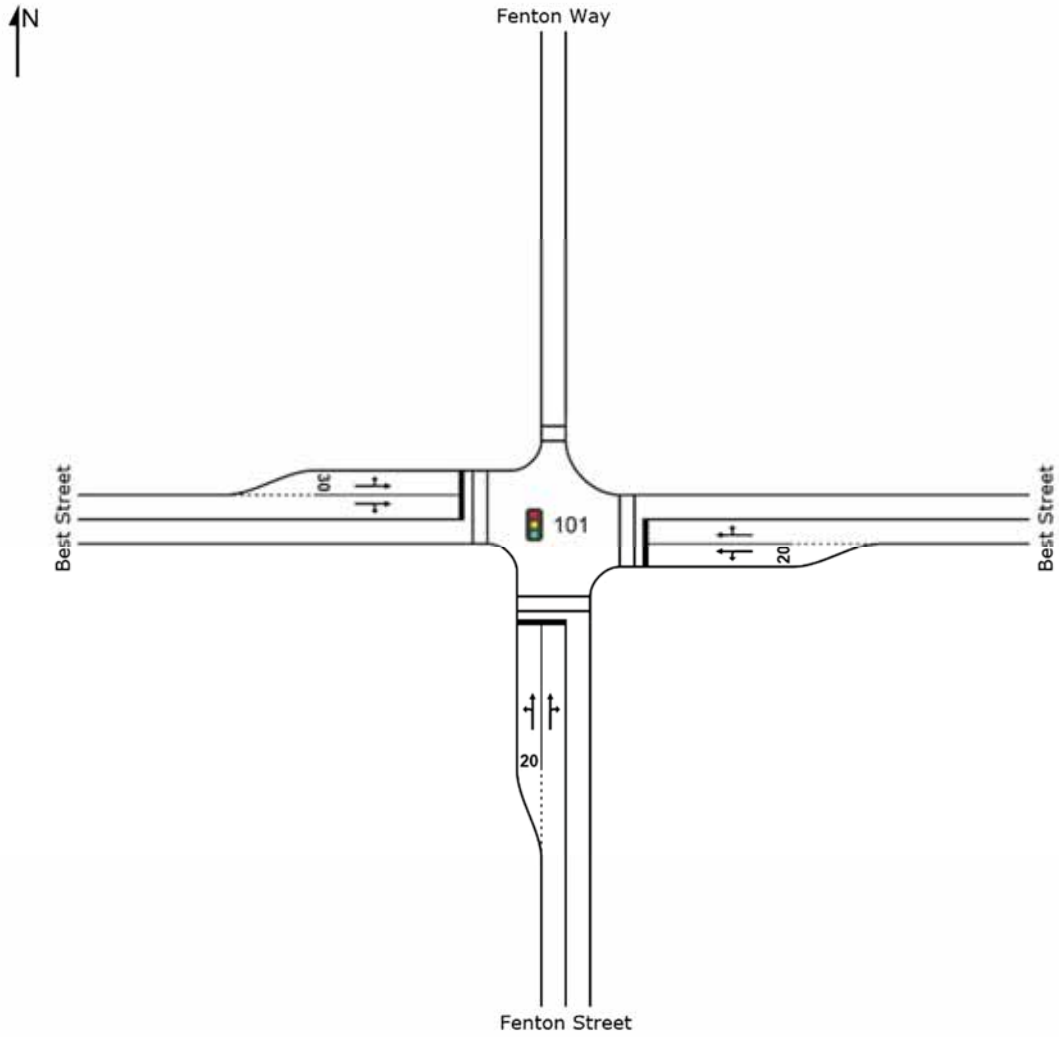
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

### SITE LAYOUT

📍 Site: 101 [Best Street/ Fenton Way - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:39:06 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Fenton Way.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Fenton Way - 2019 Option 1 AM Peak]**

08:30-09:30

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fenton Street											
1	L2	128	2.0	0.216	15.5	LOS B	1.9	13.5	0.76	0.73	40.9
2	T1	118	2.0	0.280	11.2	LOS B	2.6	18.6	0.78	0.67	42.7
3	R2	52	10.0	0.280	15.9	LOS B	2.6	18.6	0.78	0.67	42.0
Approach		298	3.4	0.280	13.9	LOS B	2.6	18.6	0.77	0.70	41.8
East: Best Street											
4	L2	42	10.0	0.088	13.6	LOS B	0.8	5.7	0.67	0.64	42.4
5	T1	235	10.0	0.442	10.5	LOS B	4.0	30.4	0.79	0.68	43.2
6	R2	45	2.0	0.442	15.4	LOS B	4.0	30.4	0.79	0.69	42.3
Approach		322	8.9	0.442	11.6	LOS B	4.0	30.4	0.77	0.68	42.9
West: Best Street											
10	L2	58	2.0	0.103	13.6	LOS B	0.9	6.7	0.68	0.66	42.2
11	T1	199	10.0	0.517	11.6	LOS B	4.5	34.5	0.83	0.73	42.3
12	R2	92	10.0	0.517	16.4	LOS B	4.5	34.5	0.84	0.74	41.7
Approach		348	8.7	0.517	13.2	LOS B	4.5	34.5	0.81	0.72	42.1
All Vehicles		968	7.1	0.517	12.9	LOS B	4.5	34.5	0.79	0.70	42.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85
P3	North Full Crossing	53	9.1	LOS A	0.0	0.0	0.68	0.68
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85
All Pedestrians		211	12.7	LOS B			0.80	0.80

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:37:33 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Fenton Way.sip7



## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Fenton Way - 2019 Option 1 PM Peak]**

14:45-15:45

Signals - Fixed Time Isolated Cycle Time = 50 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fenton Street											
1	L2	178	2.0	0.374	21.6	LOS C	3.7	26.4	0.86	0.77	38.3
2	T1	109	2.0	0.345	16.8	LOS B	3.5	24.9	0.86	0.72	39.9
3	R2	60	2.0	0.345	21.4	LOS C	3.5	24.9	0.86	0.72	39.4
Approach		347	2.0	0.374	20.1	LOS C	3.7	26.4	0.86	0.75	39.0
East: Best Street											
4	L2	56	5.0	0.104	11.8	LOS B	1.2	9.0	0.55	0.58	43.6
5	T1	325	5.0	0.520	11.2	LOS B	6.3	45.7	0.75	0.67	42.8
6	R2	56	2.0	0.520	16.6	LOS B	6.3	45.7	0.78	0.69	41.8
Approach		437	4.6	0.520	12.0	LOS B	6.3	45.7	0.73	0.66	42.8
West: Best Street											
10	L2	45	2.0	0.139	11.9	LOS B	1.7	12.4	0.57	0.54	44.2
11	T1	437	2.0	0.695	12.7	LOS B	9.7	69.1	0.80	0.76	42.0
12	R2	105	2.0	0.695	18.7	LOS B	9.7	69.1	0.86	0.81	40.9
Approach		587	2.0	0.695	13.7	LOS B	9.7	69.1	0.79	0.75	42.0
All Vehicles		1372	2.8	0.695	14.8	LOS B	9.7	69.1	0.79	0.72	41.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	10.3	LOS B	0.0	0.0	0.64	0.64	
P2	East Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P3	North Full Crossing	53	7.3	LOS A	0.0	0.0	0.54	0.54	
P4	West Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
All Pedestrians		211	14.1	LOS B			0.74	0.74	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

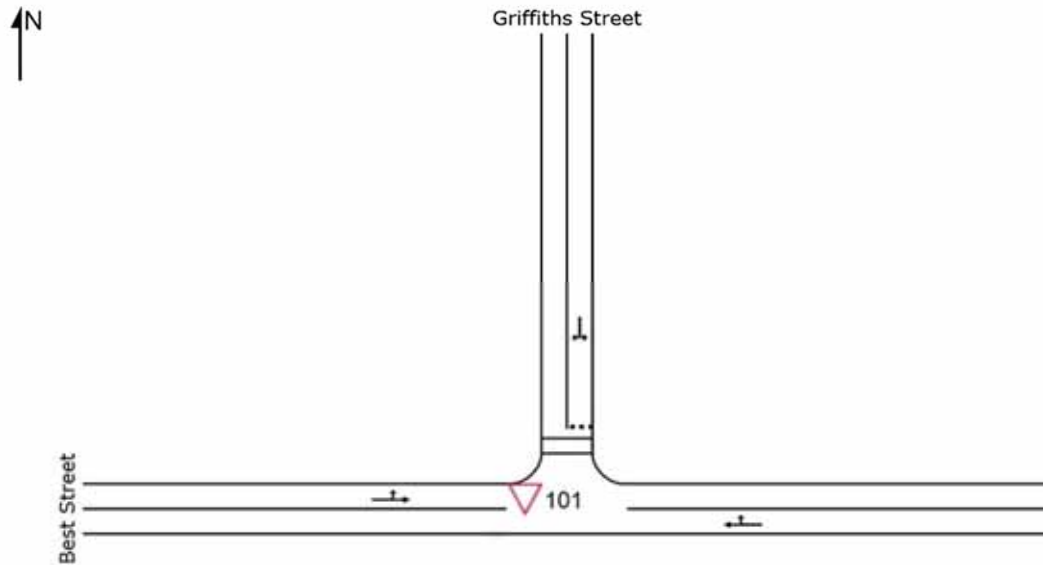
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### SITE LAYOUT

▽ Site: 101 [Best Street/ Griffiths Street - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:44:24 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Griffiths Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Griffiths Street - 2019 Option 1 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: Best Street												
5	T1	335	5.0	0.200	0.2	LOS A	0.3	1.9	0.07	0.05	49.5	
6	R2	31	5.0	0.200	5.8	LOS A	0.3	1.9	0.07	0.05	48.5	
Approach		365	5.0	0.200	0.6	NA	0.3	1.9	0.07	0.05	49.5	
North: Griffiths Street												
7	L2	75	5.0	0.092	5.5	LOS A	0.4	2.7	0.36	0.58	45.7	
9	R2	24	5.0	0.092	7.5	LOS A	0.4	2.7	0.36	0.58	45.3	
Approach		99	5.0	0.092	6.0	LOS A	0.4	2.7	0.36	0.58	45.6	
West: Best Street												
10	L2	17	2.0	0.142	4.6	LOS A	0.0	0.0	0.00	0.03	49.3	
11	T1	251	5.0	0.142	0.0	LOS A	0.0	0.0	0.00	0.03	49.8	
Approach		267	4.8	0.142	0.3	NA	0.0	0.0	0.00	0.03	49.7	
All Vehicles		732	4.9	0.200	1.2	NA	0.4	2.7	0.08	0.12	49.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:48:16 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Griffiths Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Griffiths Street - 2019 Option 1 PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: Best Street												
5	T1	480	5.0	0.286	0.3	LOS A	0.4	3.1	0.08	0.04	49.5	
6	R2	39	2.0	0.286	6.6	LOS A	0.4	3.1	0.08	0.04	48.5	
Approach		519	4.8	0.286	0.7	NA	0.4	3.1	0.08	0.04	49.4	
North: Griffiths Street												
7	L2	153	2.0	0.212	6.0	LOS A	0.9	6.4	0.46	0.66	45.2	
9	R2	44	5.0	0.212	10.3	LOS B	0.9	6.4	0.46	0.66	44.8	
Approach		197	2.7	0.212	7.0	LOS A	0.9	6.4	0.46	0.66	45.1	
West: Best Street												
10	L2	39	5.0	0.207	4.6	LOS A	0.0	0.0	0.00	0.05	49.1	
11	T1	351	5.0	0.207	0.0	LOS A	0.0	0.0	0.00	0.05	49.7	
Approach		389	5.0	0.207	0.5	NA	0.0	0.0	0.00	0.05	49.6	
All Vehicles		1105	4.5	0.286	1.8	NA	0.9	6.4	0.12	0.16	48.7	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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


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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

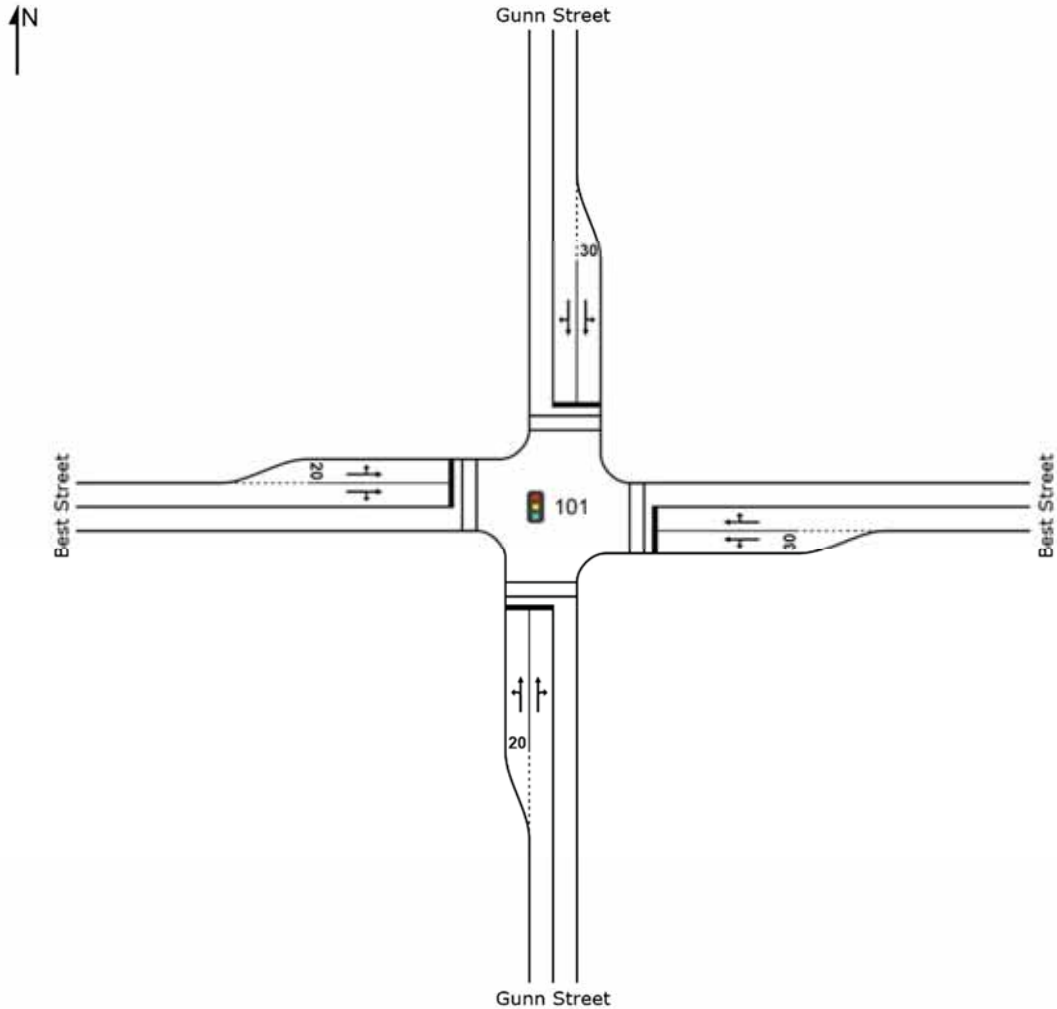
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:49:15 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Griffiths Street.sip7

### SITE LAYOUT

 Site: 101 [Best Street/ Gunn Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:49:52 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Gunn Street.sip7



## MOVEMENT SUMMARY

 Site: 101 [Best Street/ Gunn Street - 2019 Option 1 AM Peak]

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	43	5.0	0.083	13.5	LOS B	0.7	5.3	0.67	0.65	42.4
2	T1	173	2.0	0.413	10.3	LOS B	3.6	25.9	0.77	0.69	42.9
3	R2	81	2.0	0.413	15.0	LOS B	3.6	25.9	0.78	0.69	42.4
Approach		297	2.4	0.413	12.1	LOS B	3.6	25.9	0.76	0.68	42.7
East: Best Street											
4	L2	47	2.0	0.080	14.9	LOS B	0.7	4.7	0.72	0.69	41.2
5	T1	159	15.0	0.312	11.4	LOS B	2.6	20.7	0.79	0.65	43.0
6	R2	13	2.0	0.312	16.0	LOS B	2.6	20.7	0.79	0.65	42.5
Approach		219	11.4	0.312	12.5	LOS B	2.6	20.7	0.78	0.66	42.6
North: Gunn Street											
7	L2	33	2.0	0.059	13.4	LOS B	0.5	3.7	0.66	0.64	42.4
8	T1	181	2.0	0.296	9.8	LOS A	2.8	19.9	0.74	0.63	43.7
9	R2	23	2.0	0.296	14.4	LOS B	2.8	19.9	0.74	0.63	43.2
Approach		237	2.0	0.296	10.7	LOS B	2.8	19.9	0.73	0.63	43.5
West: Best Street											
10	L2	33	5.0	0.076	15.0	LOS B	0.6	4.6	0.72	0.65	41.7
11	T1	191	10.0	0.380	11.7	LOS B	3.3	24.6	0.81	0.68	42.7
12	R2	27	5.0	0.380	16.4	LOS B	3.3	24.6	0.81	0.68	42.2
Approach		251	8.8	0.380	12.6	LOS B	3.3	24.6	0.80	0.68	42.5
All Vehicles		1003	5.9	0.413	12.0	LOS B	3.6	25.9	0.77	0.66	42.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P2	East Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P4	West Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### MOVEMENT SUMMARY

**Site: 101 [Best Street/ Gunn Street - 2019 Option 1 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	48	10.0	0.094	14.3	LOS B	0.8	5.9	0.70	0.67	41.8
2	T1	216	2.0	0.469	11.4	LOS B	4.3	30.3	0.82	0.71	42.7
3	R2	60	2.0	0.469	16.0	LOS B	4.3	30.3	0.82	0.71	42.2
Approach		324	3.2	0.469	12.7	LOS B	4.3	30.3	0.80	0.70	42.4
East: Best Street											
4	L2	72	2.0	0.112	14.3	LOS B	1.0	6.9	0.71	0.70	41.5
5	T1	252	5.0	0.473	11.4	LOS B	4.5	32.9	0.82	0.70	43.0
6	R2	32	2.0	0.473	16.0	LOS B	4.5	32.9	0.82	0.70	42.4
Approach		355	4.1	0.473	12.4	LOS B	4.5	32.9	0.80	0.70	42.6
North: Gunn Street											
7	L2	37	2.0	0.077	14.2	LOS B	0.7	4.8	0.70	0.64	42.1
8	T1	208	2.0	0.387	10.9	LOS B	3.5	25.1	0.79	0.67	43.0
9	R2	35	2.0	0.387	15.6	LOS B	3.5	25.1	0.79	0.68	42.5
Approach		280	2.0	0.387	11.9	LOS B	3.5	25.1	0.78	0.67	42.9
West: Best Street											
10	L2	52	2.0	0.081	14.2	LOS B	0.7	5.0	0.70	0.69	41.5
11	T1	243	5.0	0.406	11.1	LOS B	3.9	28.8	0.80	0.67	43.3
12	R2	13	2.0	0.406	15.7	LOS B	3.9	28.8	0.80	0.67	42.7
Approach		307	4.4	0.406	11.8	LOS B	3.9	28.8	0.78	0.67	43.0
All Vehicles		1266	3.5	0.473	12.2	LOS B	4.5	32.9	0.79	0.69	42.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
P2	East Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
P3	North Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
P4	West Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
All Pedestrians		211	13.6	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

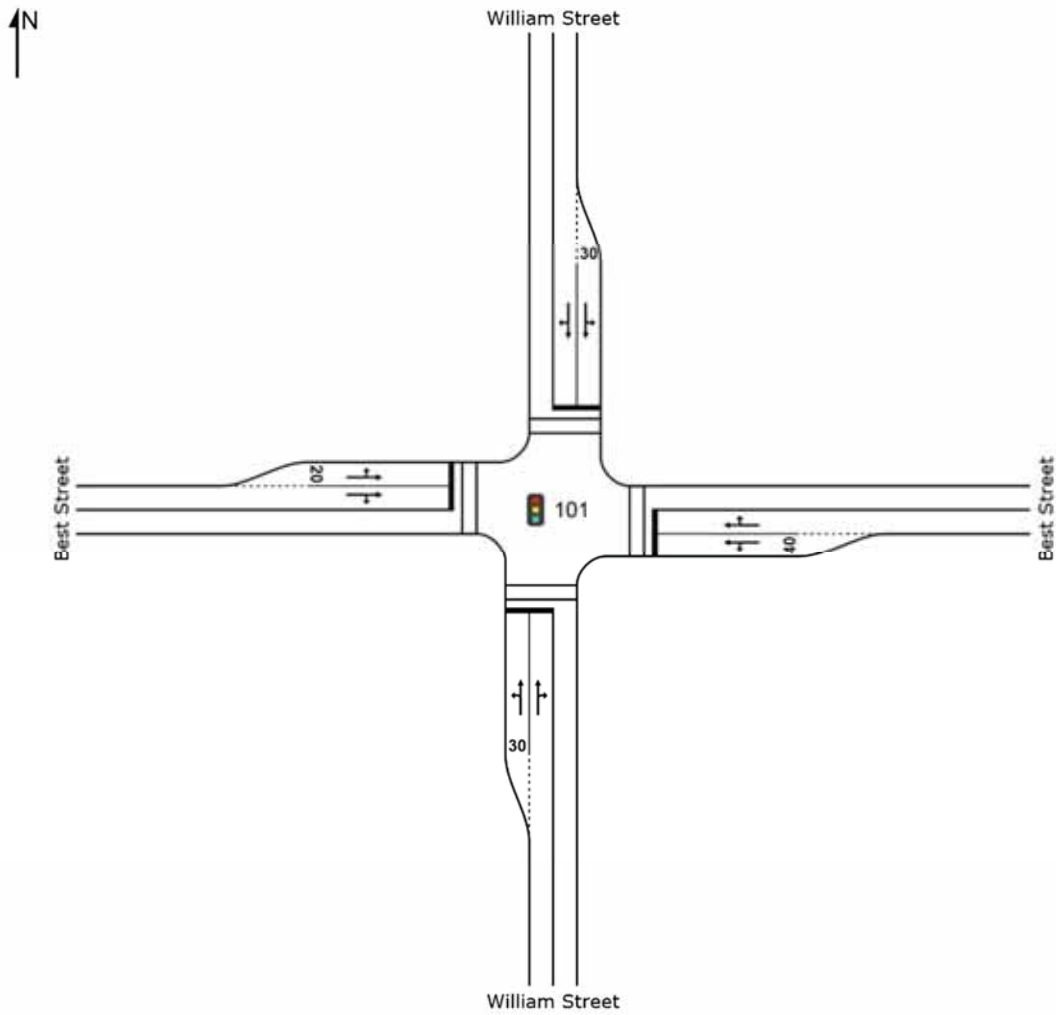
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### SITE LAYOUT

 Site: 101 [Best Street/ William Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:54:04 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-William Street.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ William Street - 2019 Option 1 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	62	5.0	0.102	13.6	LOS B	0.9	6.6	0.68	0.68	42.0
2	T1	224	10.0	0.510	11.6	LOS B	4.6	35.2	0.83	0.72	42.6
3	R2	64	15.0	0.510	16.4	LOS B	4.6	35.2	0.84	0.73	41.9
Approach		351	10.0	0.510	12.8	LOS B	4.6	35.2	0.81	0.72	42.4
East: Best Street											
4	L2	68	15.0	0.125	15.3	LOS B	1.0	7.7	0.73	0.71	40.9
5	T1	74	10.0	0.193	11.0	LOS B	1.4	11.0	0.75	0.63	42.9
6	R2	24	10.0	0.193	15.6	LOS B	1.4	11.0	0.75	0.63	42.2
Approach		166	12.1	0.193	13.4	LOS B	1.4	11.0	0.75	0.66	42.0
North: William Street											
7	L2	60	10.0	0.093	13.6	LOS B	0.8	6.0	0.68	0.69	41.8
8	T1	282	5.0	0.465	10.6	LOS B	4.7	34.3	0.80	0.69	43.4
9	R2	23	2.0	0.465	15.2	LOS B	4.7	34.3	0.80	0.69	42.9
Approach		365	5.6	0.465	11.4	LOS B	4.7	34.3	0.78	0.69	43.1
West: Best Street											
10	L2	43	2.0	0.088	15.0	LOS B	0.7	5.3	0.72	0.67	41.5
11	T1	159	5.0	0.442	12.0	LOS B	3.7	27.6	0.83	0.72	42.1
12	R2	80	10.0	0.442	16.8	LOS B	3.7	27.6	0.83	0.72	41.5
Approach		282	6.0	0.442	13.8	LOS B	3.7	27.6	0.81	0.71	41.8
All Vehicles		1164	8.0	0.510	12.7	LOS B	4.7	35.2	0.79	0.70	42.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P2	East Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P4	West Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.



## MOVEMENT SUMMARY

 **Site: 101 [Best Street/ William Street - 2019 Option 1 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	83	5.0	0.135	13.7	LOS B	1.2	8.8	0.69	0.69	41.9
2	T1	269	5.0	0.677	14.2	LOS B	6.7	49.2	0.91	0.85	41.3
3	R2	93	10.0	0.677	19.0	LOS B	6.7	49.2	0.92	0.86	40.6
Approach		445	6.0	0.677	15.1	LOS B	6.7	49.2	0.87	0.82	41.2
East: Best Street											
4	L2	125	10.0	0.222	15.7	LOS B	1.9	14.1	0.76	0.73	40.8
5	T1	154	5.0	0.385	11.8	LOS B	3.2	23.4	0.81	0.69	42.5
6	R2	46	10.0	0.385	16.5	LOS B	3.2	23.4	0.81	0.69	41.9
Approach		325	7.6	0.385	14.0	LOS B	3.2	23.4	0.79	0.71	41.7
North: William Street											
7	L2	65	5.0	0.116	13.6	LOS B	1.0	7.5	0.68	0.67	42.1
8	T1	357	2.0	0.579	11.2	LOS B	6.1	43.5	0.84	0.73	43.1
9	R2	31	2.0	0.579	15.8	LOS B	6.1	43.5	0.85	0.73	42.6
Approach		453	2.4	0.579	11.8	LOS B	6.1	43.5	0.82	0.72	42.9
West: Best Street											
10	L2	47	2.0	0.096	15.0	LOS B	0.8	5.7	0.73	0.67	41.5
11	T1	168	2.0	0.479	12.2	LOS B	4.0	28.5	0.84	0.73	42.0
12	R2	84	2.0	0.479	16.9	LOS B	4.0	28.5	0.85	0.73	41.5
Approach		300	2.0	0.479	14.0	LOS B	4.0	28.5	0.82	0.72	41.8
All Vehicles		1523	4.5	0.677	13.7	LOS B	6.7	49.2	0.83	0.75	41.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P2	East Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P4	West Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

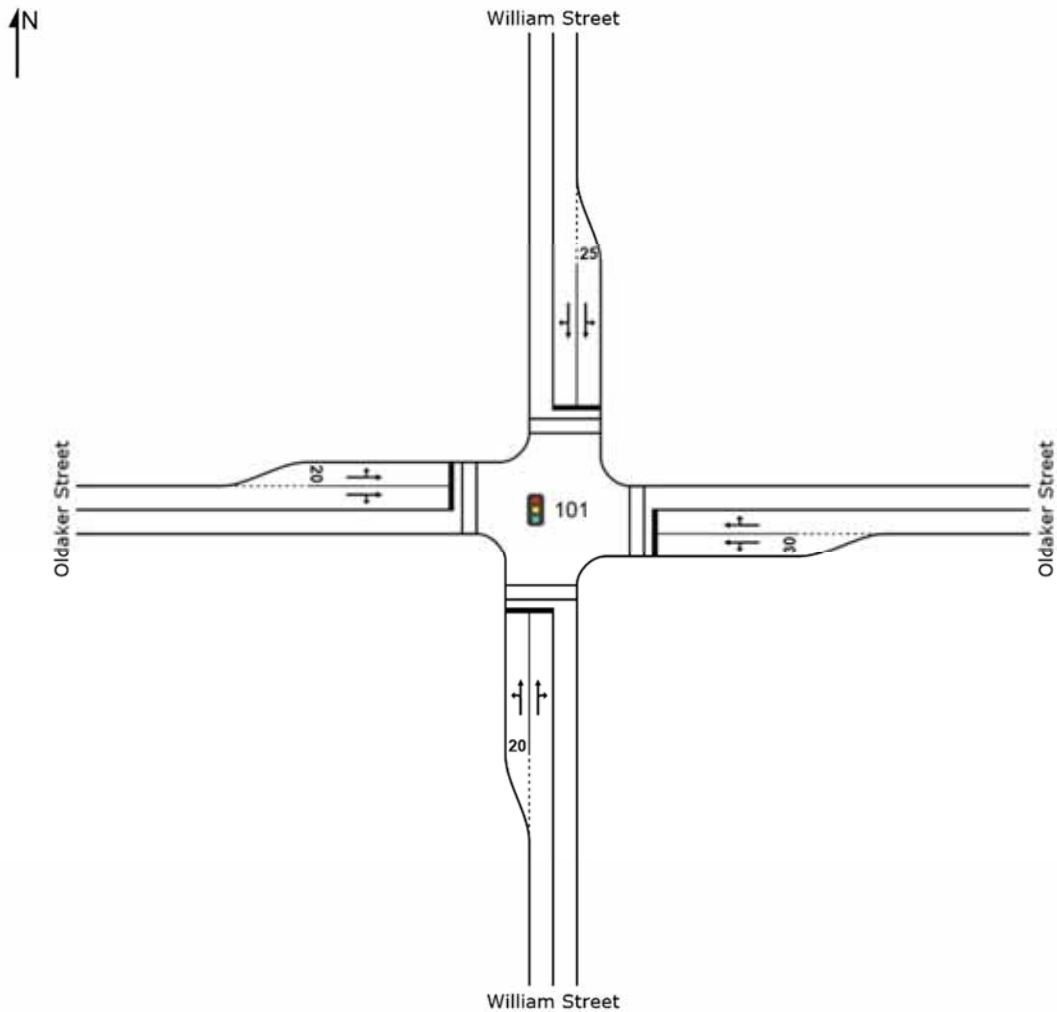
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.



### SITE LAYOUT

 Site: 101 [Oldaker Street/ William Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:59:50 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street -William Street.sip7

## MOVEMENT SUMMARY

**Site: 101 [Oldaker Street/ William Street - 2019 Option 1 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	38	2.0	0.097	15.0	LOS B	0.8	5.9	0.73	0.65	41.8
2	T1	155	10.0	0.485	12.8	LOS B	3.7	27.3	0.85	0.73	41.6
3	R2	79	5.0	0.485	17.8	LOS B	3.7	27.3	0.86	0.74	41.0
Approach		272	7.4	0.485	14.6	LOS B	3.7	27.3	0.84	0.72	41.4
East: Oldaker Street											
4	L2	157	5.0	0.233	14.2	LOS B	2.2	15.9	0.72	0.73	41.5
5	T1	236	2.0	0.472	10.7	LOS B	4.6	32.8	0.81	0.70	43.1
6	R2	61	2.0	0.472	15.3	LOS B	4.6	32.8	0.81	0.70	42.6
Approach		454	3.0	0.472	12.5	LOS B	4.6	32.8	0.78	0.71	42.5
North: William Street											
7	L2	35	2.0	0.093	15.0	LOS B	0.8	5.6	0.73	0.64	41.9
8	T1	263	5.0	0.463	12.0	LOS B	4.3	31.5	0.83	0.70	42.6
9	R2	23	2.0	0.463	16.7	LOS B	4.3	31.5	0.84	0.71	42.1
Approach		321	4.5	0.463	12.7	LOS B	4.3	31.5	0.82	0.70	42.5
West: Oldaker Street											
10	L2	31	2.0	0.065	13.4	LOS B	0.6	4.1	0.67	0.62	42.6
11	T1	175	2.0	0.324	9.9	LOS A	2.8	20.2	0.74	0.64	43.5
12	R2	36	2.0	0.324	14.6	LOS B	2.8	20.2	0.75	0.64	43.0
Approach		241	2.0	0.324	11.0	LOS B	2.8	20.2	0.74	0.64	43.3
All Vehicles		1287	4.1	0.485	12.7	LOS B	4.6	32.8	0.79	0.70	42.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

## MOVEMENT SUMMARY

**Site: 101 [Oldaker Street/ William Street - 2019 Option 1 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	71	2.0	0.119	15.1	LOS B	1.0	7.1	0.73	0.70	41.1
2	T1	193	5.0	0.593	13.9	LOS B	5.0	36.0	0.90	0.79	41.3
3	R2	84	2.0	0.593	18.5	LOS B	5.0	36.0	0.90	0.79	40.8
Approach		347	3.7	0.593	15.3	LOS B	5.0	36.0	0.87	0.77	41.1
East: Oldaker Street											
4	L2	174	5.0	0.258	14.3	LOS B	2.4	17.8	0.73	0.74	41.5
5	T1	303	2.0	0.600	11.5	LOS B	6.3	44.7	0.86	0.75	42.7
6	R2	75	2.0	0.600	16.1	LOS B	6.3	44.7	0.86	0.75	42.2
Approach		552	2.9	0.600	13.0	LOS B	6.3	44.7	0.82	0.75	42.3
North: William Street											
7	L2	62	2.0	0.104	15.1	LOS B	0.9	6.2	0.73	0.70	41.1
8	T1	252	5.0	0.506	12.4	LOS B	4.7	34.0	0.86	0.72	42.5
9	R2	29	2.0	0.506	17.0	LOS B	4.7	34.0	0.86	0.72	42.0
Approach		343	4.2	0.506	13.3	LOS B	4.7	34.0	0.83	0.72	42.2
West: Oldaker Street											
10	L2	31	2.0	0.060	13.4	LOS B	0.5	3.8	0.67	0.63	42.5
11	T1	143	2.0	0.302	10.5	LOS B	2.5	17.8	0.76	0.65	43.1
12	R2	37	2.0	0.302	15.2	LOS B	2.5	17.8	0.77	0.65	42.6
Approach		211	2.0	0.302	11.8	LOS B	2.5	17.8	0.75	0.65	42.9
All Vehicles		1453	3.3	0.600	13.4	LOS B	6.3	44.7	0.82	0.73	42.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

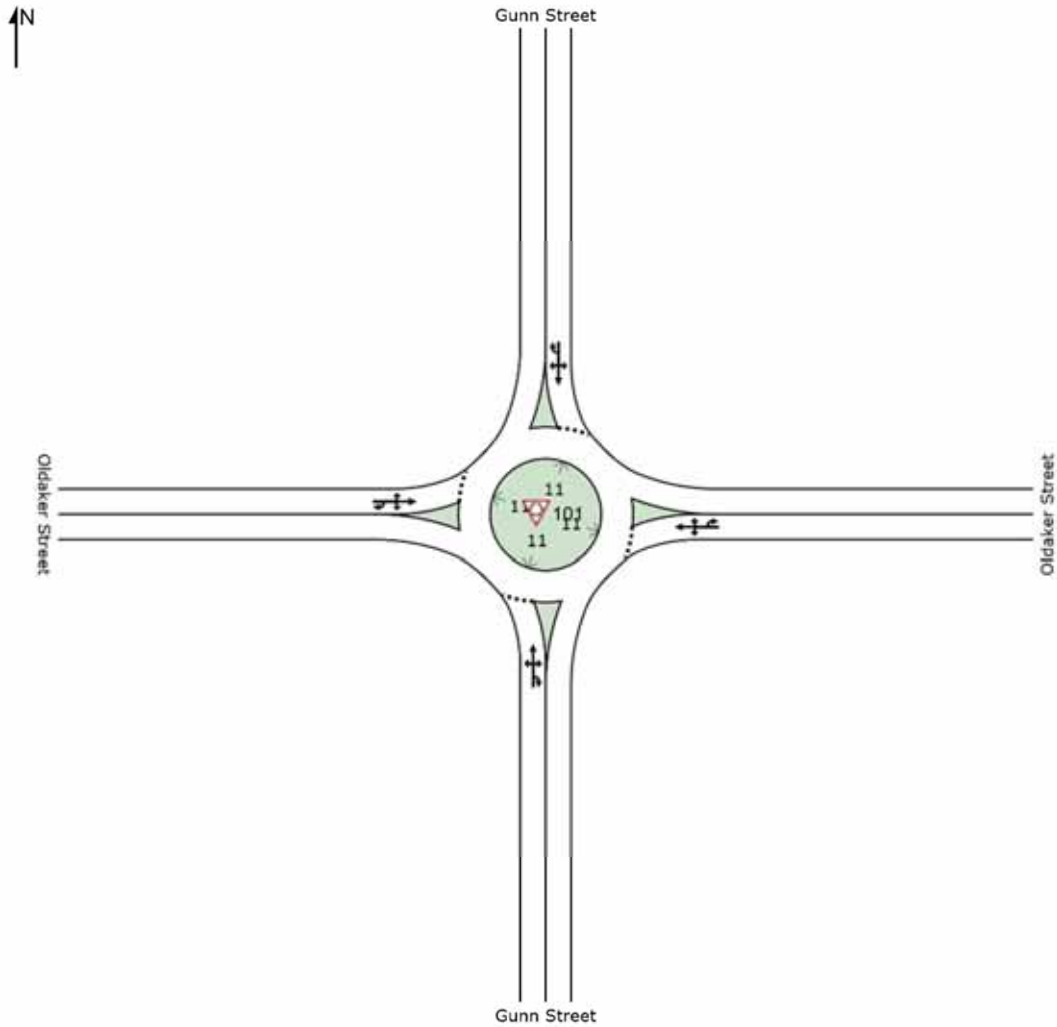
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### SITE LAYOUT

▽ Site: 101 [Oldaker Street/ Gunn Street - Existing Layout]

Roundabout



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:04:45 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Gunn Street.sip7

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Gunn Street - 2019 Option 1 AM Peak ]

08:15-09:15

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	37	2.0	0.154	5.0	LOS A	0.7	5.1	0.36	0.57	45.6
2	T1	74	2.0	0.154	4.9	LOS A	0.7	5.1	0.36	0.57	46.4
3	R2	43	2.0	0.154	8.3	LOS A	0.7	5.1	0.36	0.57	46.2
3u	U	1	2.0	0.154	9.8	LOS A	0.7	5.1	0.36	0.57	46.8
Approach		155	2.0	0.154	5.9	LOS A	0.7	5.1	0.36	0.57	46.2
East: Oldaker Street											
4	L2	42	5.0	0.266	5.1	LOS A	1.6	11.7	0.47	0.56	45.5
5	T1	187	2.0	0.266	4.9	LOS A	1.6	11.7	0.47	0.56	46.3
6	R2	32	2.0	0.266	8.3	LOS A	1.6	11.7	0.47	0.56	46.2
6u	U	15	2.0	0.266	9.8	LOS A	1.6	11.7	0.47	0.56	46.7
Approach		276	2.5	0.266	5.6	LOS A	1.6	11.7	0.47	0.56	46.2
North: Gunn Street											
7	L2	35	5.0	0.203	6.0	LOS A	1.3	9.2	0.55	0.58	45.5
8	T1	148	2.0	0.203	5.8	LOS A	1.3	9.2	0.55	0.58	46.2
9	R2	7	2.0	0.203	9.2	LOS A	1.3	9.2	0.55	0.58	46.1
9u	U	1	2.0	0.203	10.7	LOS B	1.3	9.2	0.55	0.58	46.6
Approach		192	2.5	0.203	6.0	LOS A	1.3	9.2	0.55	0.58	46.1
West: Oldaker Street											
10	L2	13	2.0	0.274	4.6	LOS A	1.5	10.8	0.32	0.51	45.9
11	T1	234	5.0	0.274	4.6	LOS A	1.5	10.8	0.32	0.51	46.6
12	R2	58	2.0	0.274	7.9	LOS A	1.5	10.8	0.32	0.51	46.5
12u	U	2	2.0	0.274	9.5	LOS A	1.5	10.8	0.32	0.51	47.0
Approach		306	4.3	0.274	5.3	LOS A	1.5	10.8	0.32	0.51	46.6
All Vehicles		928	3.0	0.274	5.6	LOS A	1.6	11.7	0.42	0.55	46.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:17:31 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Gunn Street.sip7



## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Gunn Street - 2019 Option 1 PM Peak]

15:00-16:00

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	40	2.0	0.333	7.9	LOS A	1.8	13.0	0.60	0.74	44.3
2	T1	142	2.0	0.333	7.8	LOS A	1.8	13.0	0.60	0.74	45.0
3	R2	56	5.0	0.333	11.3	LOS B	1.8	13.0	0.60	0.74	44.8
3u	U	1	2.0	0.333	12.7	LOS B	1.8	13.0	0.60	0.74	45.3
Approach		239	2.7	0.333	8.6	LOS A	1.8	13.0	0.60	0.74	44.8
East: Oldaker Street											
4	L2	91	2.0	0.564	5.1	LOS A	4.9	34.6	0.56	0.57	45.4
5	T1	466	2.0	0.564	5.0	LOS A	4.9	34.6	0.56	0.57	46.1
6	R2	95	2.0	0.564	8.4	LOS A	4.9	34.6	0.56	0.57	46.0
6u	U	4	2.0	0.564	10.0	LOS A	4.9	34.6	0.56	0.57	46.5
Approach		656	2.0	0.564	5.6	LOS A	4.9	34.6	0.56	0.57	46.0
North: Gunn Street											
7	L2	47	2.0	0.167	5.7	LOS A	1.0	7.2	0.53	0.59	45.5
8	T1	93	2.0	0.167	5.6	LOS A	1.0	7.2	0.53	0.59	46.2
9	R2	17	2.0	0.167	9.0	LOS A	1.0	7.2	0.53	0.59	46.1
9u	U	1	2.0	0.167	10.5	LOS B	1.0	7.2	0.53	0.59	46.6
Approach		158	2.0	0.167	6.0	LOS A	1.0	7.2	0.53	0.59	46.0
West: Oldaker Street											
10	L2	9	2.0	0.297	5.6	LOS A	1.6	11.5	0.44	0.59	45.5
11	T1	216	2.0	0.297	5.6	LOS A	1.6	11.5	0.44	0.59	46.2
12	R2	58	2.0	0.297	8.9	LOS A	1.6	11.5	0.44	0.59	46.1
12u	U	4	2.0	0.297	10.5	LOS B	1.6	11.5	0.44	0.59	46.6
Approach		287	2.0	0.297	6.3	LOS A	1.6	11.5	0.44	0.59	46.2
All Vehicles		1340	2.1	0.564	6.3	LOS A	4.9	34.6	0.54	0.61	45.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

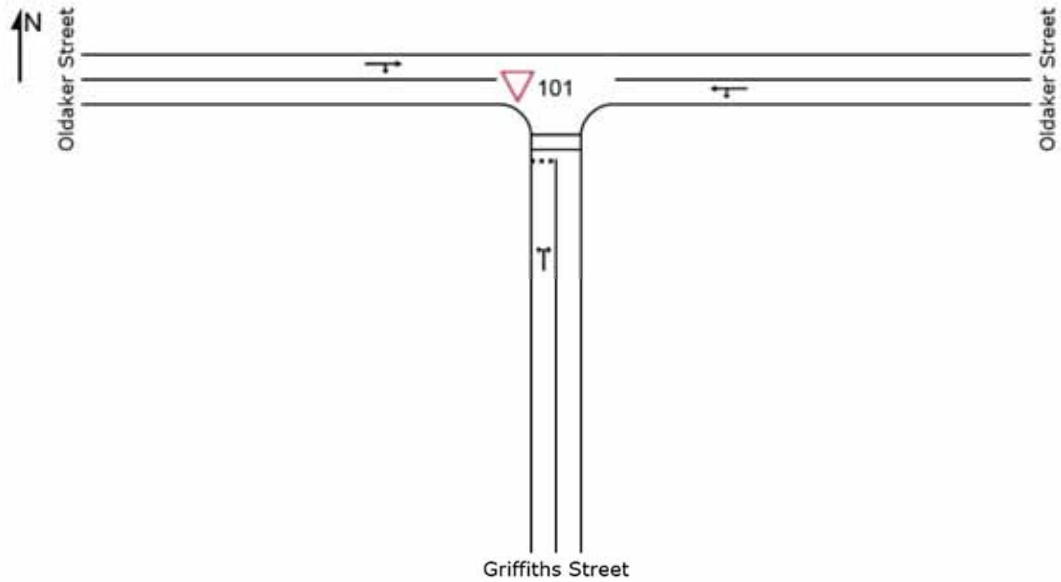
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:18:23 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Gunn Street.sip7

**SITE LAYOUT**

▽ Site: 101 [Oldaker Street/ Griffiths Street - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:07:51 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Griffiths Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Griffiths Street - 2019 Option 1 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Griffiths Street												
1	L2	60	5.0	0.091	5.7	LOS A	0.3	2.2	0.35	0.61	45.6	
3	R2	31	2.0	0.091	7.3	LOS A	0.3	2.2	0.35	0.61	45.2	
Approach		91	4.0	0.091	6.2	LOS A	0.3	2.2	0.35	0.61	45.5	
East: Oldaker Street												
4	L2	79	5.0	0.195	4.6	LOS A	0.0	0.0	0.00	0.12	48.8	
5	T1	291	2.0	0.195	0.0	LOS A	0.0	0.0	0.00	0.12	49.3	
Approach		369	2.6	0.195	1.0	NA	0.0	0.0	0.00	0.12	49.2	
West: Oldaker Street												
11	T1	178	5.0	0.150	0.7	LOS A	0.5	3.8	0.26	0.17	48.5	
12	R2	66	5.0	0.150	6.2	LOS A	0.5	3.8	0.26	0.17	47.5	
Approach		244	5.0	0.150	2.2	NA	0.5	3.8	0.26	0.17	48.2	
All Vehicles		704	3.6	0.195	2.1	NA	0.5	3.8	0.13	0.20	48.3	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:24:57 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Griffiths Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Griffiths Street - 2019 Option 1 PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Griffiths Street												
1	L2	182	2.0	0.256	6.9	LOS A	1.1	7.6	0.55	0.74	44.9	
3	R2	37	5.0	0.256	11.0	LOS B	1.1	7.6	0.55	0.74	44.4	
Approach		219	2.5	0.256	7.6	LOS A	1.1	7.6	0.55	0.74	44.8	
East: Oldaker Street												
4	L2	138	2.0	0.335	4.6	LOS A	0.0	0.0	0.00	0.12	48.8	
5	T1	499	2.0	0.335	0.0	LOS A	0.0	0.0	0.00	0.12	49.3	
Approach		637	2.0	0.335	1.0	NA	0.0	0.0	0.00	0.12	49.2	
West: Oldaker Street												
11	T1	231	2.0	0.230	2.0	LOS A	1.1	8.0	0.41	0.22	47.5	
12	R2	99	2.0	0.230	8.1	LOS A	1.1	8.0	0.41	0.22	46.6	
Approach		329	2.0	0.230	3.9	NA	1.1	8.0	0.41	0.22	47.2	
All Vehicles		1185	2.1	0.335	3.0	NA	1.1	8.0	0.22	0.26	47.8	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

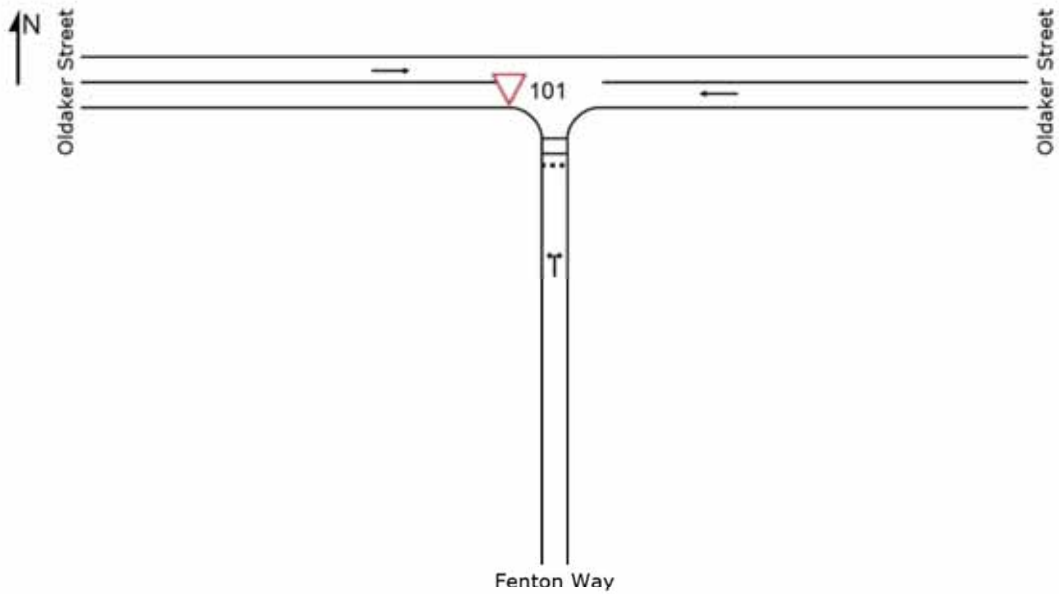
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:25:30 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Griffiths Street.sip7

**SITE LAYOUT**

▽ Site: 101 [Oldaker Street/ Fenton Way - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:11:43 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Fenton Way.sip7



## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Fenton Way - 2019 Option 1 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Fenton Way												
1	L2	98	2.0	0.120	5.6	LOS A	0.4	2.9	0.30	0.59	45.8	
3	R2	35	2.0	0.120	7.1	LOS A	0.4	2.9	0.30	0.59	45.2	
Approach		133	2.0	0.120	6.0	LOS A	0.4	2.9	0.30	0.59	45.6	
East: Oldaker Street												
5	T1	281	5.0	0.149	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		281	5.0	0.149	0.0	NA	0.0	0.0	0.00	0.00	50.0	
West: Oldaker Street												
11	T1	206	5.0	0.109	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		206	5.0	0.109	0.0	NA	0.0	0.0	0.00	0.00	50.0	
All Vehicles		620	4.4	0.149	1.3	NA	0.4	2.9	0.06	0.13	49.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Fenton Way - 2019 Option 1 PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Fenton Way												
1	L2	308	2.0	0.444	6.8	LOS A	2.4	17.4	0.43	0.73	44.9	
3	R2	138	2.0	0.444	9.3	LOS A	2.4	17.4	0.43	0.73	44.4	
Approach		446	2.0	0.444	7.6	LOS A	2.4	17.4	0.43	0.73	44.7	
East: Oldaker Street												
5	T1	332	2.0	0.172	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		332	2.0	0.172	0.0	NA	0.0	0.0	0.00	0.00	50.0	
West: Oldaker Street												
11	T1	269	5.0	0.143	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		269	5.0	0.143	0.0	NA	0.0	0.0	0.00	0.00	50.0	
All Vehicles		1047	2.8	0.444	3.2	NA	2.4	17.4	0.18	0.31	47.6	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

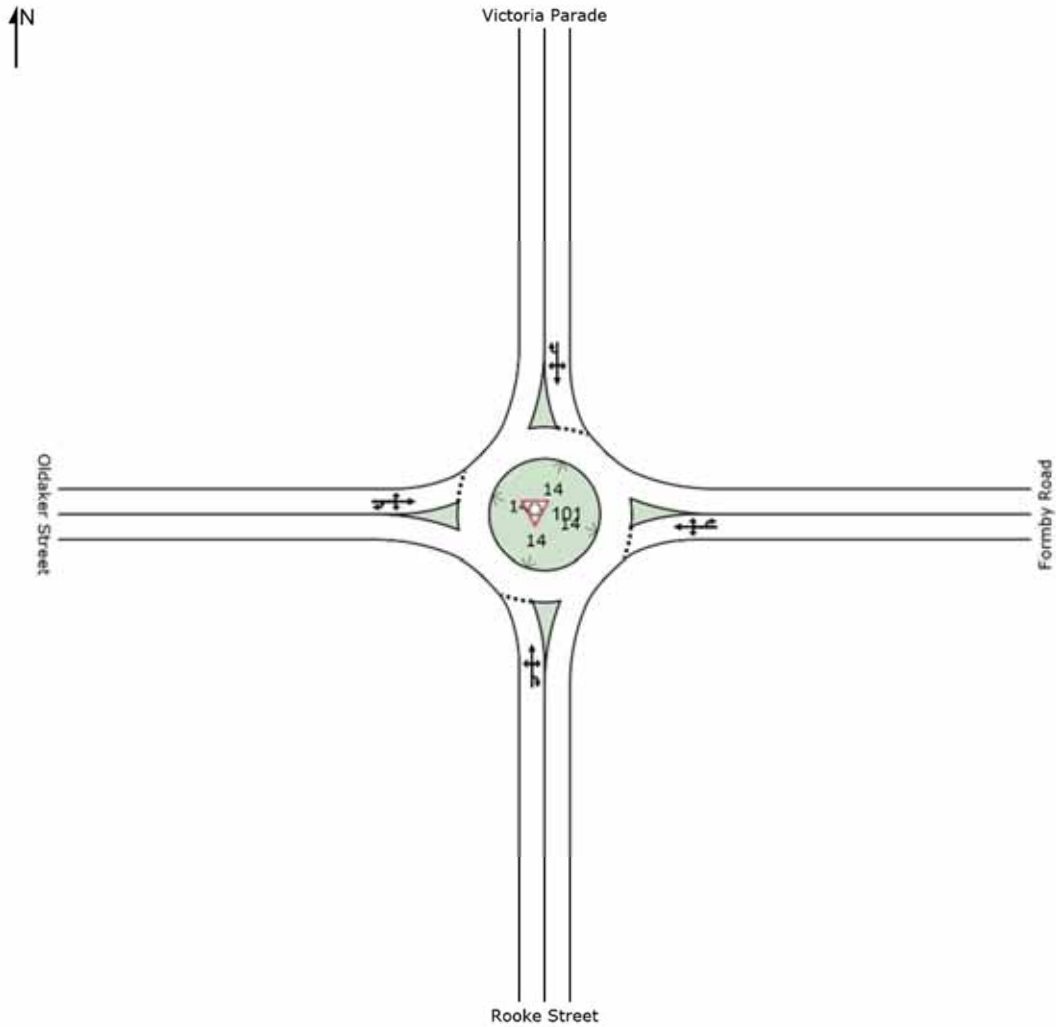
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

### SITE LAYOUT

▽ Site: 101 [Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade - Existing Layout]

Roundabout



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:16:32 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker-Rooke-Formby-Victoria.sip7

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade - 2019 Option 1 AM Peak]

08:15-09:15  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Rooke Street											
1	L2	28	5.0	0.098	5.9	LOS A	0.5	3.8	0.46	0.60	45.3
2	T1	27	10.0	0.098	6.0	LOS A	0.5	3.8	0.46	0.60	46.1
3	R2	12	10.0	0.098	9.8	LOS A	0.5	3.8	0.46	0.60	46.0
3u	U	13	75.0	0.098	13.4	LOS B	0.5	3.8	0.46	0.60	45.6
Approach		80	18.5	0.098	7.7	LOS A	0.5	3.8	0.46	0.60	45.7
East: Formby Road											
4	L2	21	20.0	0.351	4.3	LOS A	2.0	14.4	0.30	0.53	45.6
5	T1	234	2.0	0.351	4.0	LOS A	2.0	14.4	0.30	0.53	46.6
6	R2	173	2.0	0.351	7.8	LOS A	2.0	14.4	0.30	0.53	46.6
6u	U	6	20.0	0.351	9.7	LOS A	2.0	14.4	0.30	0.53	47.0
Approach		434	3.1	0.351	5.6	LOS A	2.0	14.4	0.30	0.53	46.6
North: Victoria Parade											
7	L2	160	2.0	0.218	4.9	LOS A	1.3	9.0	0.50	0.59	46.1
8	T1	38	2.0	0.218	4.9	LOS A	1.3	9.0	0.50	0.59	47.0
9	R2	19	5.0	0.218	8.8	LOS A	1.3	9.0	0.50	0.59	46.9
9u	U	1	2.0	0.218	10.3	LOS B	1.3	9.0	0.50	0.59	47.5
Approach		218	2.3	0.218	5.3	LOS A	1.3	9.0	0.50	0.59	46.3
West: Oldaker Street											
10	L2	38	5.0	0.261	4.8	LOS A	1.6	11.8	0.47	0.54	45.8
11	T1	194	2.0	0.261	4.8	LOS A	1.6	11.8	0.47	0.54	46.7
12	R2	40	5.0	0.261	8.6	LOS A	1.6	11.8	0.47	0.54	46.6
12u	U	3	30.0	0.261	10.8	LOS B	1.6	11.8	0.47	0.54	46.8
Approach		275	3.2	0.261	5.4	LOS A	1.6	11.8	0.47	0.54	46.5
All Vehicles		1006	4.2	0.351	5.7	LOS A	2.0	14.4	0.40	0.55	46.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade - 2019 Option 1 PM Peak]

15:00-16:00  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Rooke Street											
1	L2	68	2.0	0.180	7.0	LOS A	1.0	7.1	0.55	0.66	44.6
2	T1	34	2.0	0.180	7.0	LOS A	1.0	7.1	0.55	0.66	45.4
3	R2	29	2.0	0.180	10.8	LOS B	1.0	7.1	0.55	0.66	45.4
3u	U	12	10.0	0.180	12.7	LOS B	1.0	7.1	0.55	0.66	45.9
Approach		143	2.6	0.180	8.2	LOS A	1.0	7.1	0.55	0.66	45.1
East: Formby Road											
4	L2	43	15.0	0.480	4.7	LOS A	3.2	23.3	0.41	0.57	45.3
5	T1	279	2.0	0.480	4.5	LOS A	3.2	23.3	0.41	0.57	46.3
6	R2	201	2.0	0.480	8.3	LOS A	3.2	23.3	0.41	0.57	46.2
6u	U	46	2.0	0.480	9.9	LOS A	3.2	23.3	0.41	0.57	46.9
Approach		569	3.0	0.480	6.3	LOS A	3.2	23.3	0.41	0.57	46.2
North: Victoria Parade											
7	L2	163	2.0	0.282	5.9	LOS A	1.7	12.5	0.62	0.68	45.5
8	T1	56	5.0	0.282	6.0	LOS A	1.7	12.5	0.62	0.68	46.4
9	R2	31	2.0	0.282	9.7	LOS A	1.7	12.5	0.62	0.68	46.3
9u	U	1	2.0	0.282	11.3	LOS B	1.7	12.5	0.62	0.68	47.0
Approach		251	2.7	0.282	6.4	LOS A	1.7	12.5	0.62	0.68	45.8
West: Oldaker Street											
10	L2	47	2.0	0.369	5.6	LOS A	2.6	18.3	0.60	0.62	45.4
11	T1	257	2.0	0.369	5.6	LOS A	2.6	18.3	0.60	0.62	46.2
12	R2	53	2.0	0.369	9.4	LOS A	2.6	18.3	0.60	0.62	46.2
12u	U	6	2.0	0.369	11.0	LOS B	2.6	18.3	0.60	0.62	46.8
Approach		363	2.0	0.369	6.2	LOS A	2.6	18.3	0.60	0.62	46.1
All Vehicles		1326	2.6	0.480	6.5	LOS A	3.2	23.3	0.51	0.61	46.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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



Appendix C

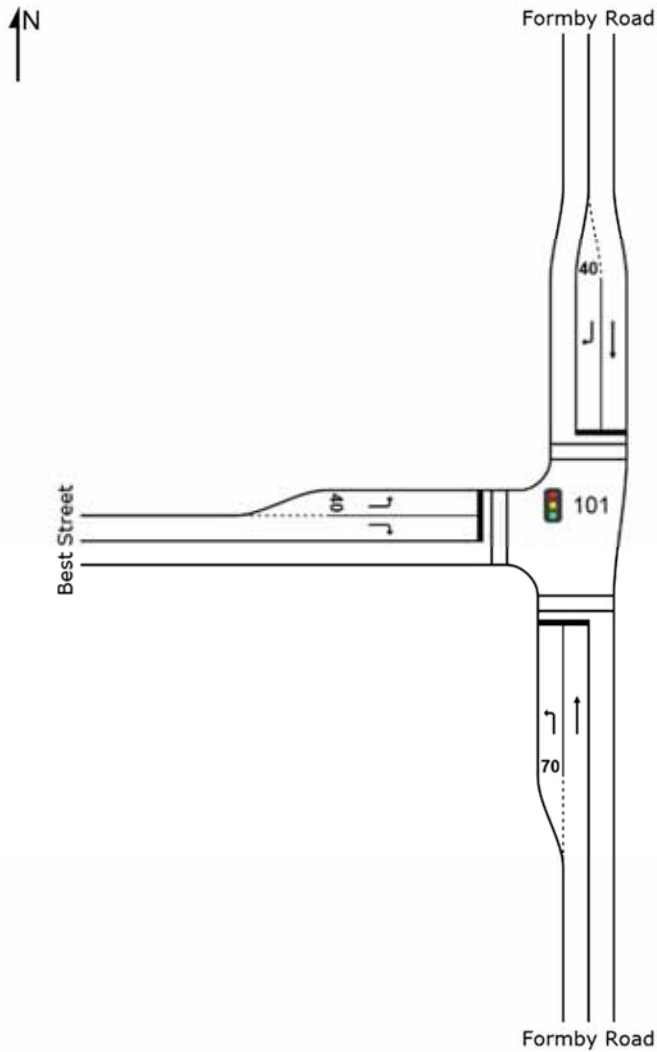
SIDRA Intersection Traffic Modelling Results – Option 2



### SITE LAYOUT

 Site: 101 [Best Street/ Formby Road - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 3:52:39 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Formby Road.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Formby Road - 2019 Option 2 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 70 seconds (Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Formby Road												
1	L2	304	5.0	0.660	30.9	LOS C	9.7	71.0	0.95	0.84	34.9	
2	T1	368	5.0	0.759	29.0	LOS C	12.7	92.7	0.98	0.92	35.8	
Approach		673	5.0	0.759	29.8	LOS C	12.7	92.7	0.97	0.89	35.4	
North: Formby Road												
8	T1	288	5.0	0.594	25.3	LOS C	8.9	64.9	0.93	0.78	37.1	
9	R2	8	5.0	0.055	38.0	LOS D	0.3	2.0	0.94	0.66	32.5	
Approach		297	5.0	0.594	25.6	LOS C	8.9	64.9	0.93	0.78	37.0	
West: Best Street												
10	L2	16	2.0	0.046	30.3	LOS C	0.5	3.2	0.85	0.68	35.1	
12	R2	160	10.0	0.718	39.9	LOS D	5.8	44.2	1.00	0.88	32.0	
Approach		176	9.3	0.718	39.1	LOS D	5.8	44.2	0.99	0.86	32.2	
All Vehicles		1145	5.7	0.759	30.2	LOS C	12.7	92.7	0.96	0.86	35.2	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	29.3	LOS C	0.1	0.1	0.92	0.92	
P3	North Full Crossing	53	29.3	LOS C	0.1	0.1	0.92	0.92	
P4	West Full Crossing	53	24.9	LOS C	0.1	0.1	0.84	0.84	
All Pedestrians		158	27.9	LOS C			0.89	0.89	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 7:05:24 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Formby Road.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Formby Road - 2019 Option 2 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Formby Road											
1	L2	435	2.0	0.737	35.3	LOS D	17.7	125.7	0.95	0.87	33.5
2	T1	444	5.0	0.757	31.3	LOS C	18.2	132.9	0.95	0.87	35.0
Approach		879	3.5	0.757	33.3	LOS C	18.2	132.9	0.95	0.87	34.2
North: Formby Road											
8	T1	496	5.0	0.832	36.2	LOS D	22.5	164.2	0.98	0.98	33.4
9	R2	16	2.0	0.129	49.8	LOS D	0.7	4.9	0.97	0.69	29.5
Approach		512	4.9	0.832	36.6	LOS D	22.5	164.2	0.98	0.97	33.3
West: Best Street											
10	L2	20	2.0	0.076	41.2	LOS D	0.8	5.5	0.89	0.69	31.8
12	R2	296	5.0	0.840	49.4	LOS D	14.3	104.0	1.00	0.96	29.5
Approach		316	4.8	0.840	48.9	LOS D	14.3	104.0	0.99	0.94	29.7
All Vehicles		1706	4.2	0.840	37.1	LOS D	22.5	164.2	0.97	0.92	33.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94	
P3	North Full Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94	
P4	West Full Crossing	53	25.7	LOS C	0.1	0.1	0.76	0.76	
All Pedestrians		158	34.8	LOS D			0.88	0.88	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

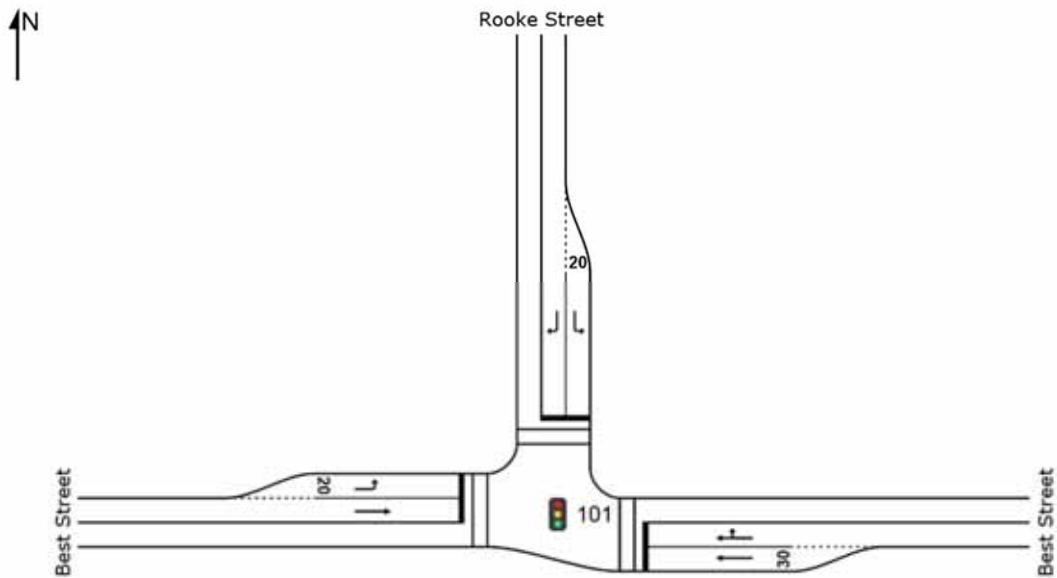
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 7:06:51 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Formby Road.sip7

### SITE LAYOUT

 Site: 101 [Best Street/ Rooke Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:01:42 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Rooke Street.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Rooke Street - 2019 Option 2 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: Best Street												
5	T1	300	5.0	0.491	10.4	LOS B	4.8	34.9	0.78	0.67	43.3	
6	R2	75	5.0	0.491	15.4	LOS B	4.8	34.9	0.81	0.71	42.4	
Approach		375	5.0	0.491	11.4	LOS B	4.8	34.9	0.79	0.68	43.1	
North: Rooke Street												
7	L2	45	20.0	0.086	15.2	LOS B	0.6	5.2	0.72	0.69	40.9	
9	R2	51	20.0	0.096	15.3	LOS B	0.7	5.8	0.73	0.70	40.7	
Approach		96	20.0	0.096	15.2	LOS B	0.7	5.8	0.72	0.69	40.8	
West: Best Street												
10	L2	63	20.0	0.104	13.8	LOS B	0.8	6.8	0.68	0.69	41.6	
11	T1	126	5.0	0.178	9.3	LOS A	1.7	12.4	0.70	0.56	44.4	
Approach		189	10.0	0.178	10.8	LOS B	1.7	12.4	0.70	0.60	43.4	
All Vehicles		660	8.6	0.491	11.8	LOS B	4.8	34.9	0.75	0.66	42.9	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Pedestrian	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		158	13.9	LOS B			0.84	0.84	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Rooke Street - 2019 Option 2 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Best Street											
5	T1	382	2.0	0.683	12.6	LOS B	7.2	50.9	0.85	0.77	42.2
6	R2	101	2.0	0.683	18.3	LOS B	7.2	50.9	0.91	0.85	41.0
Approach		483	2.0	0.683	13.8	LOS B	7.2	50.9	0.86	0.79	42.0
North: Rooke Street											
7	L2	73	15.0	0.133	15.4	LOS B	1.0	8.2	0.74	0.71	40.9
9	R2	83	10.0	0.148	15.4	LOS B	1.2	9.1	0.74	0.72	40.7
Approach		156	12.3	0.148	15.4	LOS B	1.2	9.1	0.74	0.71	40.8
West: Best Street											
10	L2	84	10.0	0.130	13.8	LOS B	1.1	8.5	0.69	0.70	41.7
11	T1	293	2.0	0.405	10.3	LOS B	4.4	31.1	0.78	0.65	43.8
Approach		377	3.8	0.405	11.1	LOS B	4.4	31.1	0.76	0.66	43.3
All Vehicles		1016	4.2	0.683	13.0	LOS B	7.2	50.9	0.81	0.73	42.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Pedestrian	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		158	13.9	LOS B			0.84	0.84	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

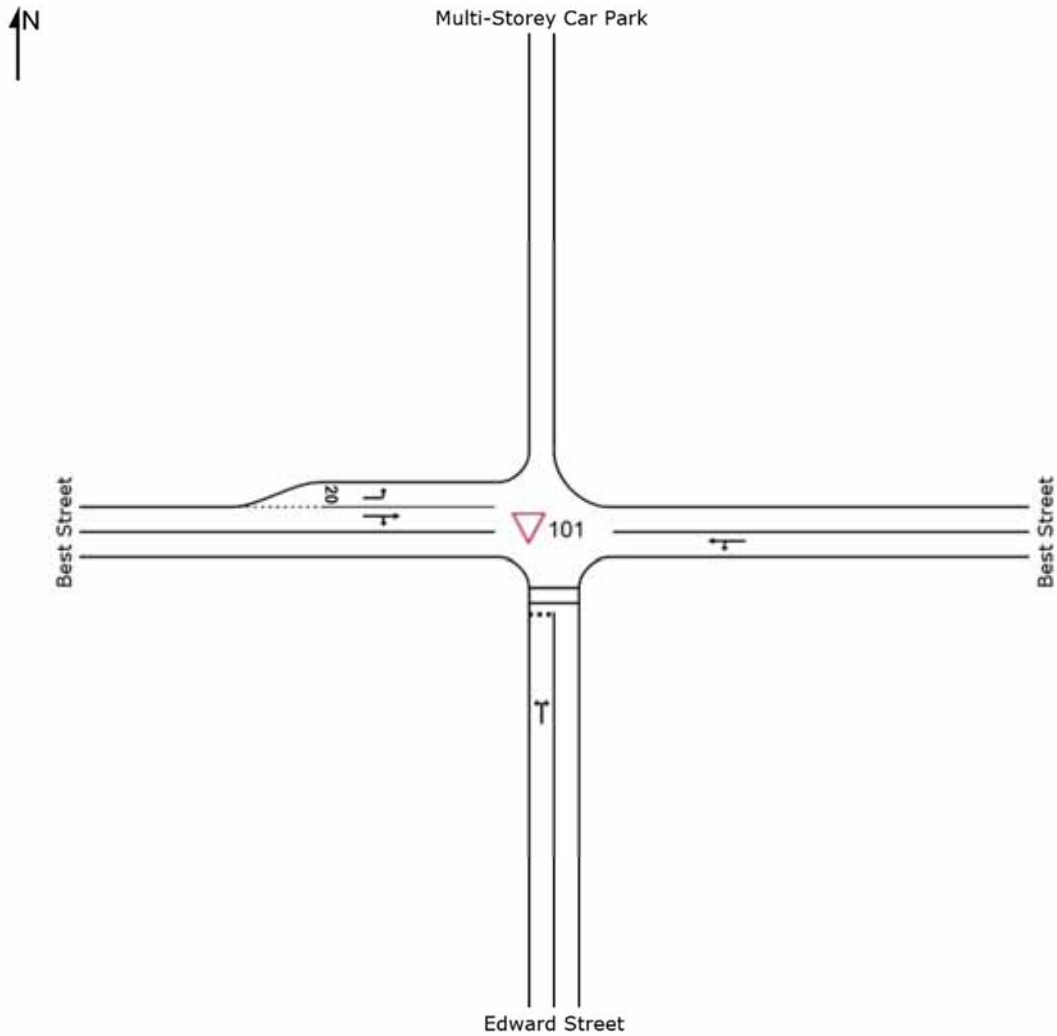
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.



### SITE LAYOUT

▽ Site: 101 [Best Street/ Edward Street - Living City Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:20:36 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Edward Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Edward Street - 2019 Option 2 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Edward Street												
1	L2	55	2.0	0.075	5.6	LOS A	0.3	2.4	0.41	0.58	45.4	
3	R2	16	10.0	0.075	9.8	LOS A	0.3	2.4	0.41	0.58	44.9	
Approach		71	3.8	0.075	6.6	LOS A	0.3	2.4	0.41	0.58	45.3	
East: Best Street												
4	L2	61	10.0	0.193	4.7	LOS A	0.0	0.0	0.00	0.09	48.8	
5	T1	289	10.0	0.193	0.0	LOS A	0.0	0.0	0.00	0.09	49.4	
Approach		351	10.0	0.193	0.8	NA	0.0	0.0	0.00	0.09	49.3	
West: Best Street												
10	L2	12	2.0	0.006	5.6	LOS A	0.0	0.0	0.00	0.58	53.5	
11	T1	173	10.0	0.149	0.8	LOS A	0.6	4.3	0.23	0.17	48.4	
12	R2	69	5.0	0.149	6.2	LOS A	0.6	4.3	0.23	0.17	47.4	
Approach		254	8.3	0.149	2.5	NA	0.6	4.3	0.21	0.19	48.4	
All Vehicles		675	8.7	0.193	2.0	NA	0.6	4.3	0.12	0.18	48.5	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Edward Street - 2019 Option 2 PM Peak]

16:00-17:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Edward Street												
1	L2	107	2.0	0.182	6.2	LOS A	0.8	5.7	0.53	0.66	44.5	
3	R2	27	10.0	0.182	16.3	LOS C	0.8	5.7	0.53	0.66	44.0	
Approach		135	3.6	0.182	8.3	LOS A	0.8	5.7	0.53	0.66	44.4	
East: Best Street												
4	L2	94	10.0	0.266	4.7	LOS A	0.0	0.0	0.00	0.11	48.7	
5	T1	387	10.0	0.266	0.0	LOS A	0.0	0.0	0.00	0.11	49.4	
Approach		481	10.0	0.266	0.9	NA	0.0	0.0	0.00	0.11	49.2	
West: Best Street												
10	L2	11	2.0	0.006	5.6	LOS A	0.0	0.0	0.00	0.58	53.5	
11	T1	347	10.0	0.285	1.2	LOS A	1.2	9.0	0.28	0.15	48.2	
12	R2	104	5.0	0.285	7.4	LOS A	1.2	9.0	0.28	0.15	47.2	
Approach		462	8.7	0.285	2.7	NA	1.2	9.0	0.27	0.16	48.1	
All Vehicles		1078	8.6	0.285	2.6	NA	1.2	9.0	0.18	0.20	48.1	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

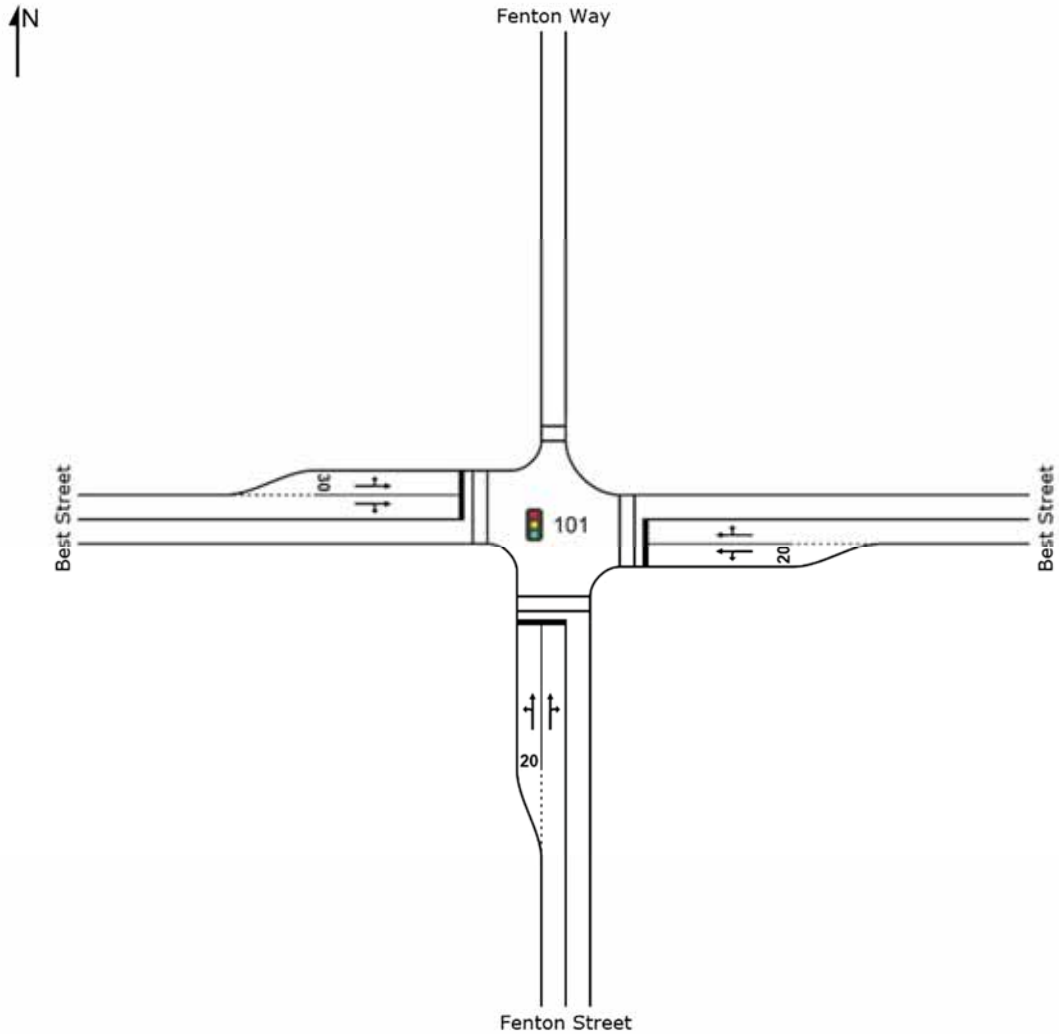
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
 Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:17:20 PM  
 Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Edward Street.sip7

### SITE LAYOUT

 Site: 101 [Best Street/ Fenton Way - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:39:06 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Fenton Way.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Fenton Way - 2019 Option 2 AM Peak]**

08:30-09:30

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fenton Street											
1	L2	128	2.0	0.216	15.5	LOS B	1.9	13.5	0.76	0.73	40.9
2	T1	118	2.0	0.280	11.2	LOS B	2.6	18.6	0.78	0.67	42.7
3	R2	52	10.0	0.280	15.9	LOS B	2.6	18.6	0.78	0.67	42.0
Approach		298	3.4	0.280	13.9	LOS B	2.6	18.6	0.77	0.70	41.8
East: Best Street											
4	L2	42	10.0	0.094	13.6	LOS B	0.8	6.1	0.68	0.64	42.4
5	T1	251	10.0	0.468	10.6	LOS B	4.3	32.5	0.79	0.69	43.1
6	R2	47	2.0	0.468	15.6	LOS B	4.3	32.5	0.80	0.70	42.3
Approach		340	8.9	0.468	11.6	LOS B	4.3	32.5	0.78	0.69	42.9
West: Best Street											
10	L2	58	2.0	0.107	13.6	LOS B	1.0	6.9	0.68	0.66	42.2
11	T1	207	10.0	0.533	11.6	LOS B	4.7	35.6	0.83	0.74	42.3
12	R2	92	10.0	0.533	16.5	LOS B	4.7	35.6	0.85	0.74	41.7
Approach		357	8.7	0.533	13.2	LOS B	4.7	35.6	0.81	0.72	42.1
All Vehicles		995	7.2	0.533	12.9	LOS B	4.7	35.6	0.79	0.70	42.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85
P3	North Full Crossing	53	9.1	LOS A	0.0	0.0	0.68	0.68
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85
All Pedestrians		211	12.7	LOS B			0.80	0.80

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:39:25 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Fenton Way.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Fenton Way - 2019 Option 2 PM Peak]**

14:45-15:45

Signals - Fixed Time Isolated Cycle Time = 50 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fenton Street											
1	L2	178	2.0	0.374	21.6	LOS C	3.7	26.4	0.86	0.77	38.3
2	T1	109	2.0	0.345	16.8	LOS B	3.5	24.9	0.86	0.72	39.9
3	R2	60	2.0	0.345	21.4	LOS C	3.5	24.9	0.86	0.72	39.4
Approach		347	2.0	0.374	20.1	LOS C	3.7	26.4	0.86	0.75	39.0
East: Best Street											
4	L2	56	5.0	0.110	11.8	LOS B	1.3	9.6	0.56	0.57	43.7
5	T1	344	5.0	0.551	11.3	LOS B	6.6	48.3	0.76	0.68	42.8
6	R2	58	2.0	0.551	16.8	LOS B	6.6	48.3	0.79	0.70	41.7
Approach		458	4.6	0.551	12.0	LOS B	6.6	48.3	0.74	0.67	42.7
West: Best Street											
10	L2	45	2.0	0.143	11.9	LOS B	1.8	12.7	0.57	0.54	44.2
11	T1	448	2.0	0.714	13.2	LOS B	10.1	72.0	0.81	0.77	41.8
12	R2	105	2.0	0.714	19.2	LOS B	10.1	72.0	0.87	0.83	40.7
Approach		599	2.0	0.714	14.1	LOS B	10.1	72.0	0.80	0.76	41.8
All Vehicles		1404	2.9	0.714	14.9	LOS B	10.1	72.0	0.79	0.73	41.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	10.3	LOS B	0.0	0.0	0.64	0.64	
P2	East Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P3	North Full Crossing	53	7.3	LOS A	0.0	0.0	0.54	0.54	
P4	West Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
All Pedestrians		211	14.1	LOS B			0.74	0.74	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:40:08 PM

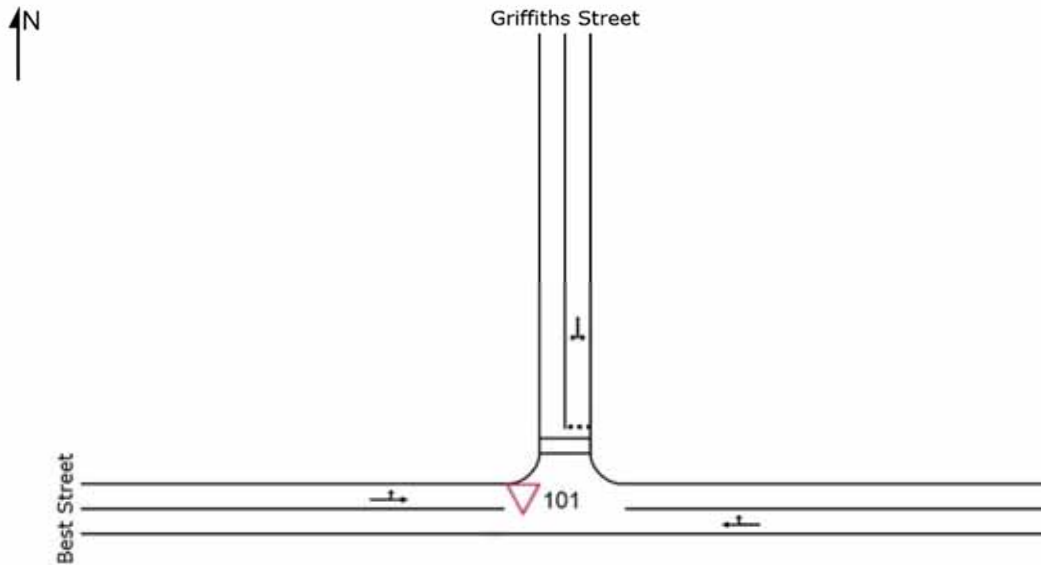
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Fenton Way.sip7



### SITE LAYOUT

▽ Site: 101 [Best Street/ Griffiths Street - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:44:24 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Griffiths Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Griffiths Street - 2019 Option 2 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: Best Street												
5	T1	349	5.0	0.210	0.2	LOS A	0.3	2.1	0.07	0.05	49.5	
6	R2	33	5.0	0.210	5.8	LOS A	0.3	2.1	0.07	0.05	48.5	
Approach		382	5.0	0.210	0.7	NA	0.3	2.1	0.07	0.05	49.4	
North: Griffiths Street												
7	L2	77	5.0	0.095	5.5	LOS A	0.4	2.8	0.36	0.59	45.7	
9	R2	24	5.0	0.095	7.7	LOS A	0.4	2.8	0.36	0.59	45.3	
Approach		101	5.0	0.095	6.1	LOS A	0.4	2.8	0.36	0.59	45.6	
West: Best Street												
10	L2	17	2.0	0.146	4.6	LOS A	0.0	0.0	0.00	0.03	49.3	
11	T1	258	5.0	0.146	0.0	LOS A	0.0	0.0	0.00	0.03	49.8	
Approach		275	4.8	0.146	0.3	NA	0.0	0.0	0.00	0.03	49.8	
All Vehicles		758	4.9	0.210	1.2	NA	0.4	2.8	0.08	0.11	49.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:50:07 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Griffiths Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Griffiths Street - 2019 Option 2 PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: Best Street												
5	T1	497	5.0	0.297	0.3	LOS A	0.5	3.3	0.09	0.05	49.5	
6	R2	41	2.0	0.297	6.7	LOS A	0.5	3.3	0.09	0.05	48.5	
Approach		538	4.8	0.297	0.8	NA	0.5	3.3	0.09	0.05	49.4	
North: Griffiths Street												
7	L2	155	2.0	0.218	6.1	LOS A	0.9	6.6	0.47	0.66	45.2	
9	R2	44	5.0	0.218	10.6	LOS B	0.9	6.6	0.47	0.66	44.7	
Approach		199	2.7	0.218	7.1	LOS A	0.9	6.6	0.47	0.66	45.1	
West: Best Street												
10	L2	39	5.0	0.212	4.6	LOS A	0.0	0.0	0.00	0.05	49.1	
11	T1	360	5.0	0.212	0.0	LOS A	0.0	0.0	0.00	0.05	49.7	
Approach		399	5.0	0.212	0.5	NA	0.0	0.0	0.00	0.05	49.6	
All Vehicles		1136	4.5	0.297	1.8	NA	0.9	6.6	0.12	0.16	48.6	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

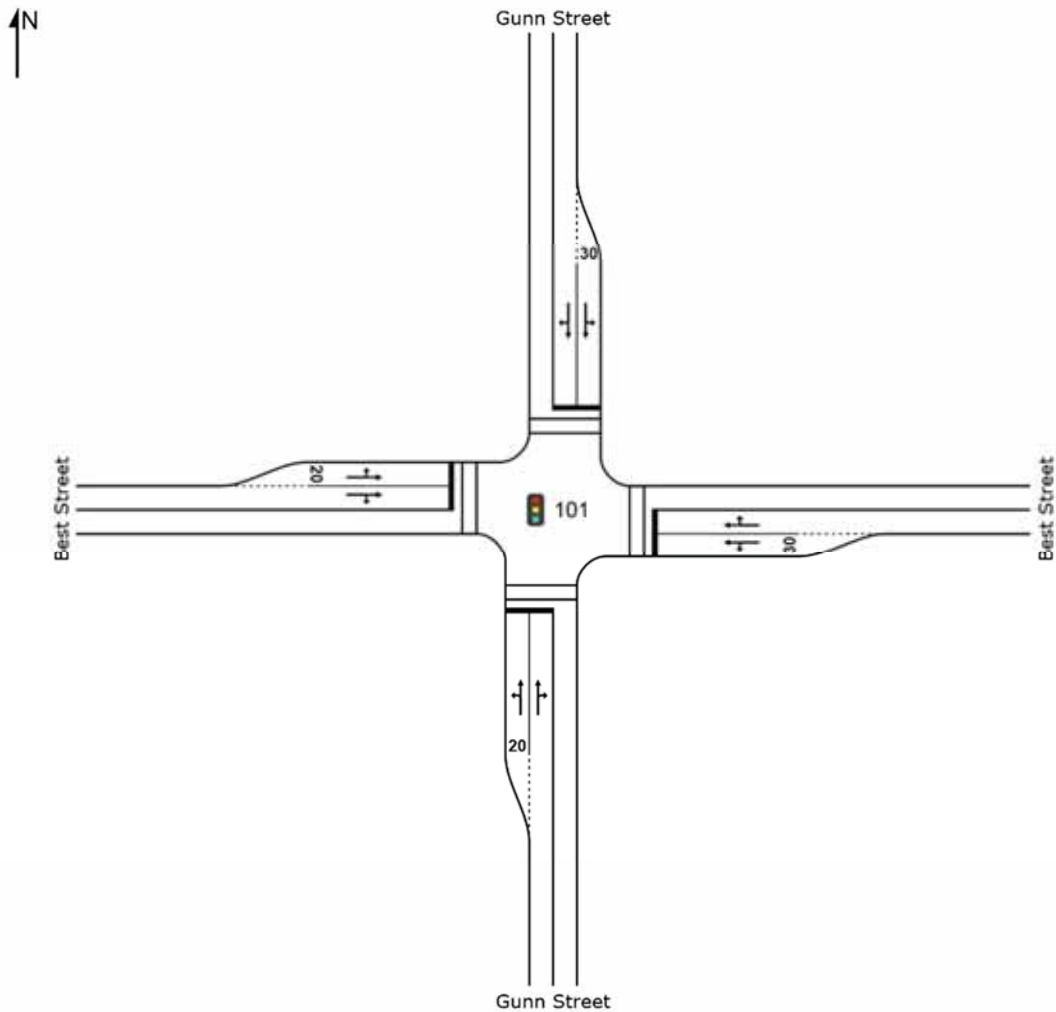
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:50:46 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Griffiths Street.sip7

### SITE LAYOUT

 Site: 101 [Best Street/ Gunn Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:49:52 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Gunn Street.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Gunn Street - 2019 Option 2 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	43	5.0	0.083	13.5	LOS B	0.7	5.3	0.67	0.65	42.4
2	T1	173	2.0	0.413	10.3	LOS B	3.6	25.9	0.77	0.69	42.9
3	R2	81	2.0	0.413	15.0	LOS B	3.6	25.9	0.78	0.69	42.4
Approach		297	2.4	0.413	12.1	LOS B	3.6	25.9	0.76	0.68	42.7
East: Best Street											
4	L2	47	2.0	0.080	14.9	LOS B	0.7	4.7	0.72	0.69	41.2
5	T1	172	15.0	0.341	11.6	LOS B	2.9	22.7	0.80	0.66	42.9
6	R2	15	2.0	0.341	16.2	LOS B	2.9	22.7	0.80	0.66	42.4
Approach		234	11.5	0.341	12.6	LOS B	2.9	22.7	0.78	0.67	42.5
North: Gunn Street											
7	L2	35	2.0	0.060	13.4	LOS B	0.5	3.7	0.66	0.65	42.3
8	T1	181	2.0	0.298	9.8	LOS A	2.8	20.1	0.74	0.63	43.7
9	R2	23	2.0	0.298	14.4	LOS B	2.8	20.1	0.74	0.63	43.2
Approach		239	2.0	0.298	10.8	LOS B	2.8	20.1	0.73	0.63	43.5
West: Best Street											
10	L2	33	5.0	0.078	15.0	LOS B	0.6	4.7	0.72	0.65	41.7
11	T1	196	10.0	0.389	11.7	LOS B	3.3	25.2	0.81	0.68	42.7
12	R2	27	5.0	0.389	16.4	LOS B	3.3	25.2	0.82	0.69	42.1
Approach		256	8.8	0.389	12.6	LOS B	3.3	25.2	0.80	0.68	42.5
All Vehicles		1025	6.0	0.413	12.0	LOS B	3.6	25.9	0.77	0.67	42.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P2	East Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P4	West Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Gunn Street - 2019 Option 2 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	48	10.0	0.101	15.1	LOS B	0.8	6.1	0.73	0.67	41.4
2	T1	216	2.0	0.507	12.3	LOS B	4.4	31.6	0.85	0.73	42.2
3	R2	60	2.0	0.507	17.0	LOS B	4.4	31.6	0.85	0.73	41.7
Approach		324	3.2	0.507	13.6	LOS B	4.4	31.6	0.83	0.72	42.0
East: Best Street											
4	L2	72	2.0	0.104	13.6	LOS B	0.9	6.6	0.68	0.69	41.8
5	T1	266	5.0	0.468	10.7	LOS B	4.6	33.8	0.80	0.69	43.3
6	R2	34	2.0	0.468	15.3	LOS B	4.6	33.8	0.80	0.69	42.8
Approach		372	4.2	0.468	11.6	LOS B	4.6	33.8	0.78	0.69	43.0
North: Gunn Street											
7	L2	39	2.0	0.084	15.0	LOS B	0.7	5.0	0.72	0.66	41.6
8	T1	208	2.0	0.421	11.9	LOS B	3.7	26.5	0.82	0.70	42.6
9	R2	35	2.0	0.421	16.5	LOS B	3.7	26.5	0.83	0.70	42.1
Approach		282	2.0	0.421	12.9	LOS B	3.7	26.5	0.81	0.69	42.4
West: Best Street											
10	L2	52	2.0	0.078	13.4	LOS B	0.7	4.9	0.67	0.68	41.9
11	T1	251	5.0	0.388	10.2	LOS B	3.9	28.3	0.77	0.65	43.7
12	R2	13	2.0	0.388	14.8	LOS B	3.9	28.3	0.77	0.65	43.2
Approach		315	4.4	0.388	10.9	LOS B	3.9	28.3	0.76	0.66	43.4
All Vehicles		1293	3.5	0.507	12.2	LOS B	4.6	33.8	0.79	0.69	42.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

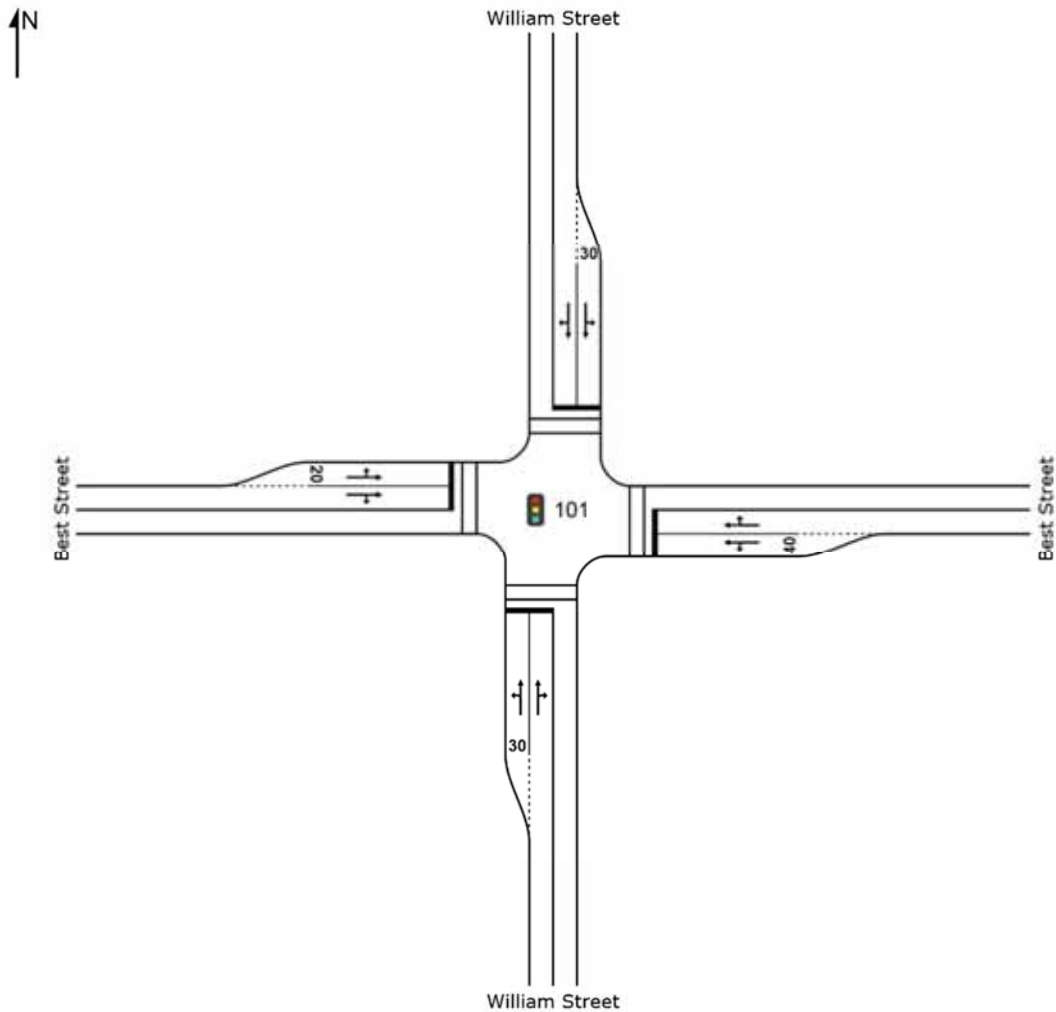
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.



### SITE LAYOUT

 Site: 101 [Best Street/ William Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:54:04 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-William Street.sip7

## MOVEMENT SUMMARY

 **Site: 101 [Best Street/ William Street - 2019 Option 2 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	62	5.0	0.102	13.6	LOS B	0.9	6.6	0.68	0.68	42.0
2	T1	224	10.0	0.510	11.6	LOS B	4.6	35.2	0.83	0.72	42.6
3	R2	64	15.0	0.510	16.4	LOS B	4.6	35.2	0.84	0.73	41.9
Approach		351	10.0	0.510	12.8	LOS B	4.6	35.2	0.81	0.72	42.4
East: Best Street											
4	L2	68	15.0	0.125	15.3	LOS B	1.0	7.7	0.73	0.71	40.9
5	T1	83	10.0	0.218	11.1	LOS B	1.6	12.5	0.76	0.64	42.8
6	R2	27	10.0	0.218	15.7	LOS B	1.6	12.5	0.76	0.64	42.2
Approach		179	11.9	0.218	13.4	LOS B	1.6	12.5	0.75	0.66	42.0
North: William Street											
7	L2	63	10.0	0.097	13.6	LOS B	0.8	6.2	0.68	0.69	41.7
8	T1	282	5.0	0.465	10.6	LOS B	4.7	34.3	0.80	0.69	43.4
9	R2	23	2.0	0.465	15.2	LOS B	4.7	34.3	0.80	0.69	42.9
Approach		368	5.7	0.465	11.4	LOS B	4.7	34.3	0.78	0.69	43.1
West: Best Street											
10	L2	43	2.0	0.089	15.0	LOS B	0.7	5.4	0.72	0.67	41.5
11	T1	162	5.0	0.447	12.0	LOS B	3.8	27.9	0.83	0.72	42.1
12	R2	80	10.0	0.447	16.8	LOS B	3.8	27.9	0.83	0.72	41.5
Approach		285	5.9	0.447	13.8	LOS B	3.8	27.9	0.81	0.71	41.8
All Vehicles		1183	8.0	0.510	12.7	LOS B	4.7	35.2	0.79	0.70	42.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P2	East Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P4	West Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ William Street - 2019 Option 2 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	83	5.0	0.137	13.7	LOS B	1.2	9.0	0.69	0.69	41.9
2	T1	269	5.0	0.686	14.4	LOS B	6.7	49.5	0.91	0.86	41.2
3	R2	93	10.0	0.686	19.3	LOS B	6.7	49.5	0.92	0.87	40.5
Approach		445	6.0	0.686	15.3	LOS B	6.7	49.5	0.87	0.83	41.2
East: Best Street											
4	L2	125	10.0	0.222	15.7	LOS B	1.9	14.1	0.76	0.73	40.8
5	T1	164	5.0	0.415	12.0	LOS B	3.5	25.5	0.82	0.70	42.4
6	R2	51	10.0	0.415	16.6	LOS B	3.5	25.5	0.82	0.70	41.8
Approach		340	7.6	0.415	14.0	LOS B	3.5	25.5	0.80	0.71	41.7
North: William Street											
7	L2	69	5.0	0.117	13.6	LOS B	1.0	7.6	0.68	0.68	42.0
8	T1	357	2.0	0.585	11.2	LOS B	6.2	44.0	0.85	0.73	43.1
9	R2	31	2.0	0.585	15.9	LOS B	6.2	44.0	0.85	0.73	42.6
Approach		457	2.5	0.585	11.9	LOS B	6.2	44.0	0.82	0.72	42.9
West: Best Street											
10	L2	47	2.0	0.097	15.0	LOS B	0.8	5.8	0.73	0.67	41.5
11	T1	173	2.0	0.486	12.2	LOS B	4.1	29.0	0.84	0.73	42.0
12	R2	84	2.0	0.486	16.9	LOS B	4.1	29.0	0.85	0.74	41.5
Approach		304	2.0	0.486	14.0	LOS B	4.1	29.0	0.82	0.72	41.8
All Vehicles		1546	4.5	0.686	13.8	LOS B	6.7	49.5	0.83	0.75	41.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P2	East Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P4	West Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

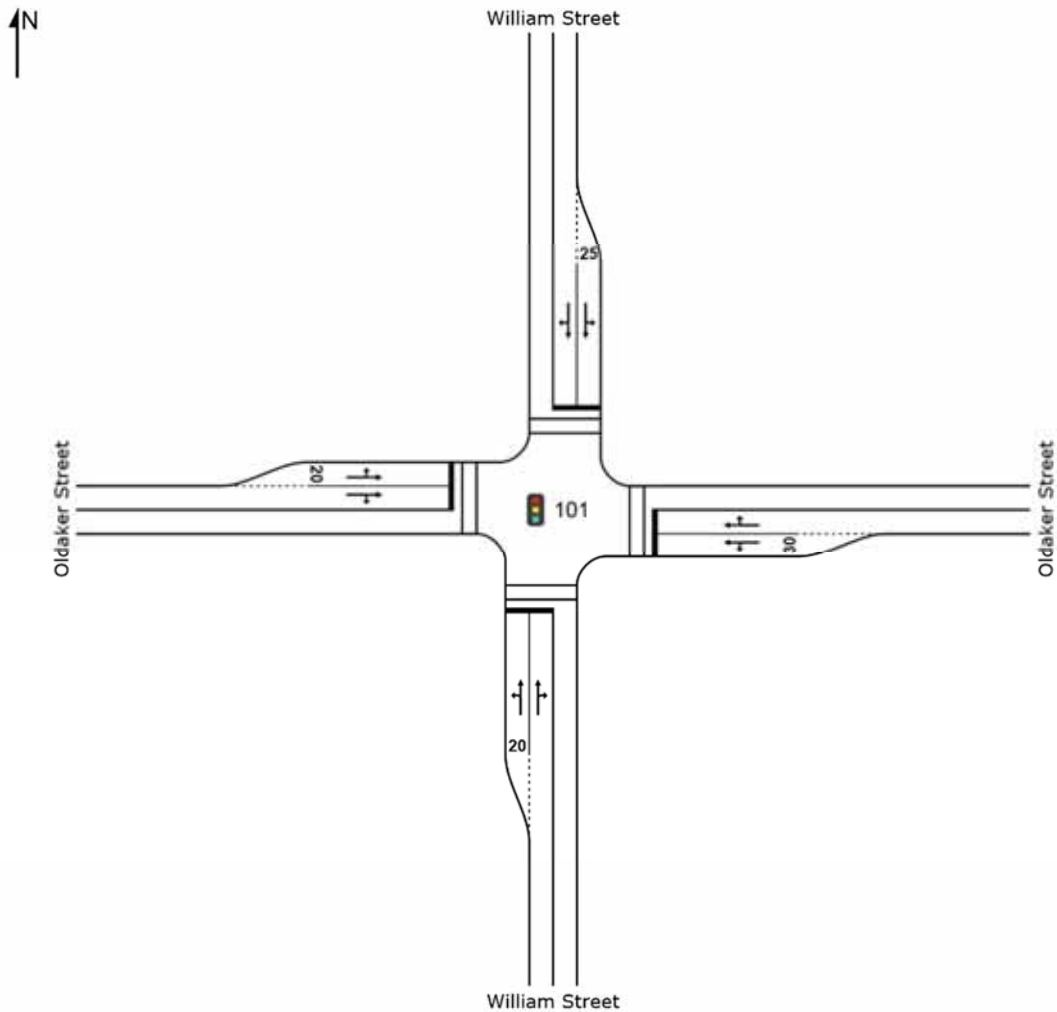
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### SITE LAYOUT

📍 Site: 101 [Oldaker Street/ William Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:59:50 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street -William Street.sip7

## MOVEMENT SUMMARY

**Site: 101 [Oldaker Street/ William Street - 2019 Option 2 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	42	2.0	0.098	15.0	LOS B	0.8	5.9	0.73	0.66	41.7
2	T1	155	10.0	0.491	12.9	LOS B	3.7	27.8	0.85	0.74	41.6
3	R2	79	5.0	0.491	17.8	LOS B	3.7	27.8	0.87	0.74	41.0
Approach		276	7.3	0.491	14.6	LOS B	3.7	27.8	0.84	0.73	41.4
East: Oldaker Street											
4	L2	157	5.0	0.233	14.2	LOS B	2.2	15.9	0.72	0.73	41.5
5	T1	248	2.0	0.501	10.9	LOS B	4.9	34.7	0.82	0.71	43.1
6	R2	61	2.0	0.501	15.4	LOS B	4.9	34.7	0.82	0.71	42.5
Approach		466	3.0	0.501	12.6	LOS B	4.9	34.7	0.78	0.72	42.5
North: William Street											
7	L2	35	2.0	0.093	15.0	LOS B	0.8	5.6	0.73	0.64	41.9
8	T1	263	5.0	0.463	12.0	LOS B	4.3	31.5	0.83	0.70	42.6
9	R2	23	2.0	0.463	16.7	LOS B	4.3	31.5	0.84	0.71	42.1
Approach		321	4.5	0.463	12.7	LOS B	4.3	31.5	0.82	0.70	42.5
West: Oldaker Street											
10	L2	31	2.0	0.070	13.4	LOS B	0.6	4.4	0.67	0.62	42.7
11	T1	189	2.0	0.348	10.6	LOS B	3.2	22.5	0.77	0.66	43.1
12	R2	38	2.0	0.348	15.4	LOS B	3.2	22.5	0.78	0.67	42.6
Approach		258	2.0	0.348	11.7	LOS B	3.2	22.5	0.76	0.66	43.0
All Vehicles		1321	4.1	0.501	12.8	LOS B	4.9	34.7	0.80	0.70	42.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.



## MOVEMENT SUMMARY

**Site: 101 [Oldaker Street/ William Street - 2019 Option 2 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: William Street												
1	L2	75	2.0	0.126	15.2	LOS B	1.1	7.6	0.74	0.71	41.1	
2	T1	193	5.0	0.594	13.9	LOS B	5.0	36.0	0.90	0.79	41.3	
3	R2	84	2.0	0.594	18.5	LOS B	5.0	36.0	0.90	0.79	40.8	
Approach		352	3.6	0.594	15.3	LOS B	5.0	36.0	0.87	0.77	41.1	
East: Oldaker Street												
4	L2	174	5.0	0.258	14.3	LOS B	2.4	17.8	0.73	0.74	41.5	
5	T1	318	2.0	0.625	11.8	LOS B	6.7	47.6	0.87	0.78	42.6	
6	R2	75	2.0	0.625	16.4	LOS B	6.7	47.6	0.87	0.78	42.0	
Approach		566	2.9	0.625	13.2	LOS B	6.7	47.6	0.83	0.77	42.2	
North: William Street												
7	L2	62	2.0	0.104	15.1	LOS B	0.9	6.2	0.73	0.70	41.1	
8	T1	252	5.0	0.506	12.4	LOS B	4.7	34.0	0.86	0.72	42.5	
9	R2	29	2.0	0.506	17.0	LOS B	4.7	34.0	0.86	0.72	42.0	
Approach		343	4.2	0.506	13.3	LOS B	4.7	34.0	0.83	0.72	42.2	
West: Oldaker Street												
10	L2	31	2.0	0.068	13.4	LOS B	0.6	4.3	0.67	0.62	42.7	
11	T1	162	2.0	0.338	10.6	LOS B	2.8	20.1	0.77	0.66	43.0	
12	R2	41	2.0	0.338	15.4	LOS B	2.8	20.1	0.78	0.67	42.5	
Approach		234	2.0	0.338	11.8	LOS B	2.8	20.1	0.76	0.66	42.9	
All Vehicles		1495	3.2	0.625	13.5	LOS B	6.7	47.6	0.83	0.74	42.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians										
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped		
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80		
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85		
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80		
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85		
All Pedestrians		211	13.7	LOS B			0.83	0.83		

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

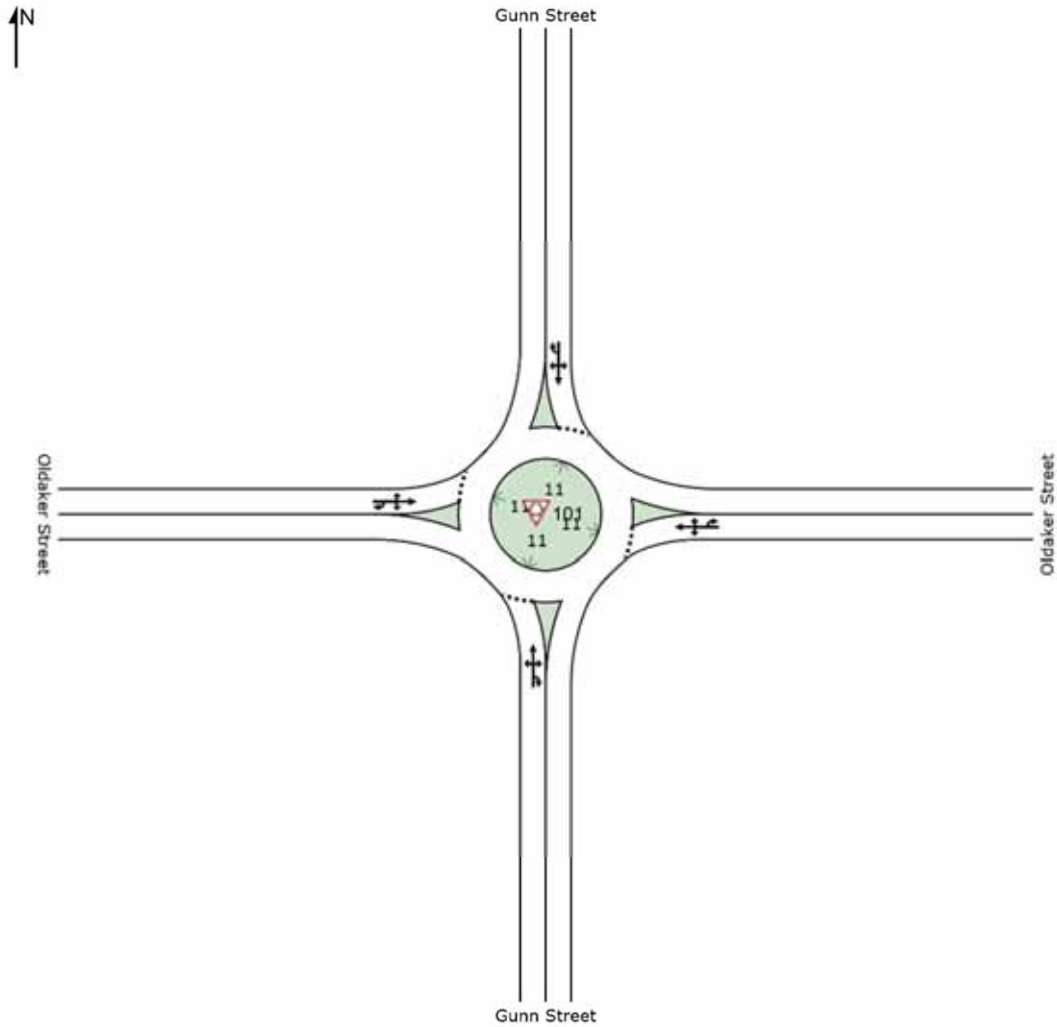
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.



### SITE LAYOUT

▽ Site: 101 [Oldaker Street/ Gunn Street - Existing Layout]

Roundabout



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:04:45 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Gunn Street.sip7

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Gunn Street - 2019 Option 2 AM Peak]

08:15-09:15

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	39	2.0	0.158	5.1	LOS A	0.7	5.2	0.37	0.57	45.6
2	T1	74	2.0	0.158	5.0	LOS A	0.7	5.2	0.37	0.57	46.4
3	R2	43	2.0	0.158	8.4	LOS A	0.7	5.2	0.37	0.57	46.2
3u	U	1	2.0	0.158	9.9	LOS A	0.7	5.2	0.37	0.57	46.7
Approach		157	2.0	0.158	6.0	LOS A	0.7	5.2	0.37	0.57	46.1
East: Oldaker Street											
4	L2	42	5.0	0.276	5.1	LOS A	1.7	12.2	0.47	0.57	45.5
5	T1	198	2.0	0.276	5.0	LOS A	1.7	12.2	0.47	0.57	46.3
6	R2	32	2.0	0.276	8.3	LOS A	1.7	12.2	0.47	0.57	46.1
6u	U	15	2.0	0.276	9.9	LOS A	1.7	12.2	0.47	0.57	46.7
Approach		286	2.4	0.276	5.6	LOS A	1.7	12.2	0.47	0.57	46.2
North: Gunn Street											
7	L2	35	5.0	0.205	6.1	LOS A	1.3	9.4	0.56	0.59	45.4
8	T1	148	2.0	0.205	5.9	LOS A	1.3	9.4	0.56	0.59	46.2
9	R2	7	2.0	0.205	9.3	LOS A	1.3	9.4	0.56	0.59	46.1
9u	U	1	2.0	0.205	10.8	LOS B	1.3	9.4	0.56	0.59	46.6
Approach		192	2.5	0.205	6.1	LOS A	1.3	9.4	0.56	0.59	46.1
West: Oldaker Street											
10	L2	13	2.0	0.287	4.7	LOS A	1.6	11.5	0.32	0.51	45.9
11	T1	246	5.0	0.287	4.6	LOS A	1.6	11.5	0.32	0.51	46.6
12	R2	60	2.0	0.287	8.0	LOS A	1.6	11.5	0.32	0.51	46.5
12u	U	2	2.0	0.287	9.5	LOS A	1.6	11.5	0.32	0.51	47.0
Approach		321	4.3	0.287	5.3	LOS A	1.6	11.5	0.32	0.51	46.6
All Vehicles		956	3.0	0.287	5.7	LOS A	1.7	12.2	0.42	0.55	46.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:19:04 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Gunn Street.sip7

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Gunn Street - 2019 Option 2 PM Peak]

15:00-16:00

Roundabout

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Gunn Street												
1	L2	42	2.0	0.341	8.0	LOS A	1.9	13.4	0.61	0.75	44.2	
2	T1	142	2.0	0.341	7.9	LOS A	1.9	13.4	0.61	0.75	44.9	
3	R2	56	5.0	0.341	11.4	LOS B	1.9	13.4	0.61	0.75	44.7	
3u	U	1	2.0	0.341	12.8	LOS B	1.9	13.4	0.61	0.75	45.3	
Approach		241	2.7	0.341	8.8	LOS A	1.9	13.4	0.61	0.75	44.7	
East: Oldaker Street												
4	L2	91	2.0	0.575	5.2	LOS A	5.0	35.9	0.57	0.57	45.4	
5	T1	479	2.0	0.575	5.1	LOS A	5.0	35.9	0.57	0.57	46.1	
6	R2	95	2.0	0.575	8.5	LOS A	5.0	35.9	0.57	0.57	46.0	
6u	U	4	2.0	0.575	10.0	LOS A	5.0	35.9	0.57	0.57	46.5	
Approach		668	2.0	0.575	5.6	LOS A	5.0	35.9	0.57	0.57	46.0	
North: Gunn Street												
7	L2	47	2.0	0.170	5.8	LOS A	1.0	7.4	0.55	0.60	45.4	
8	T1	93	2.0	0.170	5.7	LOS A	1.0	7.4	0.55	0.60	46.2	
9	R2	17	2.0	0.170	9.1	LOS A	1.0	7.4	0.55	0.60	46.0	
9u	U	1	2.0	0.170	10.6	LOS B	1.0	7.4	0.55	0.60	46.6	
Approach		158	2.0	0.170	6.2	LOS A	1.0	7.4	0.55	0.60	45.9	
West: Oldaker Street												
10	L2	9	2.0	0.318	5.7	LOS A	1.8	12.6	0.45	0.59	45.5	
11	T1	234	2.0	0.318	5.6	LOS A	1.8	12.6	0.45	0.59	46.2	
12	R2	60	2.0	0.318	9.0	LOS A	1.8	12.6	0.45	0.59	46.1	
12u	U	4	2.0	0.318	10.5	LOS B	1.8	12.6	0.45	0.59	46.6	
Approach		307	2.0	0.318	6.3	LOS A	1.8	12.6	0.45	0.59	46.2	
All Vehicles		1375	2.1	0.575	6.4	LOS A	5.0	35.9	0.55	0.61	45.8	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

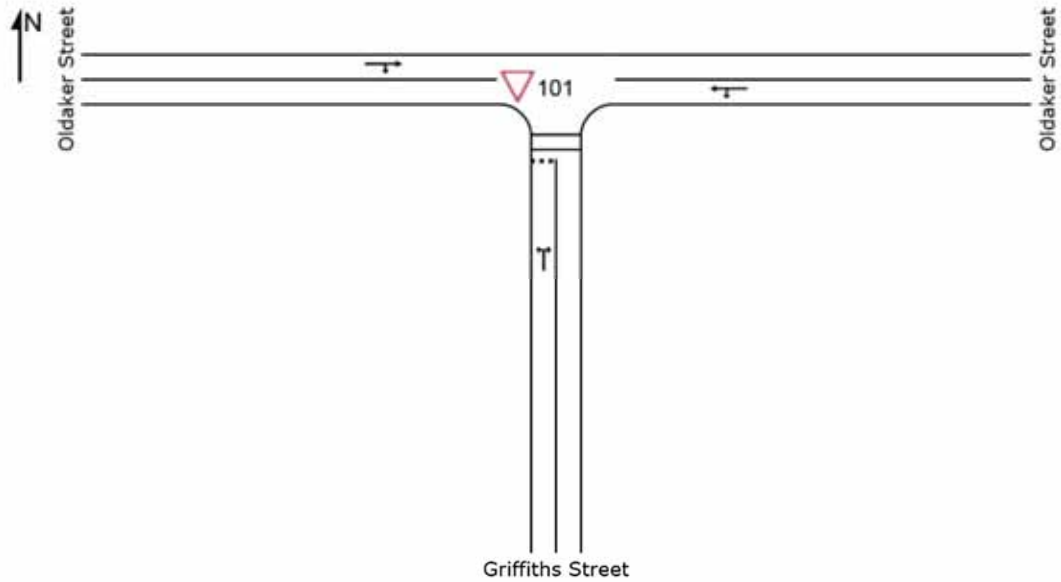
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:19:47 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Gunn Street.sip7

### SITE LAYOUT

▽ Site: 101 [Oldaker Street/ Griffiths Street - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:07:51 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Griffiths Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Griffiths Street - 2019 Option 2 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Griffiths Street												
1	L2	62	5.0	0.094	5.7	LOS A	0.3	2.3	0.36	0.62	45.6	
3	R2	31	2.0	0.094	7.5	LOS A	0.3	2.3	0.36	0.62	45.2	
Approach		93	4.0	0.094	6.3	LOS A	0.3	2.3	0.36	0.62	45.4	
East: Oldaker Street												
4	L2	79	5.0	0.199	4.6	LOS A	0.0	0.0	0.00	0.11	48.8	
5	T1	299	2.0	0.199	0.0	LOS A	0.0	0.0	0.00	0.11	49.3	
Approach		378	2.6	0.199	1.0	NA	0.0	0.0	0.00	0.11	49.2	
West: Oldaker Street												
11	T1	189	5.0	0.158	0.7	LOS A	0.5	3.9	0.25	0.16	48.5	
12	R2	67	5.0	0.158	6.3	LOS A	0.5	3.9	0.25	0.16	47.5	
Approach		257	5.0	0.158	2.2	NA	0.5	3.9	0.25	0.16	48.2	
All Vehicles		727	3.6	0.199	2.1	NA	0.5	3.9	0.14	0.19	48.4	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:26:25 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Griffiths Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Griffiths Street - 2019 Option 2 PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Griffiths Street												
1	L2	184	2.0	0.263	7.1	LOS A	1.1	8.0	0.56	0.75	44.8	
3	R2	37	5.0	0.263	11.4	LOS B	1.1	8.0	0.56	0.75	44.3	
Approach		221	2.5	0.263	7.8	LOS A	1.1	8.0	0.56	0.75	44.7	
East: Oldaker Street												
4	L2	138	2.0	0.340	4.6	LOS A	0.0	0.0	0.00	0.12	48.8	
5	T1	509	2.0	0.340	0.0	LOS A	0.0	0.0	0.00	0.12	49.3	
Approach		647	2.0	0.340	1.0	NA	0.0	0.0	0.00	0.12	49.2	
West: Oldaker Street												
11	T1	245	2.0	0.241	2.0	LOS A	1.2	8.3	0.42	0.21	47.5	
12	R2	100	2.0	0.241	8.3	LOS A	1.2	8.3	0.42	0.21	46.6	
Approach		345	2.0	0.241	3.9	NA	1.2	8.3	0.42	0.21	47.2	
All Vehicles		1214	2.1	0.340	3.1	NA	1.2	8.3	0.22	0.26	47.7	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:26:59 AM

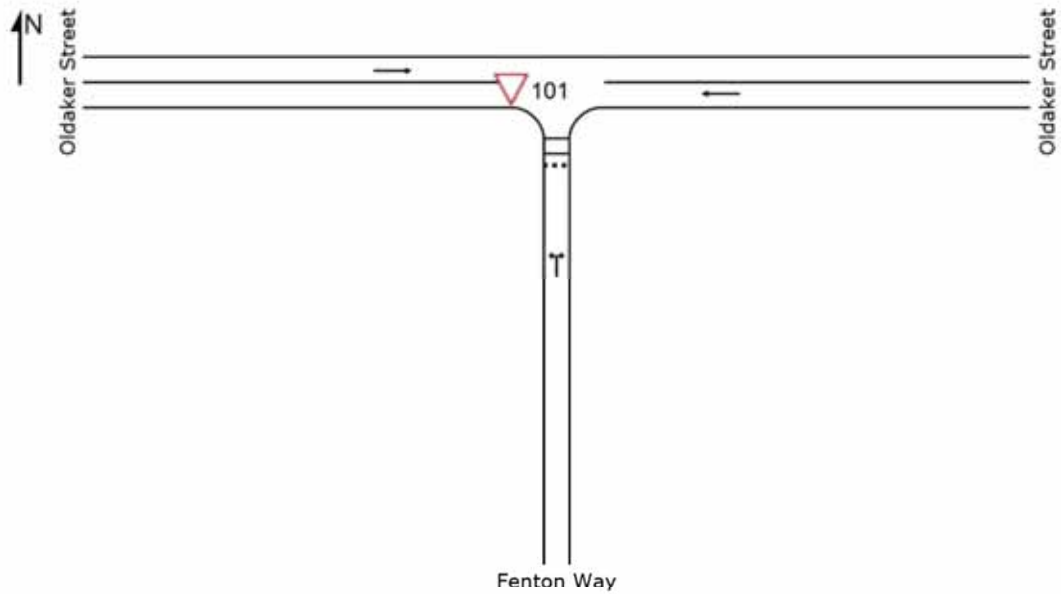
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Griffiths Street.sip7



### SITE LAYOUT

▽ Site: 101 [Oldaker Street/ Fenton Way - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:11:43 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Fenton Way.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Fenton Way - 2019 Option 2 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Fenton Way												
1	L2	100	2.0	0.123	5.6	LOS A	0.4	3.0	0.31	0.60	45.7	
3	R2	35	2.0	0.123	7.2	LOS A	0.4	3.0	0.31	0.60	45.2	
Approach		135	2.0	0.123	6.1	LOS A	0.4	3.0	0.31	0.60	45.6	
East: Oldaker Street												
5	T1	287	5.0	0.152	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		287	5.0	0.152	0.0	NA	0.0	0.0	0.00	0.00	50.0	
West: Oldaker Street												
11	T1	218	5.0	0.115	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		218	5.0	0.115	0.0	NA	0.0	0.0	0.00	0.00	50.0	
All Vehicles		640	4.4	0.152	1.3	NA	0.4	3.0	0.06	0.13	49.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Fenton Way - 2019 Option 2 PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fenton Way											
1	L2	311	2.0	0.453	6.9	LOS A	2.5	18.0	0.44	0.74	44.8
3	R2	138	2.0	0.453	9.6	LOS A	2.5	18.0	0.44	0.74	44.3
Approach		448	2.0	0.453	7.7	LOS A	2.5	18.0	0.44	0.74	44.6
East: Oldaker Street											
5	T1	340	2.0	0.177	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		340	2.0	0.177	0.0	NA	0.0	0.0	0.00	0.00	50.0
West: Oldaker Street											
11	T1	285	5.0	0.151	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		285	5.0	0.151	0.0	NA	0.0	0.0	0.00	0.00	50.0
All Vehicles		1074	2.8	0.453	3.2	NA	2.5	18.0	0.18	0.31	47.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

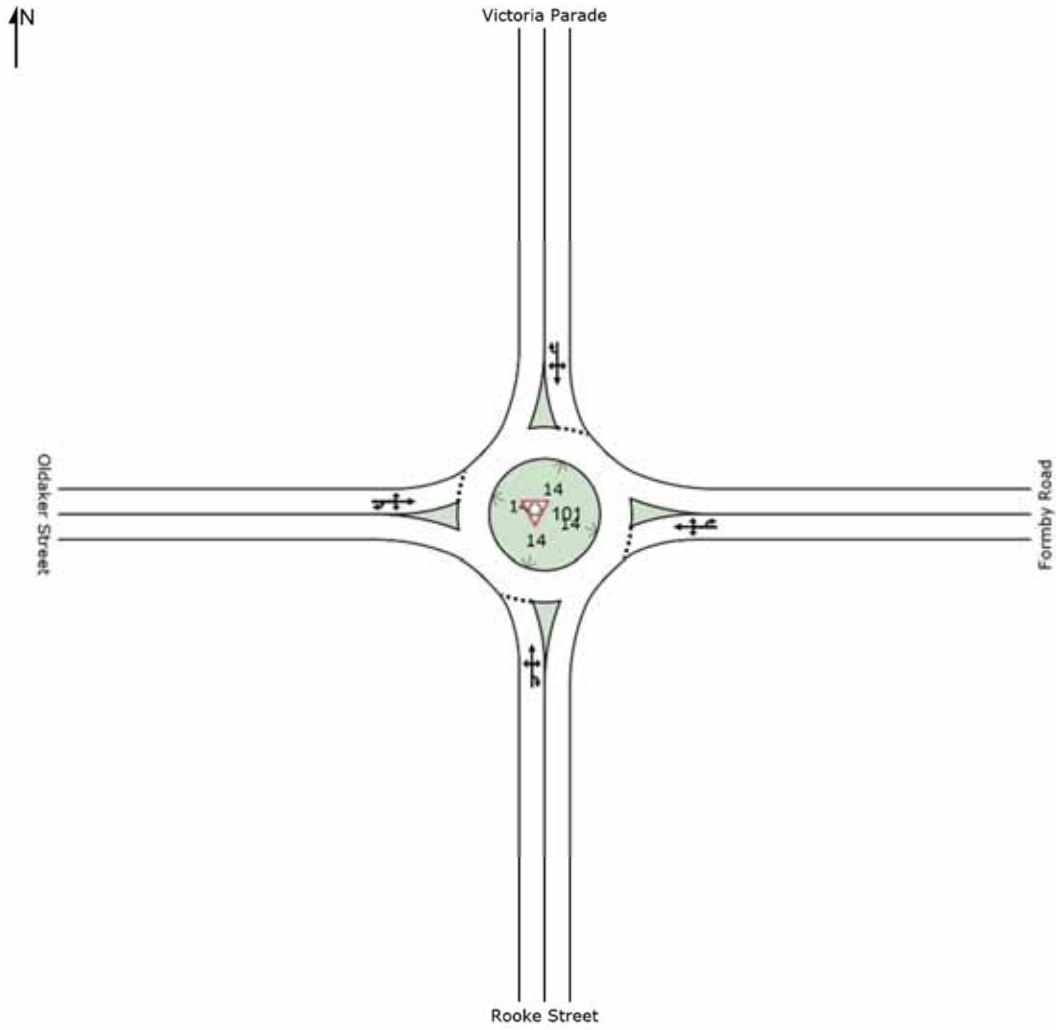
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
 Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:33:58 AM  
 Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Fenton Way.sip7

### SITE LAYOUT

▽ Site: 101 [Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade - Existing Layout]

Roundabout



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:16:32 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker-Rooke-Formby-Victoria.sip7

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade - 2019 Option 2 AM Peak]

08:15-09:15  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Rooke Street											
1	L2	39	5.0	0.139	5.5	LOS A	0.7	5.4	0.44	0.58	45.6
2	T1	54	10.0	0.139	5.6	LOS A	0.7	5.4	0.44	0.58	46.5
3	R2	11	10.0	0.139	9.4	LOS A	0.7	5.4	0.44	0.58	46.3
3u	U	16	75.0	0.139	13.0	LOS B	0.7	5.4	0.44	0.58	46.0
Approach		119	17.0	0.139	6.9	LOS A	0.7	5.4	0.44	0.58	46.1
East: Formby Road											
4	L2	18	20.0	0.319	4.6	LOS A	1.7	12.5	0.34	0.55	45.5
5	T1	199	2.0	0.319	4.3	LOS A	1.7	12.5	0.34	0.55	46.5
6	R2	147	2.0	0.319	8.1	LOS A	1.7	12.5	0.34	0.55	46.5
6u	U	5	20.0	0.319	10.0	LOS B	1.7	12.5	0.34	0.55	46.9
Approach		369	3.1	0.319	5.9	LOS A	1.7	12.5	0.34	0.55	46.5
North: Victoria Parade											
7	L2	136	2.0	0.215	4.8	LOS A	1.2	8.9	0.48	0.57	46.1
8	T1	62	2.0	0.215	4.8	LOS A	1.2	8.9	0.48	0.57	46.9
9	R2	19	5.0	0.215	8.7	LOS A	1.2	8.9	0.48	0.57	46.8
9u	U	1	2.0	0.215	10.2	LOS B	1.2	8.9	0.48	0.57	47.5
Approach		218	2.3	0.215	5.2	LOS A	1.2	8.9	0.48	0.57	46.4
West: Oldaker Street											
10	L2	38	5.0	0.246	4.8	LOS A	1.5	11.0	0.47	0.55	45.7
11	T1	165	2.0	0.246	4.8	LOS A	1.5	11.0	0.47	0.55	46.6
12	R2	52	5.0	0.246	8.6	LOS A	1.5	11.0	0.47	0.55	46.5
12u	U	3	30.0	0.246	10.8	LOS B	1.5	11.0	0.47	0.55	46.7
Approach		258	3.4	0.246	5.6	LOS A	1.5	11.0	0.47	0.55	46.4
All Vehicles		964	4.7	0.319	5.8	LOS A	1.7	12.5	0.42	0.56	46.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade - 2019 Option 2 PM Peak]

15:00-16:00  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Rooke Street											
1	L2	80	2.0	0.226	6.4	LOS A	1.2	8.9	0.52	0.65	45.0
2	T1	63	2.0	0.226	6.4	LOS A	1.2	8.9	0.52	0.65	45.8
3	R2	25	2.0	0.226	10.2	LOS B	1.2	8.9	0.52	0.65	45.7
3u	U	23	10.0	0.226	12.1	LOS B	1.2	8.9	0.52	0.65	46.2
Approach		192	3.0	0.226	7.6	LOS A	1.2	8.9	0.52	0.65	45.5
East: Formby Road											
4	L2	36	15.0	0.438	5.1	LOS A	2.7	19.4	0.44	0.60	45.2
5	T1	237	2.0	0.438	4.8	LOS A	2.7	19.4	0.44	0.60	46.1
6	R2	172	2.0	0.438	8.6	LOS A	2.7	19.4	0.44	0.60	46.1
6u	U	39	2.0	0.438	10.2	LOS B	2.7	19.4	0.44	0.60	46.7
Approach		483	3.0	0.438	6.6	LOS A	2.7	19.4	0.44	0.60	46.1
North: Victoria Parade											
7	L2	139	2.0	0.276	5.7	LOS A	1.7	12.2	0.60	0.66	45.6
8	T1	80	5.0	0.276	5.8	LOS A	1.7	12.2	0.60	0.66	46.4
9	R2	31	2.0	0.276	9.5	LOS A	1.7	12.2	0.60	0.66	46.4
9u	U	1	2.0	0.276	11.2	LOS B	1.7	12.2	0.60	0.66	47.0
Approach		251	3.0	0.276	6.2	LOS A	1.7	12.2	0.60	0.66	45.9
West: Oldaker Street											
10	L2	47	2.0	0.347	5.6	LOS A	2.4	16.8	0.58	0.62	45.3
11	T1	219	2.0	0.347	5.5	LOS A	2.4	16.8	0.58	0.62	46.2
12	R2	68	2.0	0.347	9.3	LOS A	2.4	16.8	0.58	0.62	46.1
12u	U	6	2.0	0.347	11.0	LOS B	2.4	16.8	0.58	0.62	46.8
Approach		341	2.0	0.347	6.4	LOS A	2.4	16.8	0.58	0.62	46.1
All Vehicles		1266	2.7	0.438	6.6	LOS A	2.7	19.4	0.52	0.63	46.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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





Appendix D

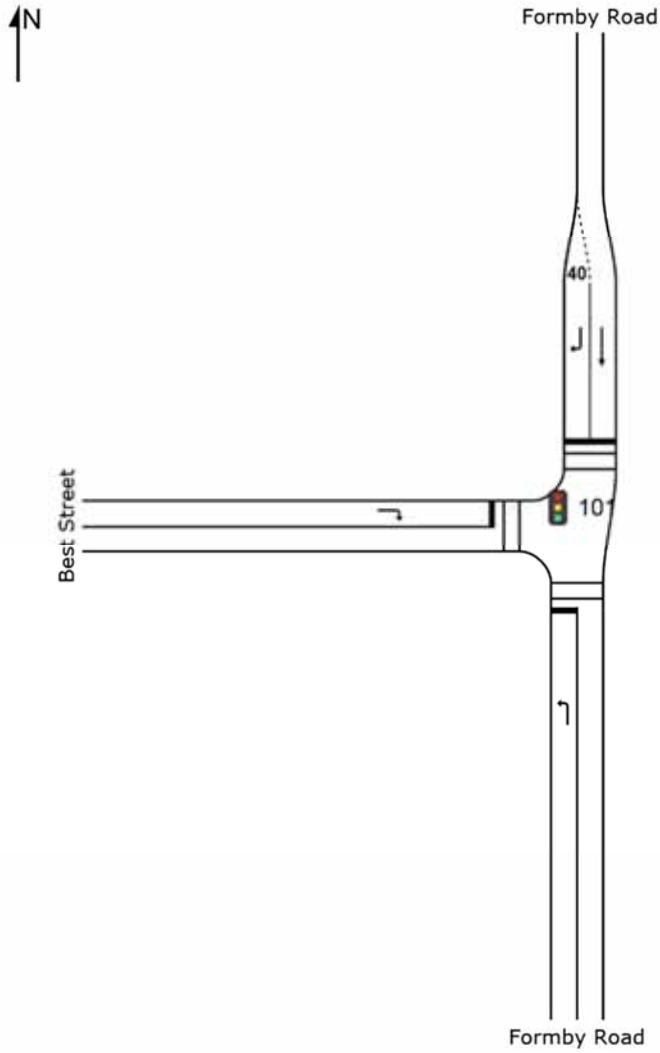
SIDRA Intersection Traffic Modelling Results – Option 3

### SITE LAYOUT

 Site: 101 [Best Street/ Formby Road - Option 3 Layout]

08:15-09:15

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 3:55:52 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Formby Road.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Formby Road - 2019 Option 3 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 80 seconds (Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Formby Road											
1	L2	614	5.0	0.856	36.3	LOS D	25.9	189.0	0.98	0.97	33.2
Approach		614	5.0	0.856	36.3	LOS D	25.9	189.0	0.98	0.97	33.2
North: Formby Road											
8	T1	339	5.0	0.454	19.0	LOS B	9.7	71.0	0.78	0.67	39.6
9	R2	9	5.0	0.070	44.1	LOS D	0.4	2.7	0.96	0.67	30.7
Approach		348	5.0	0.454	19.7	LOS B	9.7	71.0	0.78	0.67	39.3
West: Best Street											
12	R2	121	10.0	0.798	49.6	LOS D	5.3	40.2	1.00	0.93	29.3
Approach		121	10.0	0.798	49.6	LOS D	5.3	40.2	1.00	0.93	29.3
All Vehicles		1083	5.6	0.856	32.5	LOS C	25.9	189.0	0.92	0.87	34.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian pod	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per pod	
P1	South Full Crossing	53	34.3	LOS D	0.1	0.1	0.93	0.93	
P3	North Full Crossing	53	34.3	LOS D	0.1	0.1	0.93	0.93	
P4	West Full Crossing	53	17.6	LOS B	0.1	0.1	0.66	0.66	
All Pedestrians		158	28.7	LOS C			0.84	0.84	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
 Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 7:08:57 PM  
 Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Formby Road.sip7

## MOVEMENT SUMMARY

### Site: 101 [Best Street/ Formby Road - 2019 Option 3 PM Peak]

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Formby Road											
1	L2	847	5.0	0.875	40.9	LOS D	56.5	412.3	0.95	0.92	31.9
Approach		847	5.0	0.875	40.9	LOS D	56.5	412.3	0.95	0.92	31.9
North: Formby Road											
8	T1	583	5.0	0.589	24.2	LOS C	27.8	203.1	0.72	0.65	37.5
9	R2	19	5.0	0.264	85.1	LOS F	1.4	10.5	1.00	0.70	22.8
Approach		602	5.0	0.589	26.1	LOS C	27.8	203.1	0.73	0.65	36.8
West: Best Street											
12	R2	284	10.0	0.878	80.2	LOS F	22.8	173.1	1.00	0.94	23.5
Approach		284	10.0	0.878	80.2	LOS F	22.8	173.1	1.00	0.94	23.5
All Vehicles		1734	5.8	0.878	42.2	LOS D	56.5	412.3	0.88	0.83	31.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian pod	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per pod	
P1	South Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96	
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96	
P4	West Full Crossing	53	18.3	LOS B	0.1	0.1	0.49	0.49	
All Pedestrians		158	52.3	LOS E			0.81	0.81	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

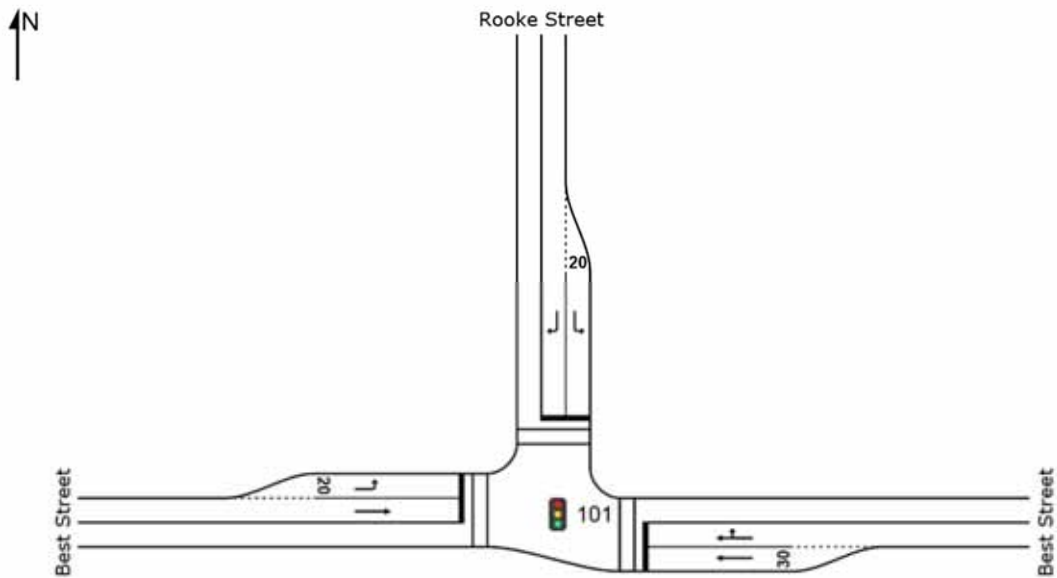
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### SITE LAYOUT

 Site: 101 [Best Street/ Rooke Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:01:42 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Rooke Street.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Rooke Street - 2019 Option 3 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 50 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Best Street											
5	T1	399	5.0	0.790	12.6	LOS B	12.7	92.9	0.75	0.75	41.9
6	R2	285	5.0	0.790	20.4	LOS C	12.7	92.9	0.85	0.92	39.5
Approach		684	5.0	0.790	15.9	LOS B	12.7	92.9	0.79	0.82	40.8
North: Rooke Street											
7	L2	15	20.0	0.035	20.0	LOS B	0.3	2.3	0.77	0.66	38.8
9	R2	51	20.0	0.120	20.5	LOS C	1.0	8.0	0.80	0.71	38.4
Approach		65	20.0	0.120	20.4	LOS C	1.0	8.0	0.79	0.70	38.5
West: Best Street											
10	L2	79	20.0	0.097	11.9	LOS B	1.0	8.4	0.55	0.67	42.5
11	T1	117	5.0	0.124	7.2	LOS A	1.5	11.2	0.56	0.45	45.5
Approach		196	11.0	0.124	9.1	LOS A	1.5	11.2	0.56	0.54	44.2
All Vehicles		945	7.3	0.790	14.8	LOS B	12.7	92.9	0.74	0.75	41.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P3	North Full Crossing	53	10.3	LOS B	0.0	0.0	0.64	0.64	
P4	West Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
All Pedestrians		158	16.4	LOS B			0.80	0.80	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.



## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Rooke Street - 2019 Option 3 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Best Street											
5	T1	501	2.0	0.871	14.6	LOS B	25.8	183.9	0.52	0.58	41.0
6	R2	396	2.0	0.871	28.9	LOS C	25.8	183.9	0.69	0.85	36.1
Approach		897	2.0	0.871	20.9	LOS C	25.8	183.9	0.59	0.70	38.7
North: Rooke Street											
7	L2	72	15.0	0.295	43.2	LOS D	2.9	23.1	0.93	0.76	31.2
9	R2	83	10.0	0.332	43.3	LOS D	3.4	25.9	0.94	0.76	31.0
Approach		155	12.3	0.332	43.3	LOS D	3.4	25.9	0.94	0.76	31.1
West: Best Street											
10	L2	105	10.0	0.084	8.5	LOS A	1.3	10.2	0.31	0.62	44.3
11	T1	281	2.0	0.202	4.3	LOS A	3.9	28.0	0.35	0.30	47.2
Approach		386	4.2	0.202	5.5	LOS A	3.9	28.0	0.34	0.39	46.4
All Vehicles		1438	3.7	0.871	19.2	LOS B	25.8	183.9	0.56	0.62	39.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Pedestrian	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94	
P3	North Full Crossing	53	5.7	LOS A	0.0	0.0	0.36	0.36	
P4	West Full Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94	
All Pedestrians		158	28.1	LOS C			0.74	0.74	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

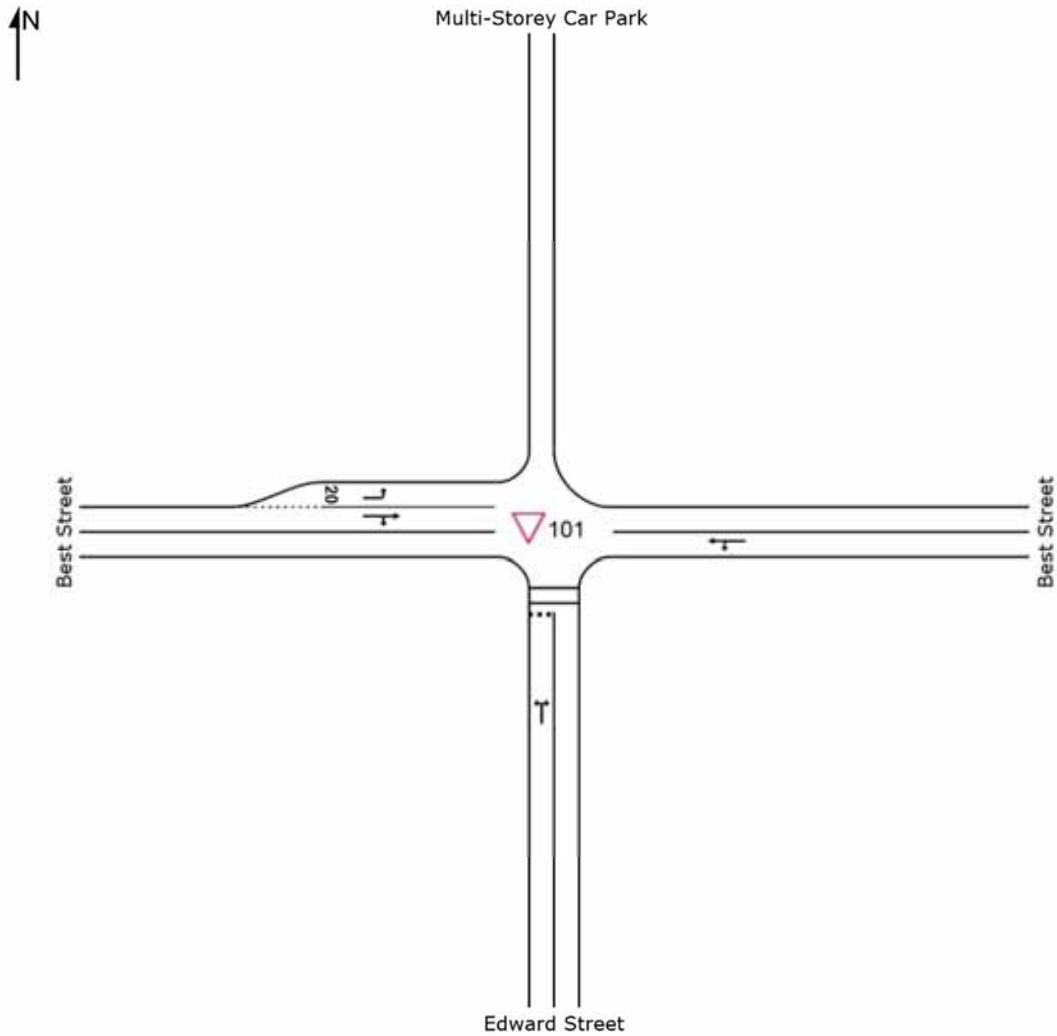
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
 Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:29:48 PM  
 Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Rooke Street.sip7

### SITE LAYOUT

▽ Site: 101 [Best Street/ Edward Street - Living City Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:20:36 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Edward Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Edward Street - 2019 Option 3 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Edward Street												
1	L2	55	2.0	0.084	6.1	LOS A	0.4	2.6	0.49	0.63	45.0	
3	R2	16	10.0	0.084	11.4	LOS B	0.4	2.6	0.49	0.63	44.5	
Approach		71	3.8	0.084	7.3	LOS A	0.4	2.6	0.49	0.63	44.9	
East: Best Street												
4	L2	61	10.0	0.248	4.7	LOS A	0.0	0.0	0.00	0.07	48.9	
5	T1	389	10.0	0.248	0.0	LOS A	0.0	0.0	0.00	0.07	49.5	
Approach		451	10.0	0.248	0.7	NA	0.0	0.0	0.00	0.07	49.5	
West: Best Street												
10	L2	12	2.0	0.006	5.6	LOS A	0.0	0.0	0.00	0.58	53.5	
11	T1	164	10.0	0.151	1.1	LOS A	0.6	4.7	0.27	0.19	48.1	
12	R2	69	5.0	0.151	6.8	LOS A	0.6	4.7	0.27	0.19	47.1	
Approach		245	8.2	0.151	2.9	NA	0.6	4.7	0.26	0.20	48.1	
All Vehicles		766	8.9	0.248	2.0	NA	0.6	4.7	0.13	0.17	48.5	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
 Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:18:29 PM  
 Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Edward Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Edward Street - 2019 Option 3 PM Peak]

16:00-17:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Edward Street											
1	L2	107	2.0	0.215	6.9	LOS A	0.9	6.5	0.61	0.73	43.8
3	R2	27	10.0	0.215	19.9	LOS C	0.9	6.5	0.61	0.73	43.3
Approach		135	3.6	0.215	9.6	LOS A	0.9	6.5	0.61	0.73	43.7
East: Best Street											
4	L2	93	10.0	0.330	4.7	LOS A	0.0	0.0	0.00	0.08	48.8
5	T1	506	10.0	0.330	0.0	LOS A	0.0	0.0	0.00	0.08	49.5
Approach		599	10.0	0.330	0.8	NA	0.0	0.0	0.00	0.08	49.4
West: Best Street											
10	L2	11	2.0	0.006	5.6	LOS A	0.0	0.0	0.00	0.58	53.5
11	T1	336	10.0	0.293	1.8	LOS A	1.4	10.7	0.35	0.17	47.8
12	R2	104	5.0	0.293	8.5	LOS A	1.4	10.7	0.35	0.17	46.8
Approach		451	8.7	0.293	3.4	NA	1.4	10.7	0.35	0.18	47.6
All Vehicles		1184	8.8	0.330	2.8	NA	1.4	10.7	0.20	0.19	48.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

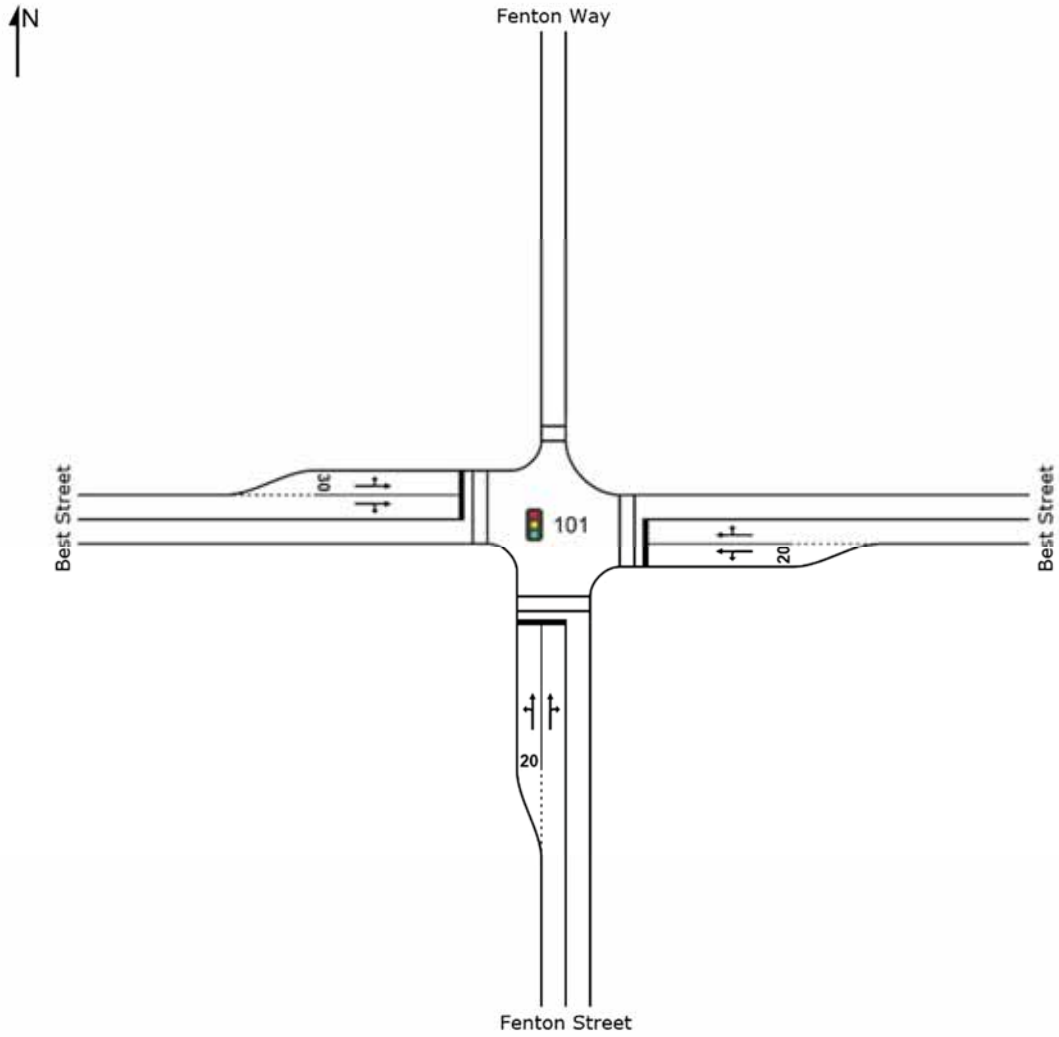
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

### SITE LAYOUT

📍 Site: 101 [Best Street/ Fenton Way - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:39:06 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Fenton Way.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Fenton Way - 2019 Option 3 AM Peak]**

08:30-09:30

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fenton Street											
1	L2	128	2.0	0.216	15.5	LOS B	1.9	13.5	0.76	0.73	40.9
2	T1	118	2.0	0.280	11.2	LOS B	2.6	18.6	0.78	0.67	42.7
3	R2	52	10.0	0.280	15.9	LOS B	2.6	18.6	0.78	0.67	42.0
Approach		298	3.4	0.280	13.9	LOS B	2.6	18.6	0.77	0.70	41.8
East: Best Street											
4	L2	42	10.0	0.129	13.7	LOS B	1.1	8.6	0.69	0.62	42.8
5	T1	340	10.0	0.644	12.4	LOS B	6.2	46.8	0.86	0.78	42.2
6	R2	57	2.0	0.644	17.7	LOS B	6.2	46.8	0.88	0.80	41.3
Approach		439	9.0	0.644	13.2	LOS B	6.2	46.8	0.84	0.76	42.2
West: Best Street											
10	L2	58	2.0	0.116	13.6	LOS B	1.0	7.6	0.68	0.65	42.4
11	T1	199	10.0	0.581	13.3	LOS B	4.8	36.4	0.87	0.77	41.5
12	R2	92	10.0	0.581	18.4	LOS B	4.8	36.4	0.90	0.78	40.7
Approach		348	8.7	0.581	14.7	LOS B	4.8	36.4	0.85	0.75	41.4
All Vehicles		1085	7.3	0.644	13.9	LOS B	6.2	46.8	0.83	0.74	41.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	9.1	LOS A	0.0	0.0	0.68	0.68	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		211	12.7	LOS B			0.80	0.80	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:41:05 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Fenton Way.sip7



## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Fenton Way - 2019 Option 3 PM Peak]**

14:45-15:45

Signals - Fixed Time Isolated Cycle Time = 60 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fenton Street											
1	L2	178	2.0	0.448	27.5	LOS C	4.7	33.6	0.91	0.79	36.1
2	T1	109	2.0	0.414	22.7	LOS C	4.4	31.6	0.91	0.75	37.5
3	R2	60	2.0	0.414	27.2	LOS C	4.4	31.6	0.91	0.75	37.1
Approach		347	2.0	0.448	25.9	LOS C	4.7	33.6	0.91	0.77	36.7
East: Best Street											
4	L2	56	5.0	0.145	10.7	LOS B	2.1	15.2	0.48	0.50	44.7
5	T1	451	5.0	0.725	14.6	LOS B	10.6	77.0	0.76	0.74	41.2
6	R2	69	2.0	0.725	22.0	LOS C	10.6	77.0	0.84	0.81	39.4
Approach		576	4.6	0.725	15.1	LOS B	10.6	77.0	0.74	0.72	41.3
West: Best Street											
10	L2	45	2.0	0.155	10.7	LOS B	2.3	16.4	0.48	0.47	45.0
11	T1	437	2.0	0.776	16.8	LOS B	11.8	84.3	0.78	0.78	40.1
12	R2	105	2.0	0.776	25.7	LOS C	11.8	84.3	0.90	0.91	37.9
Approach		587	2.0	0.776	17.9	LOS B	11.8	84.3	0.78	0.78	40.0
All Vehicles		1511	3.0	0.776	18.7	LOS B	11.8	84.3	0.79	0.76	39.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	8.6	LOS A	0.0	0.0	0.53	0.53	
P2	East Full Crossing	53	24.4	LOS C	0.1	0.1	0.90	0.90	
P3	North Full Crossing	53	6.1	LOS A	0.0	0.0	0.45	0.45	
P4	West Full Crossing	53	24.4	LOS C	0.1	0.1	0.90	0.90	
All Pedestrians		211	15.8	LOS B			0.70	0.70	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

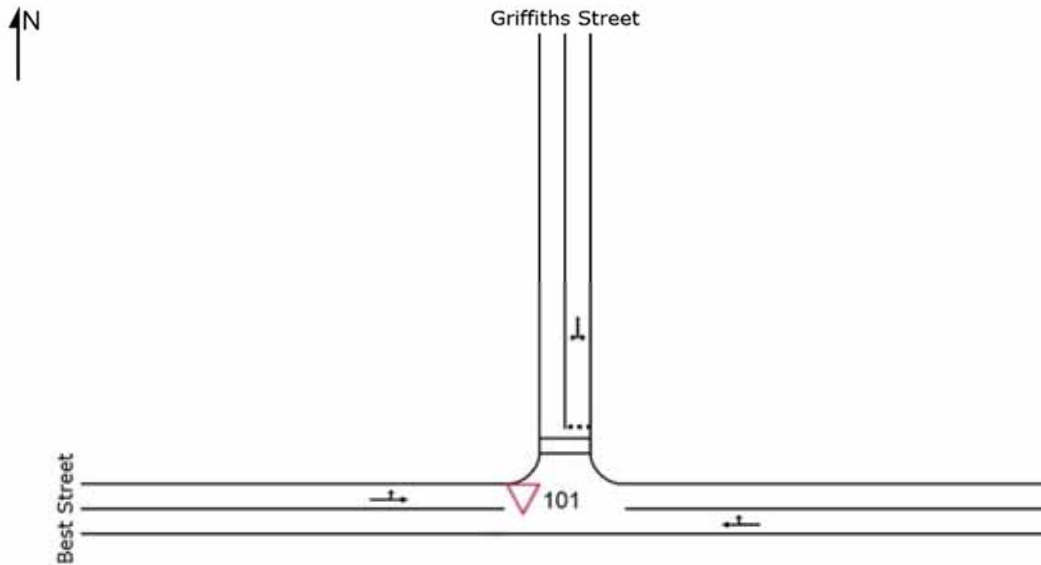
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### SITE LAYOUT

▽ Site: 101 [Best Street/ Griffiths Street - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:44:24 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Griffiths Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Griffiths Street - 2019 Option 3 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: Best Street												
5	T1	428	5.0	0.258	0.2	LOS A	0.4	2.8	0.08	0.05	49.5	
6	R2	42	5.0	0.258	5.9	LOS A	0.4	2.8	0.08	0.05	48.5	
Approach		471	5.0	0.258	0.7	NA	0.4	2.8	0.08	0.05	49.4	
North: Griffiths Street												
7	L2	75	5.0	0.096	5.5	LOS A	0.4	2.8	0.36	0.59	45.6	
9	R2	24	5.0	0.096	8.4	LOS A	0.4	2.8	0.36	0.59	45.2	
Approach		99	5.0	0.096	6.2	LOS A	0.4	2.8	0.36	0.59	45.5	
West: Best Street												
10	L2	17	2.0	0.142	4.6	LOS A	0.0	0.0	0.00	0.03	49.3	
11	T1	251	5.0	0.142	0.0	LOS A	0.0	0.0	0.00	0.03	49.8	
Approach		267	4.8	0.142	0.3	NA	0.0	0.0	0.00	0.03	49.7	
All Vehicles		837	4.9	0.258	1.2	NA	0.4	2.8	0.09	0.11	49.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:51:38 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Griffiths Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Griffiths Street - 2019 Option 3 PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: Best Street												
5	T1	592	5.0	0.357	0.3	LOS A	0.7	4.9	0.10	0.05	49.4	
6	R2	54	2.0	0.357	6.9	LOS A	0.7	4.9	0.10	0.05	48.4	
Approach		645	4.8	0.357	0.9	NA	0.7	4.9	0.10	0.05	49.3	
North: Griffiths Street												
7	L2	153	2.0	0.228	6.0	LOS A	0.9	6.8	0.48	0.66	45.0	
9	R2	44	5.0	0.228	12.0	LOS B	0.9	6.8	0.48	0.66	44.5	
Approach		197	2.7	0.228	7.4	LOS A	0.9	6.8	0.48	0.66	44.9	
West: Best Street												
10	L2	39	5.0	0.207	4.6	LOS A	0.0	0.0	0.00	0.05	49.1	
11	T1	351	5.0	0.207	0.0	LOS A	0.0	0.0	0.00	0.05	49.7	
Approach		389	5.0	0.207	0.5	NA	0.0	0.0	0.00	0.05	49.6	
All Vehicles		1232	4.5	0.357	1.8	NA	0.9	6.8	0.13	0.15	48.6	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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


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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

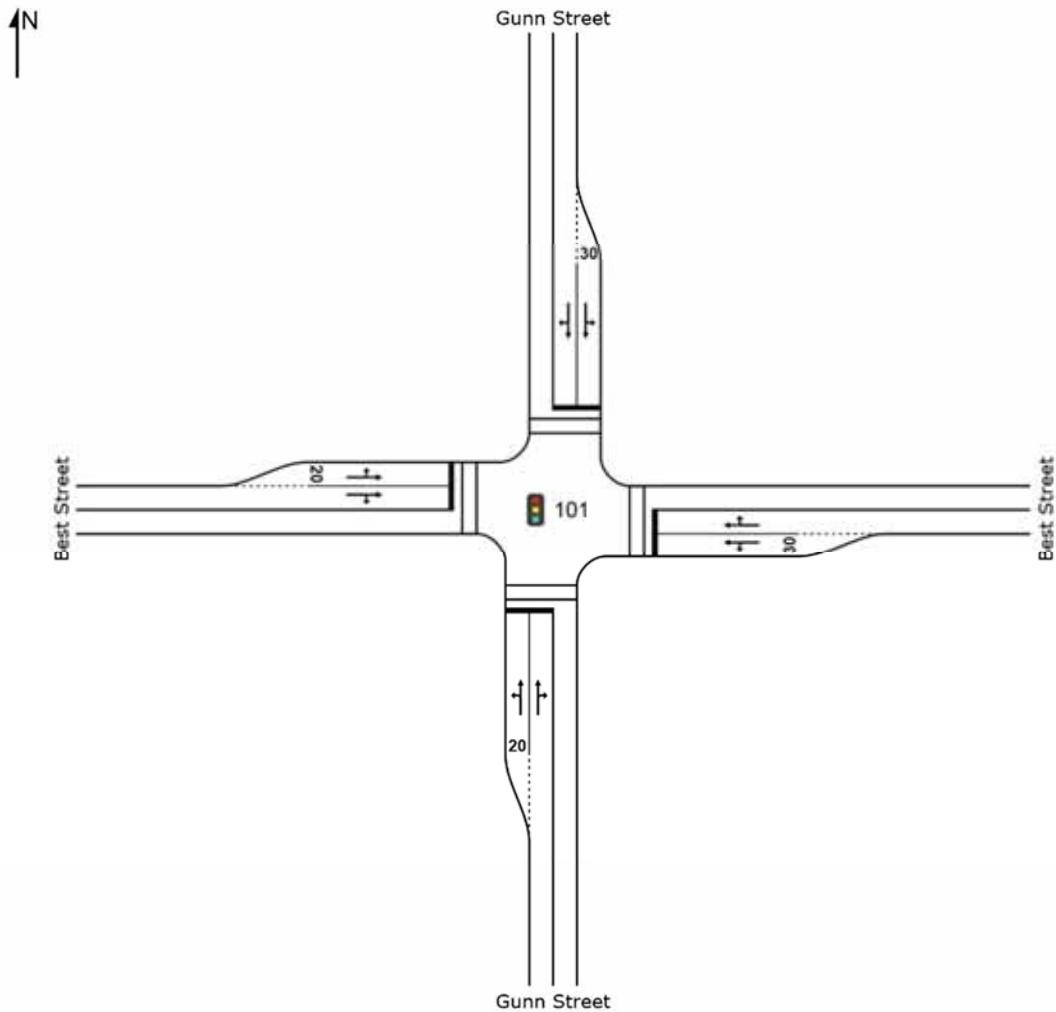
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:52:20 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Griffiths Street.sip7

### SITE LAYOUT

 Site: 101 [Best Street/ Gunn Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:49:52 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Gunn Street.sip7

**MOVEMENT SUMMARY**

**Site: 101 [Best Street/ Gunn Street - 2019 Option 3 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	43	5.0	0.089	14.3	LOS B	0.8	5.5	0.70	0.65	42.0
2	T1	173	2.0	0.443	11.2	LOS B	3.8	27.1	0.80	0.71	42.5
3	R2	81	2.0	0.443	15.9	LOS B	3.8	27.1	0.81	0.71	42.0
Approach		297	2.4	0.443	13.0	LOS B	3.8	27.1	0.79	0.70	42.3
East: Best Street											
4	L2	47	2.0	0.088	14.2	LOS B	0.8	5.5	0.70	0.67	41.8
5	T1	241	15.0	0.442	11.2	LOS B	4.1	31.7	0.81	0.69	43.0
6	R2	25	2.0	0.442	15.9	LOS B	4.1	31.7	0.81	0.69	42.5
Approach		314	12.0	0.442	12.1	LOS B	4.1	31.7	0.79	0.69	42.8
North: Gunn Street											
7	L2	33	2.0	0.063	14.1	LOS B	0.5	3.9	0.69	0.65	42.0
8	T1	181	2.0	0.317	10.6	LOS B	2.9	20.7	0.77	0.65	43.3
9	R2	23	2.0	0.317	15.3	LOS B	2.9	20.7	0.77	0.65	42.8
Approach		237	2.0	0.317	11.6	LOS B	2.9	20.7	0.76	0.65	43.1
West: Best Street											
10	L2	33	5.0	0.072	14.2	LOS B	0.6	4.5	0.69	0.64	42.1
11	T1	191	10.0	0.360	10.8	LOS B	3.1	23.6	0.78	0.66	43.1
12	R2	27	5.0	0.360	15.5	LOS B	3.1	23.6	0.79	0.66	42.6
Approach		251	8.8	0.360	11.8	LOS B	3.1	23.6	0.77	0.66	42.9
All Vehicles		1098	6.5	0.443	12.1	LOS B	4.1	31.7	0.78	0.68	42.7

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
P2	East Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
P3	North Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
P4	West Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
All Pedestrians		211	13.6	LOS B			0.83	0.83	

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



## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Gunn Street - 2019 Option 3 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	48	10.0	0.101	15.1	LOS B	0.8	6.1	0.73	0.67	41.4
2	T1	216	2.0	0.506	12.3	LOS B	4.4	31.6	0.85	0.73	42.2
3	R2	60	2.0	0.506	17.0	LOS B	4.4	31.6	0.85	0.73	41.7
Approach		324	3.2	0.506	13.6	LOS B	4.4	31.6	0.83	0.72	42.0
East: Best Street											
4	L2	72	2.0	0.120	13.6	LOS B	1.1	7.7	0.68	0.68	42.1
5	T1	348	5.0	0.598	11.3	LOS B	6.3	46.1	0.85	0.74	42.9
6	R2	45	2.0	0.598	16.0	LOS B	6.3	46.1	0.86	0.75	42.4
Approach		465	4.2	0.598	12.2	LOS B	6.3	46.1	0.83	0.73	42.7
North: Gunn Street											
7	L2	37	2.0	0.084	15.0	LOS B	0.7	5.0	0.72	0.65	41.7
8	T1	208	2.0	0.418	11.8	LOS B	3.7	26.2	0.82	0.69	42.6
9	R2	35	2.0	0.418	16.5	LOS B	3.7	26.2	0.83	0.70	42.1
Approach		280	2.0	0.418	12.8	LOS B	3.7	26.2	0.81	0.69	42.4
West: Best Street											
10	L2	52	2.0	0.077	13.4	LOS B	0.7	4.8	0.67	0.68	41.9
11	T1	243	5.0	0.383	10.2	LOS B	3.8	27.6	0.77	0.65	43.7
12	R2	13	2.0	0.383	14.8	LOS B	3.8	27.6	0.77	0.65	43.2
Approach		307	4.4	0.383	11.0	LOS B	3.8	27.6	0.75	0.65	43.4
All Vehicles		1377	3.6	0.598	12.4	LOS B	6.3	46.1	0.81	0.70	42.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

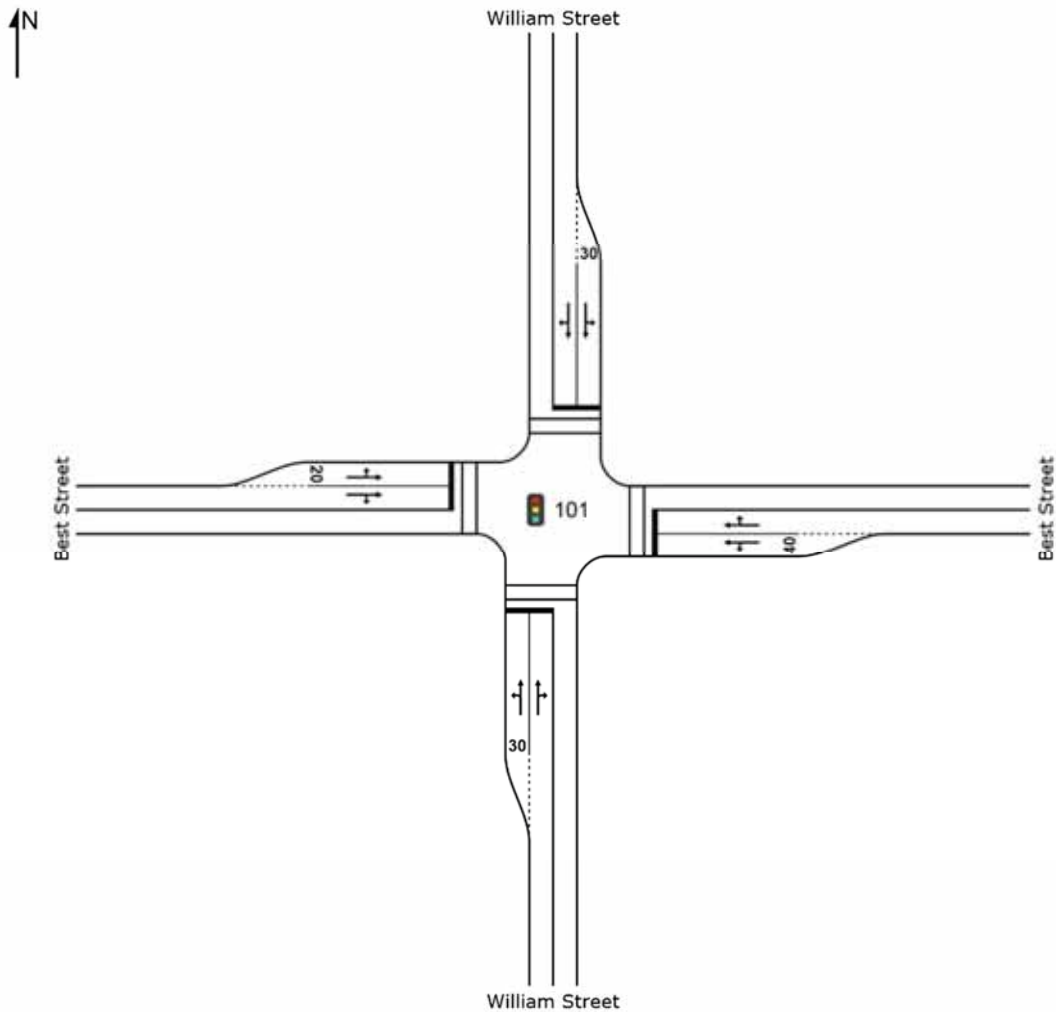
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### SITE LAYOUT

 Site: 101 [Best Street/ William Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:54:04 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-William Street.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ William Street - 2019 Option 3 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	62	5.0	0.102	13.6	LOS B	0.9	6.6	0.68	0.68	42.0
2	T1	224	10.0	0.510	11.6	LOS B	4.6	35.2	0.83	0.72	42.6
3	R2	64	15.0	0.510	16.4	LOS B	4.6	35.2	0.84	0.73	41.9
Approach		351	10.0	0.510	12.8	LOS B	4.6	35.2	0.81	0.72	42.4
East: Best Street											
4	L2	68	15.0	0.125	15.3	LOS B	1.0	7.7	0.73	0.71	40.9
5	T1	133	10.0	0.358	11.7	LOS B	2.8	21.5	0.81	0.69	42.5
6	R2	47	10.0	0.358	16.4	LOS B	2.8	21.5	0.81	0.69	41.8
Approach		248	11.4	0.358	13.6	LOS B	2.8	21.5	0.79	0.69	41.9
North: William Street											
7	L2	60	10.0	0.093	13.6	LOS B	0.8	6.0	0.68	0.69	41.8
8	T1	282	5.0	0.465	10.6	LOS B	4.7	34.3	0.80	0.69	43.4
9	R2	23	2.0	0.465	15.2	LOS B	4.7	34.3	0.80	0.69	42.9
Approach		365	5.6	0.465	11.4	LOS B	4.7	34.3	0.78	0.69	43.1
West: Best Street											
10	L2	43	2.0	0.091	15.0	LOS B	0.8	5.5	0.72	0.66	41.6
11	T1	159	5.0	0.457	12.1	LOS B	3.7	27.6	0.83	0.72	42.1
12	R2	80	10.0	0.457	16.9	LOS B	3.7	27.6	0.84	0.73	41.4
Approach		282	6.0	0.457	13.9	LOS B	3.7	27.6	0.82	0.72	41.8
All Vehicles		1246	8.1	0.510	12.8	LOS B	4.7	35.2	0.80	0.70	42.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P2	East Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P4	West Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ William Street - 2019 Option 3 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	83	5.0	0.135	13.7	LOS B	1.2	8.8	0.69	0.69	41.9
2	T1	269	5.0	0.677	14.2	LOS B	6.7	49.2	0.91	0.85	41.3
3	R2	93	10.0	0.677	19.0	LOS B	6.7	49.2	0.92	0.86	40.6
Approach		445	6.0	0.677	15.1	LOS B	6.7	49.2	0.87	0.82	41.2
East: Best Street											
4	L2	125	10.0	0.222	15.7	LOS B	1.9	14.1	0.76	0.73	40.8
5	T1	223	5.0	0.591	13.1	LOS B	5.2	38.3	0.89	0.78	41.9
6	R2	74	10.0	0.591	17.7	LOS B	5.2	38.3	0.89	0.78	41.3
Approach		422	7.4	0.591	14.7	LOS B	5.2	38.3	0.85	0.76	41.4
North: William Street											
7	L2	65	5.0	0.116	13.6	LOS B	1.0	7.5	0.68	0.67	42.1
8	T1	357	2.0	0.579	11.2	LOS B	6.1	43.5	0.84	0.73	43.1
9	R2	31	2.0	0.579	15.8	LOS B	6.1	43.5	0.85	0.73	42.6
Approach		453	2.4	0.579	11.8	LOS B	6.1	43.5	0.82	0.72	42.9
West: Best Street											
10	L2	47	2.0	0.103	15.0	LOS B	0.9	6.2	0.73	0.67	41.6
11	T1	168	2.0	0.517	13.1	LOS B	4.1	29.2	0.86	0.74	41.6
12	R2	84	2.0	0.517	17.9	LOS B	4.1	29.2	0.88	0.75	41.0
Approach		300	2.0	0.517	14.7	LOS B	4.1	29.2	0.84	0.73	41.4
All Vehicles		1620	4.6	0.677	14.0	LOS B	6.7	49.2	0.85	0.76	41.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P2	East Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P4	West Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

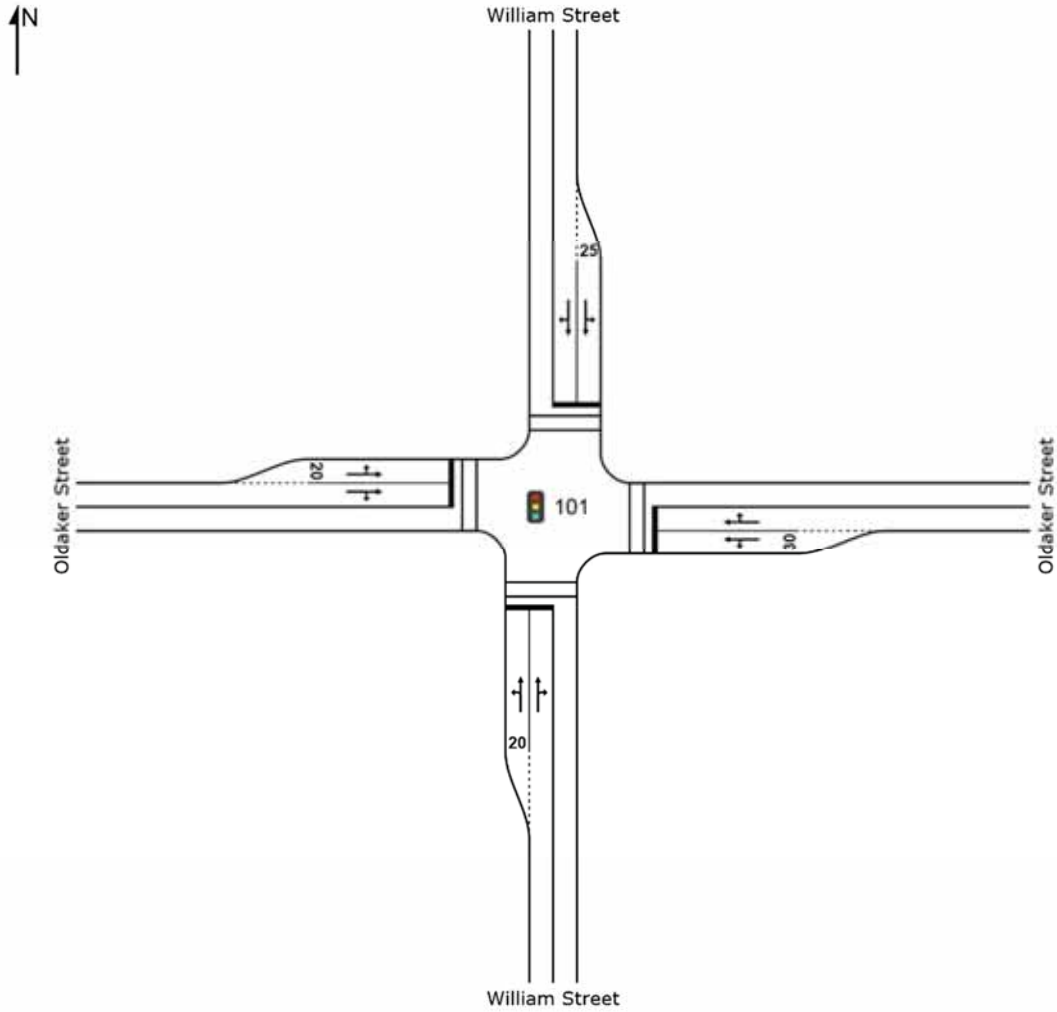
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### SITE LAYOUT

 Site: 101 [Oldaker Street/ William Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:59:50 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street -William Street.sip7



## MOVEMENT SUMMARY

**Site: 101 [Oldaker Street/ William Street - 2019 Option 3 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	62	2.0	0.104	15.1	LOS B	0.9	6.2	0.73	0.70	41.1
2	T1	155	10.0	0.519	13.3	LOS B	4.0	30.2	0.88	0.75	41.5
3	R2	79	5.0	0.519	17.9	LOS B	4.0	30.2	0.88	0.75	41.0
Approach		296	7.0	0.519	14.9	LOS B	4.0	30.2	0.85	0.74	41.3
East: Oldaker Street											
4	L2	157	5.0	0.233	14.2	LOS B	2.2	15.9	0.72	0.73	41.5
5	T1	318	2.0	0.595	11.4	LOS B	6.3	44.5	0.86	0.75	42.9
6	R2	61	2.0	0.595	16.0	LOS B	6.3	44.5	0.86	0.75	42.3
Approach		536	2.9	0.595	12.7	LOS B	6.3	44.5	0.82	0.74	42.4
North: William Street											
7	L2	35	2.0	0.093	15.0	LOS B	0.8	5.6	0.73	0.64	41.9
8	T1	263	5.0	0.465	12.0	LOS B	4.3	31.5	0.83	0.70	42.6
9	R2	23	2.0	0.465	16.7	LOS B	4.3	31.5	0.84	0.71	42.1
Approach		321	4.5	0.465	12.7	LOS B	4.3	31.5	0.82	0.70	42.5
West: Oldaker Street											
10	L2	31	2.0	0.068	13.4	LOS B	0.6	4.4	0.67	0.62	42.7
11	T1	175	2.0	0.342	10.6	LOS B	3.0	21.0	0.77	0.66	43.1
12	R2	38	2.0	0.342	15.4	LOS B	3.0	21.0	0.78	0.66	42.5
Approach		243	2.0	0.342	11.7	LOS B	3.0	21.0	0.76	0.66	42.9
All Vehicles		1396	4.0	0.595	13.0	LOS B	6.3	44.5	0.81	0.72	42.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.



## MOVEMENT SUMMARY

**Site: 101 [Oldaker Street/ William Street - 2019 Option 3 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	98	2.0	0.165	15.3	LOS B	1.4	10.1	0.75	0.72	41.0
2	T1	193	5.0	0.593	13.9	LOS B	5.0	36.0	0.90	0.79	41.3
3	R2	84	2.0	0.593	18.5	LOS B	5.0	36.0	0.90	0.79	40.8
Approach		375	3.5	0.593	15.3	LOS B	5.0	36.0	0.86	0.77	41.1
East: Oldaker Street											
4	L2	174	5.0	0.258	14.3	LOS B	2.4	17.8	0.73	0.74	41.5
5	T1	401	2.0	0.788	16.2	LOS B	9.9	70.7	0.93	0.97	40.6
6	R2	75	2.0	0.788	20.8	LOS C	9.9	70.7	0.93	0.97	40.1
Approach		649	2.8	0.788	16.2	LOS B	9.9	70.7	0.88	0.91	40.8
North: William Street											
7	L2	62	2.0	0.104	15.1	LOS B	0.9	6.2	0.73	0.70	41.1
8	T1	252	5.0	0.507	12.4	LOS B	4.7	34.0	0.86	0.72	42.5
9	R2	29	2.0	0.507	17.0	LOS B	4.7	34.0	0.86	0.72	42.0
Approach		343	4.2	0.507	13.3	LOS B	4.7	34.0	0.83	0.72	42.2
West: Oldaker Street											
10	L2	31	2.0	0.068	13.4	LOS B	0.6	4.3	0.67	0.62	42.7
11	T1	143	2.0	0.340	12.0	LOS B	2.7	19.1	0.80	0.68	42.3
12	R2	41	2.0	0.340	17.0	LOS B	2.7	19.1	0.82	0.69	41.7
Approach		215	2.0	0.340	13.1	LOS B	2.7	19.1	0.79	0.67	42.2
All Vehicles		1582	3.2	0.788	14.9	LOS B	9.9	70.7	0.85	0.80	41.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

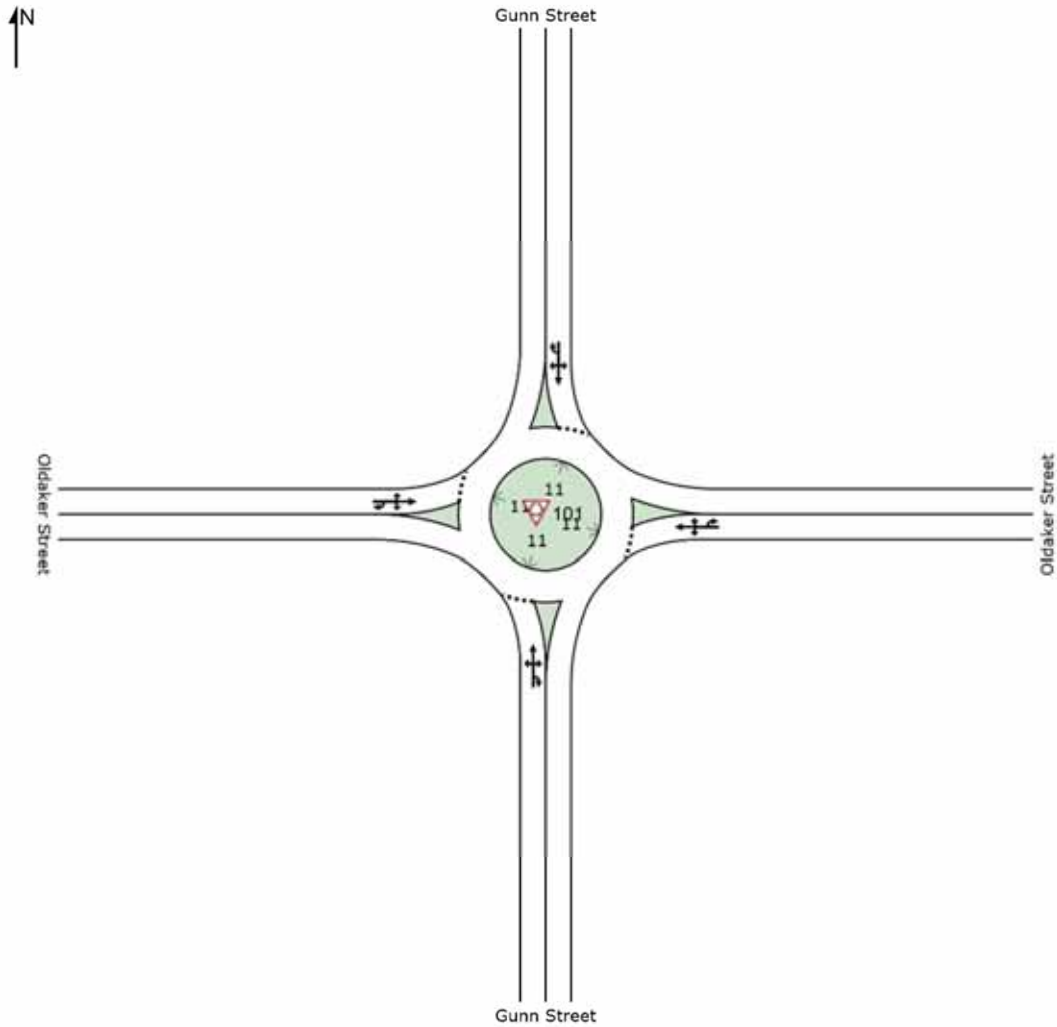
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### SITE LAYOUT

▽ Site: 101 [Oldaker Street/ Gunn Street - Existing Layout]

Roundabout



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:04:45 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Gunn Street.sip7

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Gunn Street - 2019 Option 3 AM Peak]

08:15-09:15

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	48	2.0	0.177	5.5	LOS A	0.8	6.0	0.41	0.60	45.5
2	T1	74	2.0	0.177	5.4	LOS A	0.8	6.0	0.41	0.60	46.2
3	R2	43	2.0	0.177	8.8	LOS A	0.8	6.0	0.41	0.60	46.1
3u	U	1	2.0	0.177	10.3	LOS B	0.8	6.0	0.41	0.60	46.6
Approach		166	2.0	0.177	6.3	LOS A	0.8	6.0	0.41	0.60	46.0
East: Oldaker Street											
4	L2	42	5.0	0.329	5.1	LOS A	2.1	15.3	0.49	0.57	45.5
5	T1	258	2.0	0.329	5.0	LOS A	2.1	15.3	0.49	0.57	46.3
6	R2	32	2.0	0.329	8.4	LOS A	2.1	15.3	0.49	0.57	46.1
6u	U	15	2.0	0.329	9.9	LOS A	2.1	15.3	0.49	0.57	46.7
Approach		346	2.4	0.329	5.5	LOS A	2.1	15.3	0.49	0.57	46.2
North: Gunn Street											
7	L2	35	5.0	0.203	6.0	LOS A	1.3	9.2	0.55	0.58	45.5
8	T1	148	2.0	0.203	5.8	LOS A	1.3	9.2	0.55	0.58	46.2
9	R2	7	2.0	0.203	9.2	LOS A	1.3	9.2	0.55	0.58	46.1
9u	U	1	2.0	0.203	10.7	LOS B	1.3	9.2	0.55	0.58	46.6
Approach		192	2.5	0.203	6.0	LOS A	1.3	9.2	0.55	0.58	46.1
West: Oldaker Street											
10	L2	13	2.0	0.275	4.6	LOS A	1.5	10.9	0.32	0.51	45.9
11	T1	234	5.0	0.275	4.6	LOS A	1.5	10.9	0.32	0.51	46.6
12	R2	58	2.0	0.275	7.9	LOS A	1.5	10.9	0.32	0.51	46.5
12u	U	2	2.0	0.275	9.5	LOS A	1.5	10.9	0.32	0.51	47.0
Approach		306	4.3	0.275	5.3	LOS A	1.5	10.9	0.32	0.51	46.6
All Vehicles		1011	2.9	0.329	5.7	LOS A	2.1	15.3	0.44	0.56	46.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:20:25 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Gunn Street.sip7

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Gunn Street - 2019 Option 3 PM Peak]

15:00-16:00

Roundabout

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Gunn Street												
1	L2	55	2.0	0.391	8.9	LOS A	2.3	16.2	0.66	0.79	43.8	
2	T1	142	2.0	0.391	8.8	LOS A	2.3	16.2	0.66	0.79	44.5	
3	R2	56	5.0	0.391	12.3	LOS B	2.3	16.2	0.66	0.79	44.3	
3u	U	1	2.0	0.391	13.7	LOS B	2.3	16.2	0.66	0.79	44.8	
Approach		254	2.7	0.391	9.6	LOS A	2.3	16.2	0.66	0.79	44.3	
East: Oldaker Street												
4	L2	91	2.0	0.630	5.3	LOS A	6.0	42.7	0.61	0.58	45.3	
5	T1	549	2.0	0.630	5.2	LOS A	6.0	42.7	0.61	0.58	46.0	
6	R2	95	2.0	0.630	8.6	LOS A	6.0	42.7	0.61	0.58	45.9	
6u	U	4	2.0	0.630	10.1	LOS B	6.0	42.7	0.61	0.58	46.4	
Approach		739	2.0	0.630	5.7	LOS A	6.0	42.7	0.61	0.58	45.9	
North: Gunn Street												
7	L2	47	2.0	0.167	5.7	LOS A	1.0	7.2	0.53	0.59	45.5	
8	T1	93	2.0	0.167	5.6	LOS A	1.0	7.2	0.53	0.59	46.2	
9	R2	17	2.0	0.167	9.0	LOS A	1.0	7.2	0.53	0.59	46.1	
9u	U	1	2.0	0.167	10.5	LOS B	1.0	7.2	0.53	0.59	46.6	
Approach		158	2.0	0.167	6.0	LOS A	1.0	7.2	0.53	0.59	46.0	
West: Oldaker Street												
10	L2	9	2.0	0.299	5.6	LOS A	1.6	11.6	0.44	0.59	45.5	
11	T1	216	2.0	0.299	5.6	LOS A	1.6	11.6	0.44	0.59	46.2	
12	R2	58	2.0	0.299	8.9	LOS A	1.6	11.6	0.44	0.59	46.1	
12u	U	4	2.0	0.299	10.5	LOS B	1.6	11.6	0.44	0.59	46.6	
Approach		287	2.0	0.299	6.3	LOS A	1.6	11.6	0.44	0.59	46.2	
All Vehicles		1438	2.1	0.630	6.5	LOS A	6.0	42.7	0.58	0.62	45.7	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

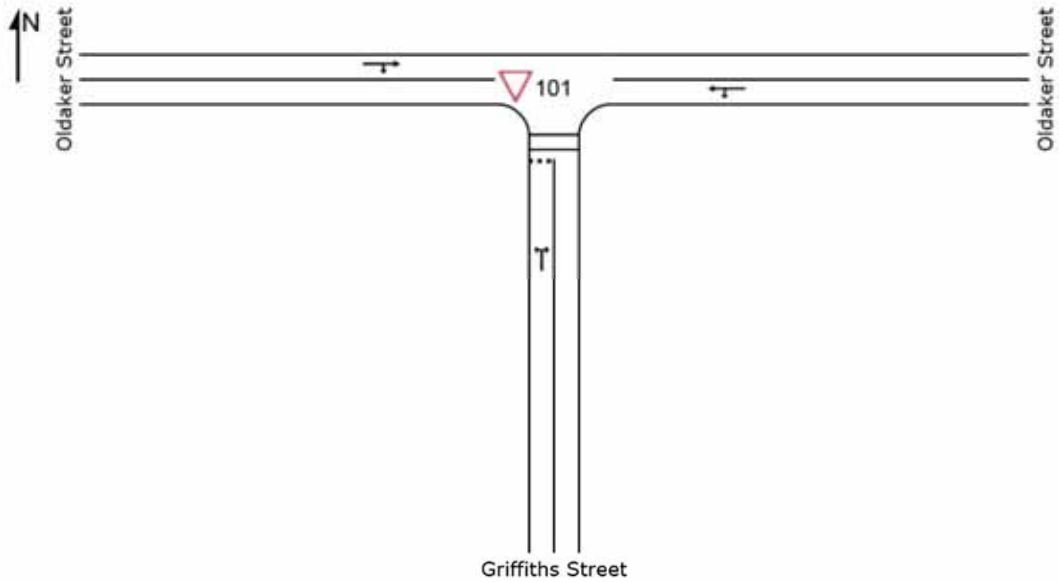
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:20:59 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Gunn Street.sip7

**SITE LAYOUT**

▽ Site: 101 [Oldaker Street/ Griffiths Street - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:07:51 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Griffiths Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Griffiths Street - 2019 Option 3 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Griffiths Street												
1	L2	72	5.0	0.107	5.9	LOS A	0.4	2.6	0.39	0.64	45.4	
3	R2	31	2.0	0.107	7.8	LOS A	0.4	2.6	0.39	0.64	45.1	
Approach		102	4.1	0.107	6.5	LOS A	0.4	2.6	0.39	0.64	45.3	
East: Oldaker Street												
4	L2	79	5.0	0.225	4.6	LOS A	0.0	0.0	0.00	0.10	48.9	
5	T1	348	2.0	0.225	0.0	LOS A	0.0	0.0	0.00	0.10	49.4	
Approach		427	2.6	0.225	0.9	NA	0.0	0.0	0.00	0.10	49.3	
West: Oldaker Street												
11	T1	178	5.0	0.154	0.9	LOS A	0.6	4.1	0.28	0.17	48.4	
12	R2	66	5.0	0.154	6.6	LOS A	0.6	4.1	0.28	0.17	47.4	
Approach		244	5.0	0.154	2.4	NA	0.6	4.1	0.28	0.17	48.1	
All Vehicles		774	3.5	0.225	2.1	NA	0.6	4.1	0.14	0.19	48.4	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:27:38 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Griffiths Street.sip7



## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Griffiths Street - 2019 Option 3 PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Griffiths Street											
1	L2	196	2.0	0.295	7.7	LOS A	1.3	9.6	0.59	0.81	44.4
3	R2	37	5.0	0.295	12.4	LOS B	1.3	9.6	0.59	0.81	44.0
Approach		233	2.5	0.295	8.5	LOS A	1.3	9.6	0.59	0.81	44.3
East: Oldaker Street											
4	L2	138	2.0	0.371	4.6	LOS A	0.0	0.0	0.00	0.11	48.8
5	T1	568	2.0	0.371	0.0	LOS A	0.0	0.0	0.00	0.11	49.3
Approach		706	2.0	0.371	0.9	NA	0.0	0.0	0.00	0.11	49.2
West: Oldaker Street											
11	T1	231	2.0	0.242	2.5	LOS A	1.3	8.9	0.46	0.23	47.1
12	R2	99	2.0	0.242	8.9	LOS A	1.3	8.9	0.46	0.23	46.2
Approach		329	2.0	0.242	4.4	NA	1.3	8.9	0.46	0.23	46.9
All Vehicles		1268	2.1	0.371	3.2	NA	1.3	9.6	0.23	0.27	47.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

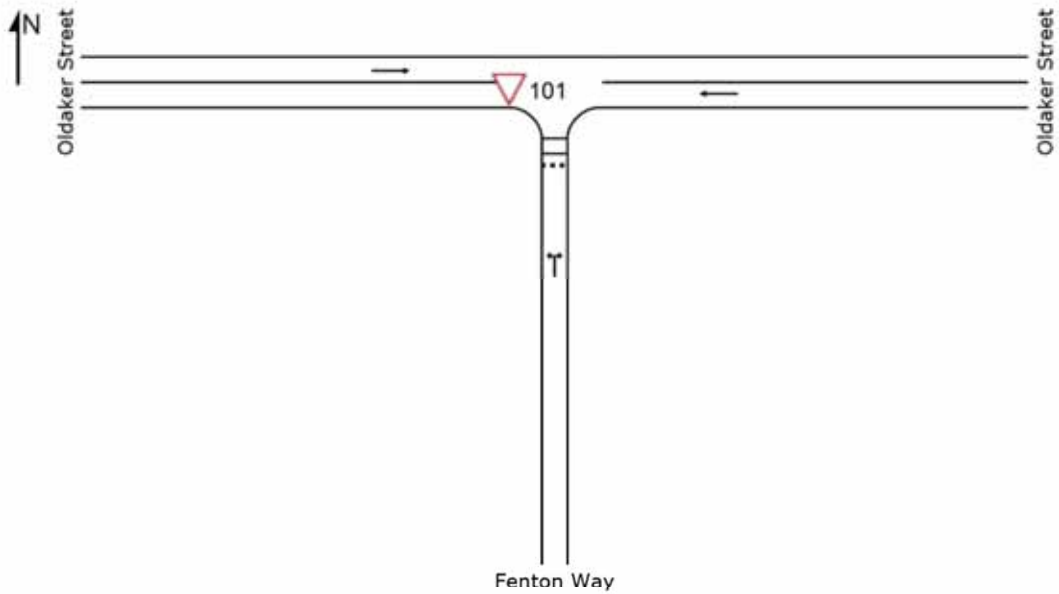
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:28:10 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Griffiths Street.sip7

### SITE LAYOUT

▽ Site: 101 [Oldaker Street/ Fenton Way - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:11:43 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Fenton Way.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Fenton Way - 2019 Option 3 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Fenton Way												
1	L2	109	2.0	0.135	5.8	LOS A	0.5	3.3	0.33	0.61	45.6	
3	R2	35	2.0	0.135	7.5	LOS A	0.5	3.3	0.33	0.61	45.1	
Approach		144	2.0	0.135	6.2	LOS A	0.5	3.3	0.33	0.61	45.5	
East: Oldaker Street												
5	T1	327	5.0	0.173	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		327	5.0	0.173	0.0	NA	0.0	0.0	0.00	0.00	50.0	
West: Oldaker Street												
11	T1	206	5.0	0.109	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		206	5.0	0.109	0.0	NA	0.0	0.0	0.00	0.00	50.0	
All Vehicles		678	4.4	0.173	1.3	NA	0.5	3.3	0.07	0.13	49.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Fenton Way - 2019 Option 3 PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Fenton Way												
1	L2	322	2.0	0.484	7.4	LOS A	2.8	20.1	0.49	0.79	44.5	
3	R2	138	2.0	0.484	10.2	LOS B	2.8	20.1	0.49	0.79	44.0	
Approach		460	2.0	0.484	8.3	LOS A	2.8	20.1	0.49	0.79	44.3	
East: Oldaker Street												
5	T1	387	2.0	0.201	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		387	2.0	0.201	0.0	NA	0.0	0.0	0.00	0.00	50.0	
West: Oldaker Street												
11	T1	269	5.0	0.143	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		269	5.0	0.143	0.0	NA	0.0	0.0	0.00	0.00	50.0	
All Vehicles		1117	2.7	0.484	3.4	NA	2.8	20.1	0.20	0.33	47.5	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

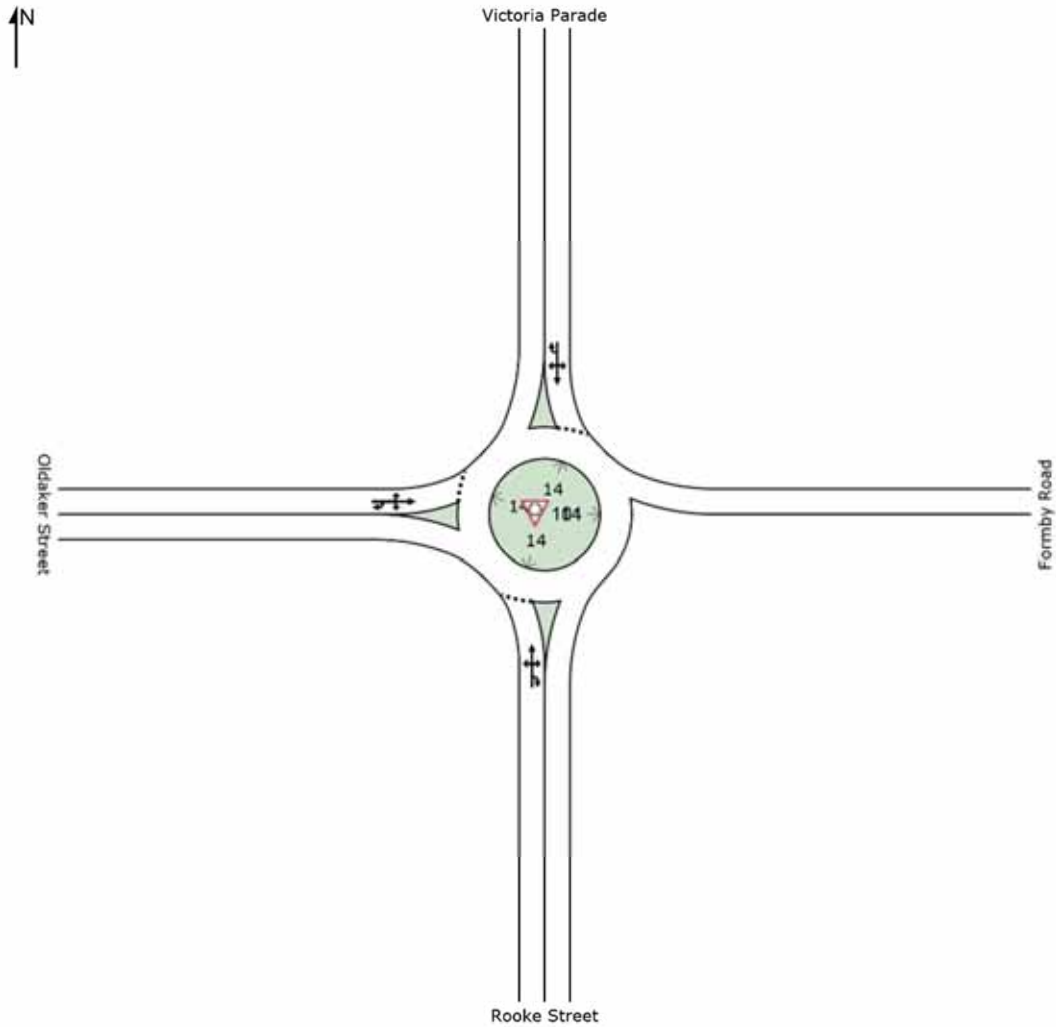
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
 Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:35:01 AM  
 Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Fenton Way.sip7

### SITE LAYOUT

▽ Site: 101 [Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade - Option 3 Layout]

Roundabout



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:17:58 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker-Rooke-Formby-Victoria.sip7

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade - 2019 Option 3 AM Peak]

08:15-09:15  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Rooke Street											
1	L2	94	5.0	0.232	3.4	LOS A	1.2	9.6	0.11	0.42	47.0
2	T1	200	10.0	0.232	3.4	LOS A	1.2	9.6	0.11	0.42	47.9
3	R2	12	10.0	0.232	7.2	LOS A	1.2	9.6	0.11	0.42	47.7
3u	U	19	75.0	0.232	9.5	LOS A	1.2	9.6	0.11	0.42	47.4
Approach		324	12.4	0.232	3.9	LOS A	1.2	9.6	0.11	0.42	47.6
North: Victoria Parade											
7	L2	160	2.0	0.218	4.9	LOS A	1.3	9.1	0.50	0.58	46.1
8	T1	38	2.0	0.218	4.9	LOS A	1.3	9.1	0.50	0.58	46.9
9	R2	19	5.0	0.218	8.8	LOS A	1.3	9.1	0.50	0.58	46.8
9u	U	1	2.0	0.218	10.3	LOS B	1.3	9.1	0.50	0.58	47.5
Approach		218	2.3	0.218	5.3	LOS A	1.3	9.1	0.50	0.58	46.3
West: Oldaker Street											
10	L2	38	5.0	0.258	4.9	LOS A	1.7	12.3	0.47	0.53	45.8
11	T1	194	2.0	0.258	4.9	LOS A	1.7	12.3	0.47	0.53	46.7
12	R2	40	5.0	0.258	8.7	LOS A	1.7	12.3	0.47	0.53	46.6
12u	U	3	30.0	0.258	10.9	LOS B	1.7	12.3	0.47	0.53	46.8
Approach		275	3.2	0.258	5.5	LOS A	1.7	12.3	0.47	0.53	46.5
All Vehicles		817	6.6	0.258	4.8	LOS A	1.7	12.3	0.33	0.50	46.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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



## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade - 2019 Option 3 PM Peak]

15:00-16:00  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Rooke Street											
1	L2	148	2.0	0.556	8.4	LOS A	4.4	31.9	0.64	0.76	44.1
2	T1	235	2.0	0.556	8.4	LOS A	4.4	31.9	0.64	0.76	44.9
3	R2	29	2.0	0.556	12.2	LOS B	4.4	31.9	0.64	0.76	44.8
3u	U	58	10.0	0.556	14.1	LOS B	4.4	31.9	0.64	0.76	45.3
Approach		471	3.0	0.556	9.3	LOS A	4.4	31.9	0.64	0.76	44.6
East: Formby Road											
4	L2	36	15.0	0.434	5.1	LOS A	2.7	19.2	0.43	0.59	45.2
5	T1	237	2.0	0.434	4.8	LOS A	2.7	19.2	0.43	0.59	46.2
6	R2	172	2.0	0.434	8.6	LOS A	2.7	19.2	0.43	0.59	46.1
6u	U	39	2.0	0.434	10.2	LOS B	2.7	19.2	0.43	0.59	46.7
Approach		483	3.0	0.434	6.6	LOS A	2.7	19.2	0.43	0.59	46.1
North: Victoria Parade											
7	L2	163	2.0	0.295	6.2	LOS A	1.9	13.5	0.66	0.70	45.4
8	T1	56	5.0	0.295	6.3	LOS A	1.9	13.5	0.66	0.70	46.2
9	R2	31	2.0	0.295	10.0	LOS A	1.9	13.5	0.66	0.70	46.1
9u	U	1	2.0	0.295	11.6	LOS B	1.9	13.5	0.66	0.70	46.8
Approach		251	2.7	0.295	6.7	LOS A	1.9	13.5	0.66	0.70	45.6
West: Oldaker Street											
10	L2	47	2.0	0.444	7.6	LOS A	3.4	23.9	0.78	0.77	44.6
11	T1	257	2.0	0.444	7.6	LOS A	3.4	23.9	0.78	0.77	45.4
12	R2	53	2.0	0.444	11.4	LOS B	3.4	23.9	0.78	0.77	45.4
12u	U	6	2.0	0.444	13.0	LOS B	3.4	23.9	0.78	0.77	46.0
Approach		363	2.0	0.444	8.2	LOS A	3.4	23.9	0.78	0.77	45.3
All Vehicles		1567	2.7	0.556	7.8	LOS A	4.4	31.9	0.61	0.70	45.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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



Appendix E

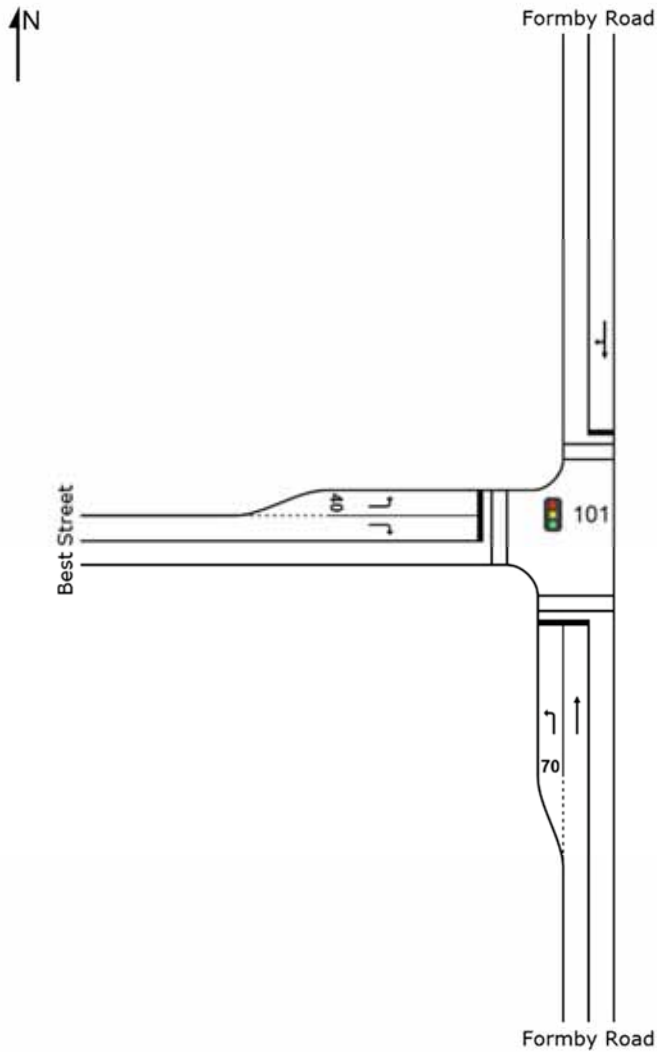
SIDRA Intersection Traffic Modelling Results – Option 4

### SITE LAYOUT

 Site: 101 [Best Street/ Formby Road - Option 4 Layout]

08:15-09:15

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 3:56:45 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Formby Road.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Formby Road - 2019 Option 4 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Formby Road											
1	L2	586	5.0	3.773	2539.7	LOS F	222.4	1623.3	1.00	2.99	1.4
2	T1	29	5.0	0.180	70.0	LOS E	2.0	14.9	0.96	0.70	25.5
Approach		616	5.0	3.773	2421.5	LOS F	222.4	1623.3	1.00	2.88	1.4
North: Formby Road											
8	T1	26	5.0	0.338	68.0	LOS E	2.0	14.5	1.00	0.75	25.7
9	R2	5	5.0	0.336	72.6	LOS E	2.0	14.5	1.00	0.75	25.5
Approach		32	5.0	0.338	68.8	LOS E	2.0	14.5	1.00	0.75	25.7
West: Best Street											
10	L2	2	2.0	0.013	72.2	LOS E	0.1	1.0	0.93	0.62	25.0
12	R2	392	10.0	1.787	769.2	LOS F	102.0	775.1	1.00	2.10	4.2
Approach		394	10.0	1.787	765.5	LOS F	102.0	775.1	1.00	2.09	4.2
All Vehicles		1041	6.9	3.773	1723.9	LOS F	222.4	1623.3	1.00	2.52	2.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96	
P3	North Full Crossing	53	67.4	LOS F	0.2	0.2	0.95	0.95	
P4	West Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96	
All Pedestrians		158	68.6	LOS F			0.96	0.96	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 7:12:16 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Formby Road.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Formby Road - 2019 Option 4 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Formby Road											
1	L2	821	5.0	5.283	3899.7	LOS F	336.7	2457.8	1.00	3.21	0.9
2	T1	29	5.0	0.180	70.0	LOS E	2.0	14.9	0.96	0.70	25.5
Approach		851	5.0	5.283	3767.0	LOS F	336.7	2457.8	1.00	3.12	0.9
North: Formby Road											
8	T1	26	5.0	0.338	69.9	LOS E	2.0	14.5	1.00	0.76	25.4
9	R2	5	5.0	0.336	74.5	LOS E	2.0	14.5	1.00	0.76	25.2
Approach		32	5.0	0.338	70.7	LOS E	2.0	14.5	1.00	0.76	25.4
West: Best Street											
10	L2	2	2.0	0.013	72.2	LOS E	0.1	1.0	0.93	0.62	25.0
12	R2	603	10.0	2.178	1116.9	LOS F	181.7	1381.0	1.00	2.38	3.0
Approach		605	10.0	2.178	1113.2	LOS F	181.7	1381.0	1.00	2.37	3.0
All Vehicles		1487	7.0	5.283	2608.6	LOS F	336.7	2457.8	1.00	2.77	1.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96	
P3	North Full Crossing	53	67.4	LOS F	0.2	0.2	0.95	0.95	
P4	West Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96	
All Pedestrians		158	68.6	LOS F			0.96	0.96	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

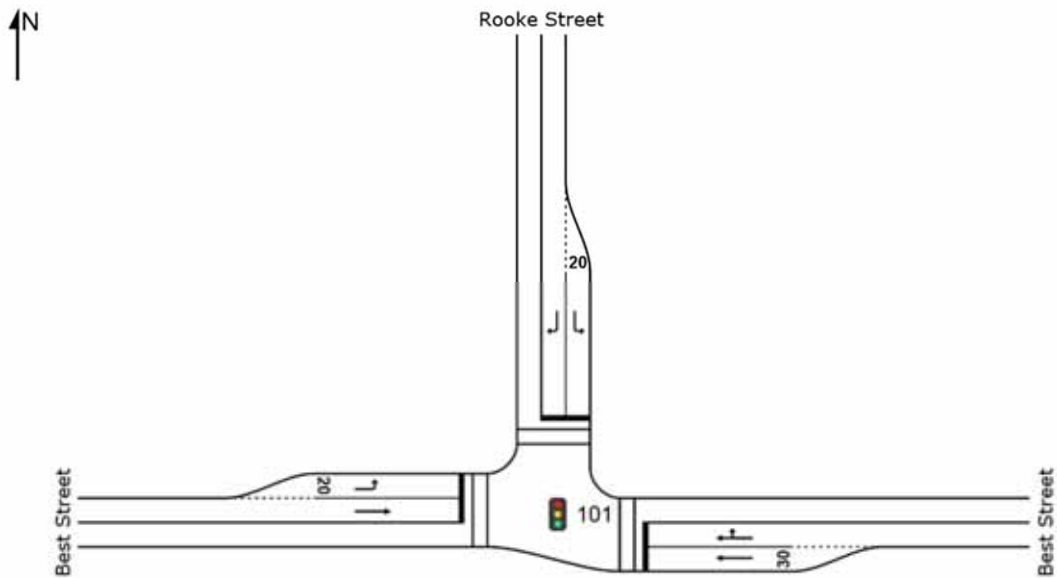
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 7:13:25 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Formby Road.sip7

### SITE LAYOUT

 Site: 101 [Best Street/ Rooke Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:01:42 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Rooke Street.sip7



## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Rooke Street - 2019 Option 4 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 50 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Best Street											
5	T1	392	5.0	0.785	12.8	LOS B	12.2	88.8	0.75	0.75	41.8
6	R2	266	5.0	0.785	20.7	LOS C	12.2	88.8	0.86	0.92	39.4
Approach		658	5.0	0.785	16.0	LOS B	12.2	88.8	0.80	0.82	40.8
North: Rooke Street											
7	L2	233	20.0	0.566	22.9	LOS C	5.2	42.4	0.91	0.80	37.7
9	R2	51	20.0	0.120	20.5	LOS C	1.0	8.0	0.80	0.71	38.4
Approach		283	20.0	0.566	22.5	LOS C	5.2	42.4	0.89	0.79	37.8
West: Best Street											
10	L2	77	20.0	0.095	11.9	LOS B	1.0	8.2	0.55	0.67	42.5
11	T1	171	5.0	0.181	7.5	LOS A	2.3	16.9	0.58	0.48	45.4
Approach		247	9.7	0.181	8.8	LOS A	2.3	16.9	0.57	0.54	44.4
All Vehicles		1188	9.5	0.785	16.1	LOS B	12.2	88.8	0.77	0.75	40.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P3	North Full Crossing	53	10.3	LOS B	0.0	0.0	0.64	0.64	
P4	West Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
All Pedestrians		158	16.4	LOS B			0.80	0.80	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
 Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:32:07 PM  
 Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Rooke Street.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Rooke Street - 2019 Option 4 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Best Street											
5	T1	493	2.0	1.006	52.5	LOS D	69.4	494.2	0.67	0.74	28.8
6	R2	377	2.0	1.006	108.2	LOS F	69.4	494.2	1.00	1.21	20.2
Approach		869	2.0	1.006	76.7	LOS E	69.4	494.2	0.81	0.94	24.3
North: Rooke Street											
7	L2	318	15.0	0.978	106.6	LOS F	30.1	237.9	1.00	1.09	20.2
9	R2	83	10.0	0.262	54.3	LOS D	4.9	37.1	0.85	0.75	28.4
Approach		401	14.0	0.978	95.7	LOS F	30.1	237.9	0.97	1.02	21.5
West: Best Street											
10	L2	103	10.0	0.087	12.8	LOS B	2.4	18.5	0.35	0.63	42.1
11	T1	354	2.0	0.313	9.4	LOS A	9.7	68.7	0.41	0.36	44.3
Approach		457	3.8	0.313	10.2	LOS B	9.7	68.7	0.40	0.42	43.8
All Vehicles		1727	5.3	1.006	63.5	LOS E	69.4	494.2	0.74	0.82	26.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Pedestrian	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	49.7	LOS E	0.2	0.2	0.82	0.82	
P3	North Full Crossing	53	9.7	LOS A	0.1	0.1	0.36	0.36	
P4	West Full Crossing	53	49.7	LOS E	0.2	0.2	0.82	0.82	
All Pedestrians		158	36.4	LOS D			0.66	0.66	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

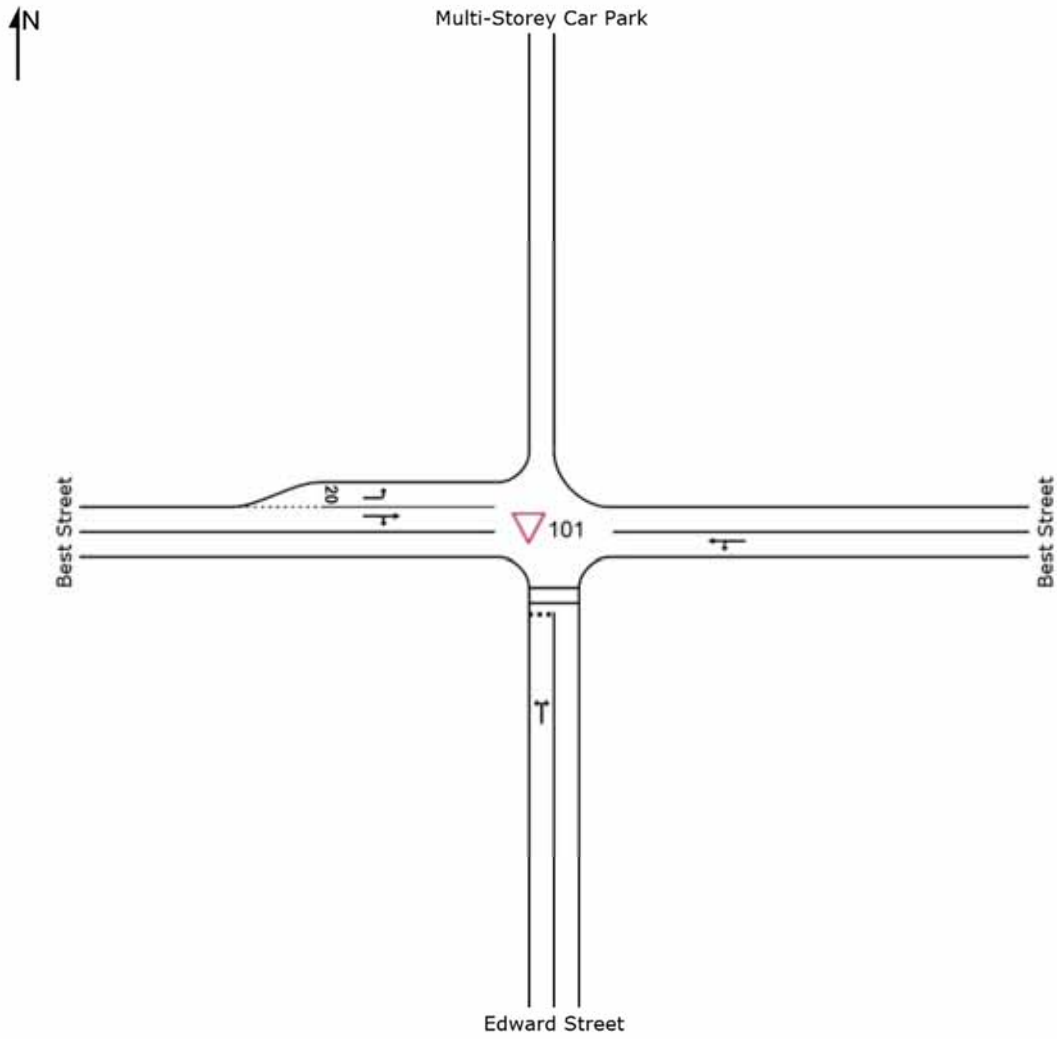
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### SITE LAYOUT

▽ Site: 101 [Best Street/ Edward Street - Living City Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:20:36 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Edward Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Edward Street - 2019 Option 4 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Edward Street												
1	L2	55	2.0	0.086	6.1	LOS A	0.4	2.6	0.49	0.63	45.0	
3	R2	16	10.0	0.086	12.0	LOS B	0.4	2.6	0.49	0.63	44.5	
Approach		71	3.8	0.086	7.4	LOS A	0.4	2.6	0.49	0.63	44.9	
East: Best Street												
4	L2	61	10.0	0.243	4.7	LOS A	0.0	0.0	0.00	0.07	48.9	
5	T1	381	10.0	0.243	0.0	LOS A	0.0	0.0	0.00	0.07	49.5	
Approach		442	10.0	0.243	0.7	NA	0.0	0.0	0.00	0.07	49.4	
West: Best Street												
10	L2	12	2.0	0.006	5.6	LOS A	0.0	0.0	0.00	0.58	53.5	
11	T1	217	10.0	0.179	1.0	LOS A	0.7	5.1	0.23	0.15	48.4	
12	R2	69	5.0	0.179	6.8	LOS A	0.7	5.1	0.23	0.15	47.4	
Approach		298	8.5	0.179	2.5	NA	0.7	5.1	0.22	0.17	48.3	
All Vehicles		811	8.9	0.243	1.9	NA	0.7	5.1	0.12	0.16	48.6	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
 Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:20:04 PM  
 Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Edward Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Edward Street - 2019 Option 4 PM Peak]

16:00-17:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Edward Street												
1	L2	107	2.0	0.225	6.9	LOS A	0.9	6.7	0.61	0.73	43.7	
3	R2	27	10.0	0.225	21.7	LOS C	0.9	6.7	0.61	0.73	43.2	
Approach		135	3.6	0.225	9.9	LOS A	0.9	6.7	0.61	0.73	43.6	
East: Best Street												
4	L2	93	10.0	0.325	4.7	LOS A	0.0	0.0	0.00	0.08	48.8	
5	T1	498	10.0	0.325	0.0	LOS A	0.0	0.0	0.00	0.08	49.5	
Approach		591	10.0	0.325	0.8	NA	0.0	0.0	0.00	0.08	49.4	
West: Best Street												
10	L2	11	2.0	0.006	5.6	LOS A	0.0	0.0	0.00	0.58	53.5	
11	T1	408	10.0	0.332	1.7	LOS A	1.6	12.3	0.32	0.14	47.9	
12	R2	104	5.0	0.332	8.7	LOS A	1.6	12.3	0.32	0.14	46.9	
Approach		523	8.8	0.332	3.2	NA	1.6	12.3	0.32	0.15	47.8	
All Vehicles		1248	8.8	0.332	2.8	NA	1.6	12.3	0.20	0.18	48.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

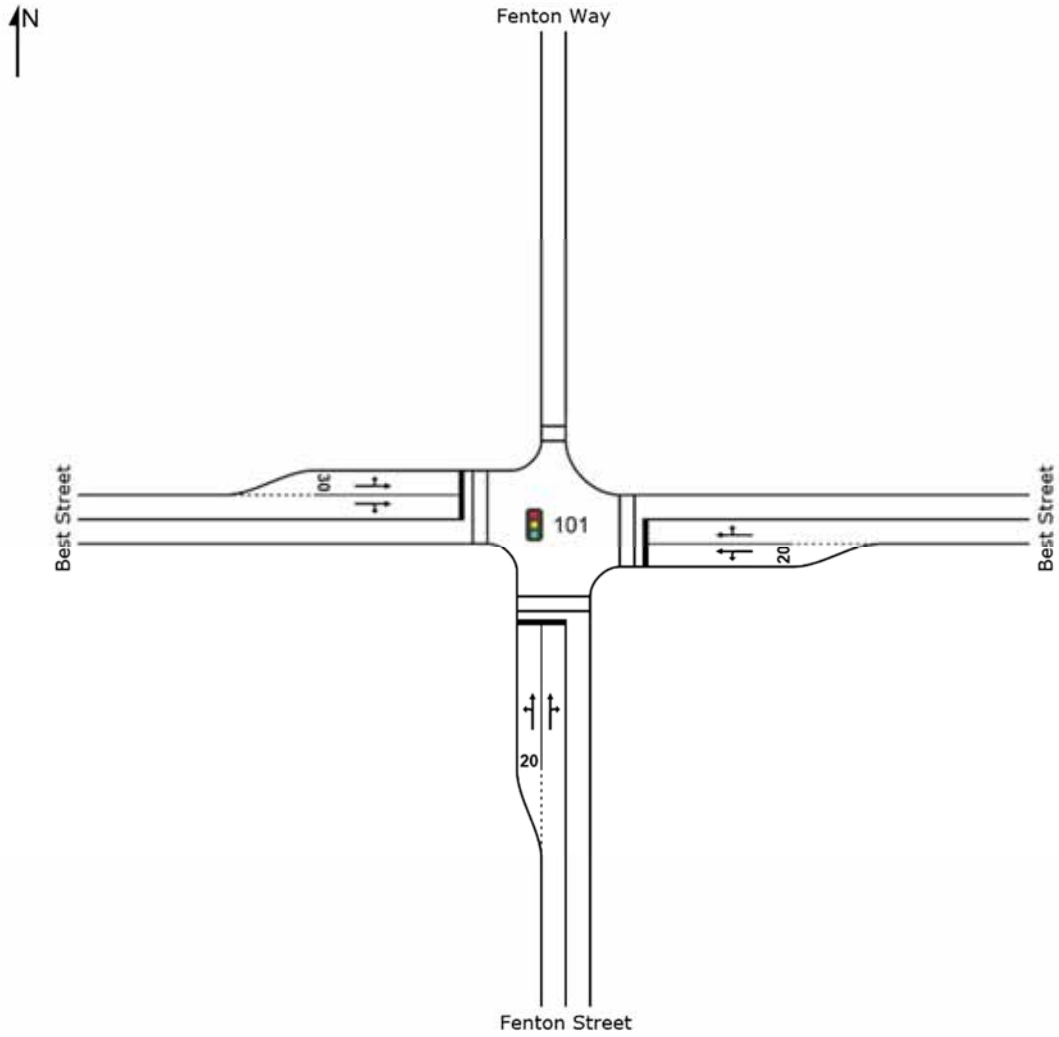
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
 Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:20:43 PM  
 Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Edward Street.sip7

### SITE LAYOUT

 Site: 101 [Best Street/ Fenton Way - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:39:06 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Fenton Way.sip7



## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Fenton Way - 2019 Option 4 AM Peak]**

08:30-09:30

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fenton Street											
1	L2	128	2.0	0.216	15.5	LOS B	1.9	13.5	0.76	0.73	40.9
2	T1	118	2.0	0.280	11.2	LOS B	2.6	18.6	0.78	0.67	42.7
3	R2	52	10.0	0.280	15.9	LOS B	2.6	18.6	0.78	0.67	42.0
Approach		298	3.4	0.280	13.9	LOS B	2.6	18.6	0.77	0.70	41.8
East: Best Street											
4	L2	42	10.0	0.127	13.7	LOS B	1.1	8.5	0.69	0.62	42.8
5	T1	333	10.0	0.635	12.3	LOS B	6.1	45.7	0.85	0.77	42.3
6	R2	57	2.0	0.635	17.6	LOS B	6.1	45.7	0.88	0.79	41.3
Approach		432	8.9	0.635	13.1	LOS B	6.1	45.7	0.84	0.76	42.2
West: Best Street											
10	L2	58	2.0	0.129	13.7	LOS B	1.2	8.5	0.69	0.65	42.5
11	T1	253	10.0	0.643	13.3	LOS B	5.8	43.8	0.88	0.81	41.5
12	R2	92	10.0	0.643	18.6	LOS B	5.8	43.8	0.90	0.83	40.8
Approach		402	8.8	0.643	14.6	LOS B	5.8	43.8	0.86	0.79	41.5
All Vehicles		1132	7.4	0.643	13.8	LOS B	6.1	45.7	0.83	0.75	41.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	9.1	LOS A	0.0	0.0	0.68	0.68	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		211	12.7	LOS B			0.80	0.80	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:42:30 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Fenton Way.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Fenton Way - 2019 Option 4 PM Peak]**

14:45-15:45

Signals - Fixed Time Isolated Cycle Time = 140 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fenton Street											
1	L2	178	2.0	1.132	208.0	LOS F	23.2	164.9	1.00	1.38	12.6
2	T1	109	2.0	1.099	178.3	LOS F	20.5	146.0	1.00	1.43	14.1
3	R2	60	2.0	1.099	182.9	LOS F	20.5	146.0	1.00	1.43	14.0
Approach		347	2.0	1.132	194.3	LOS F	23.2	164.9	1.00	1.41	13.3
East: Best Street											
4	L2	56	5.0	0.413	8.9	LOS A	7.1	51.9	0.29	0.31	46.4
5	T1	443	5.0	2.063	239.3	LOS F	49.7	359.5	0.46	0.79	11.3
6	R2	69	2.0	2.063	1008.9	LOS F	49.7	359.5	1.00	2.36	3.3
Approach		568	4.6	2.063	310.8	LOS F	49.7	359.5	0.51	0.94	9.2
West: Best Street											
10	L2	45	2.0	0.456	8.9	LOS A	7.9	56.0	0.30	0.30	46.4
11	T1	509	2.0	2.282	298.8	LOS F	70.5	501.6	0.47	0.88	9.5
12	R2	105	2.0	2.282	1202.2	LOS F	70.5	501.6	1.00	2.62	2.8
Approach		660	2.0	2.282	423.0	LOS F	70.5	501.6	0.54	1.11	7.1
All Vehicles		1576	2.9	2.282	332.1	LOS F	70.5	501.6	0.63	1.11	8.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	4.9	LOS A	0.1	0.1	0.26	0.26	
P2	East Full Crossing	53	59.6	LOS E	0.2	0.2	0.92	0.92	
P3	North Full Crossing	53	3.7	LOS A	0.0	0.0	0.23	0.23	
P4	West Full Crossing	53	59.6	LOS E	0.2	0.2	0.92	0.92	
All Pedestrians		211	31.9	LOS D			0.59	0.59	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

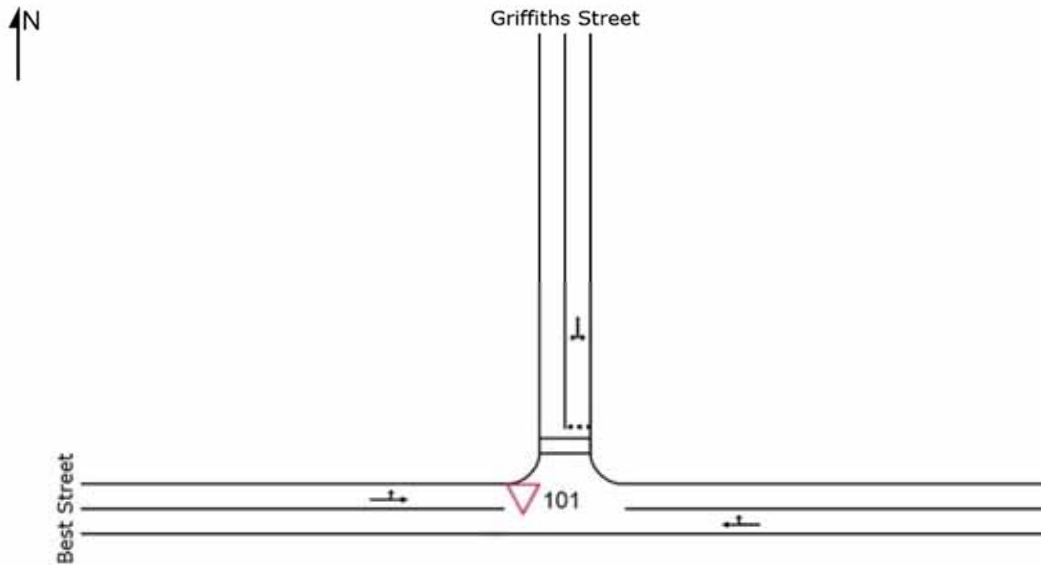
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### SITE LAYOUT

▽ Site: 101 [Best Street/ Griffiths Street - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:44:24 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Griffiths Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Griffiths Street - 2019 Option 4 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: Best Street												
5	T1	422	5.0	0.256	0.2	LOS A	0.4	2.9	0.08	0.05	49.5	
6	R2	41	5.0	0.256	6.1	LOS A	0.4	2.9	0.08	0.05	48.4	
Approach		463	5.0	0.256	0.7	NA	0.4	2.9	0.08	0.05	49.4	
North: Griffiths Street												
7	L2	84	5.0	0.108	5.7	LOS A	0.4	3.2	0.40	0.61	45.5	
9	R2	24	5.0	0.108	8.7	LOS A	0.4	3.2	0.40	0.61	45.1	
Approach		108	5.0	0.108	6.4	LOS A	0.4	3.2	0.40	0.61	45.4	
West: Best Street												
10	L2	17	2.0	0.166	4.6	LOS A	0.0	0.0	0.00	0.03	49.3	
11	T1	296	5.0	0.166	0.0	LOS A	0.0	0.0	0.00	0.03	49.8	
Approach		313	4.8	0.166	0.3	NA	0.0	0.0	0.00	0.03	49.8	
All Vehicles		884	4.9	0.256	1.3	NA	0.4	3.2	0.09	0.11	49.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:53:07 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Griffiths Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Griffiths Street - 2019 Option 4 PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: Best Street												
5	T1	585	5.0	0.356	0.4	LOS A	0.7	5.3	0.11	0.05	49.3	
6	R2	53	2.0	0.356	7.4	LOS A	0.7	5.3	0.11	0.05	48.3	
Approach		638	4.8	0.356	1.0	NA	0.7	5.3	0.11	0.05	49.2	
North: Griffiths Street												
7	L2	165	2.0	0.254	6.4	LOS A	1.1	7.6	0.52	0.69	44.8	
9	R2	44	5.0	0.254	12.8	LOS B	1.1	7.6	0.52	0.69	44.4	
Approach		209	2.6	0.254	7.7	LOS A	1.1	7.6	0.52	0.69	44.7	
West: Best Street												
10	L2	39	5.0	0.239	4.6	LOS A	0.0	0.0	0.00	0.05	49.1	
11	T1	411	5.0	0.239	0.0	LOS A	0.0	0.0	0.00	0.05	49.7	
Approach		449	5.0	0.239	0.4	NA	0.0	0.0	0.00	0.05	49.6	
All Vehicles		1297	4.5	0.356	1.9	NA	1.1	7.6	0.14	0.15	48.6	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

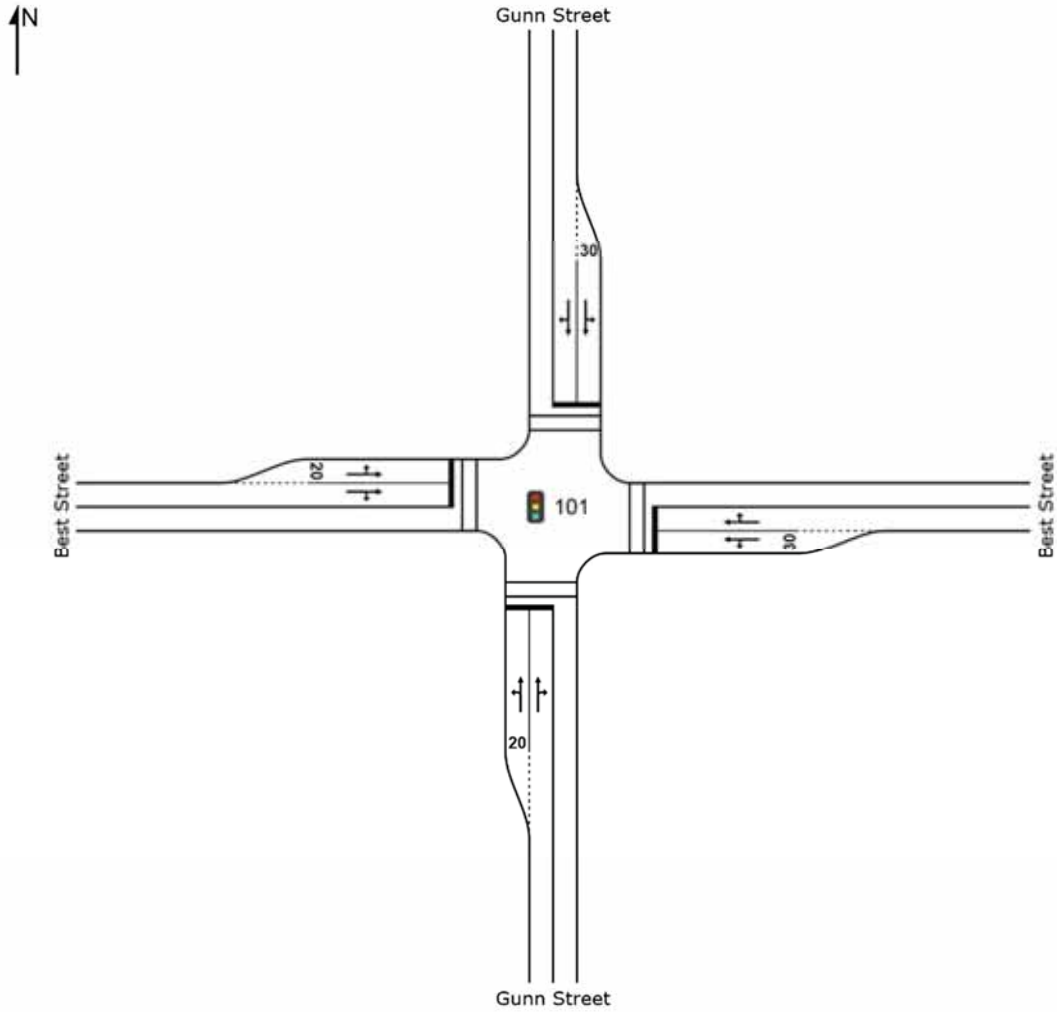
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:53:54 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Griffiths Street.sip7

### SITE LAYOUT

 Site: 101 [Best Street/ Gunn Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:49:52 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Gunn Street.sip7



### MOVEMENT SUMMARY

**Site: 101 [Best Street/ Gunn Street - 2019 Option 4 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	43	5.0	0.089	14.3	LOS B	0.8	5.6	0.70	0.65	42.0
2	T1	173	2.0	0.446	11.2	LOS B	3.8	27.1	0.81	0.71	42.5
3	R2	81	2.0	0.446	16.0	LOS B	3.8	27.1	0.81	0.71	41.9
Approach		297	2.4	0.446	13.0	LOS B	3.8	27.1	0.79	0.70	42.3
East: Best Street											
4	L2	47	2.0	0.087	14.2	LOS B	0.7	5.4	0.70	0.67	41.8
5	T1	236	15.0	0.435	11.2	LOS B	4.0	31.0	0.81	0.69	43.0
6	R2	24	2.0	0.435	15.9	LOS B	4.0	31.0	0.81	0.69	42.5
Approach		307	12.0	0.435	12.0	LOS B	4.0	31.0	0.79	0.68	42.8
North: Gunn Street											
7	L2	42	2.0	0.066	14.1	LOS B	0.6	4.0	0.69	0.68	41.6
8	T1	181	2.0	0.330	10.7	LOS B	3.1	21.7	0.78	0.65	43.3
9	R2	23	2.0	0.330	15.3	LOS B	3.1	21.7	0.78	0.65	42.8
Approach		246	2.0	0.330	11.7	LOS B	3.1	21.7	0.76	0.66	43.0
West: Best Street											
10	L2	33	5.0	0.081	14.2	LOS B	0.7	5.1	0.70	0.63	42.2
11	T1	226	10.0	0.406	11.0	LOS B	3.6	27.6	0.79	0.67	43.1
12	R2	27	5.0	0.406	15.7	LOS B	3.6	27.6	0.80	0.68	42.5
Approach		286	9.0	0.406	11.8	LOS B	3.6	27.6	0.78	0.67	42.9
All Vehicles		1137	6.6	0.446	12.2	LOS B	4.0	31.0	0.78	0.68	42.7

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
P2	East Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
P3	North Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
P4	West Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
All Pedestrians		211	13.6	LOS B			0.83	0.83	

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

### MOVEMENT SUMMARY

**Site: 101 [Best Street/ Gunn Street - 2019 Option 4 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	48	10.0	0.102	15.1	LOS B	0.8	6.2	0.73	0.67	41.4
2	T1	216	2.0	0.509	12.3	LOS B	4.4	31.6	0.85	0.73	42.2
3	R2	60	2.0	0.509	17.0	LOS B	4.4	31.6	0.86	0.73	41.7
Approach		324	3.2	0.509	13.6	LOS B	4.4	31.6	0.83	0.72	42.0
East: Best Street											
4	L2	72	2.0	0.120	13.6	LOS B	1.1	7.7	0.68	0.68	42.1
5	T1	343	5.0	0.599	11.4	LOS B	6.3	45.6	0.85	0.75	42.9
6	R2	45	2.0	0.599	16.0	LOS B	6.3	45.6	0.86	0.75	42.4
Approach		460	4.2	0.599	12.2	LOS B	6.3	45.6	0.83	0.73	42.7
North: Gunn Street											
7	L2	49	2.0	0.087	15.0	LOS B	0.7	5.2	0.72	0.69	41.3
8	T1	208	2.0	0.436	12.0	LOS B	3.9	27.7	0.83	0.70	42.6
9	R2	35	2.0	0.436	16.6	LOS B	3.9	27.7	0.83	0.70	42.1
Approach		293	2.0	0.436	13.1	LOS B	3.9	27.7	0.81	0.70	42.3
West: Best Street											
10	L2	52	2.0	0.088	13.5	LOS B	0.8	5.6	0.67	0.66	42.2
11	T1	292	5.0	0.440	10.5	LOS B	4.5	32.8	0.79	0.67	43.6
12	R2	13	2.0	0.440	15.1	LOS B	4.5	32.8	0.79	0.67	43.0
Approach		356	4.5	0.440	11.1	LOS B	4.5	32.8	0.77	0.67	43.3
All Vehicles		1433	3.6	0.599	12.4	LOS B	6.3	45.6	0.81	0.71	42.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

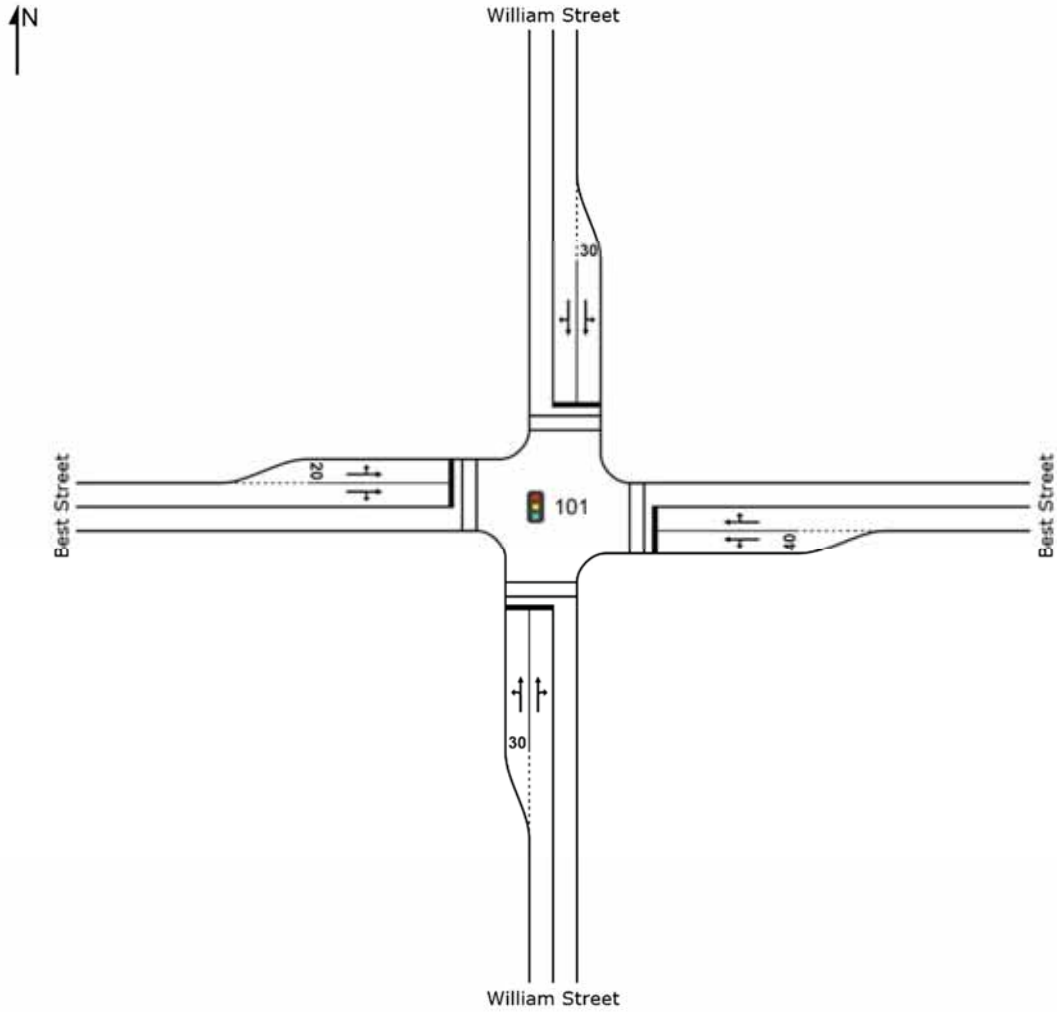
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### SITE LAYOUT

 Site: 101 [Best Street/ William Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:54:04 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-William Street.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ William Street - 2019 Option 4 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	62	5.0	0.102	13.6	LOS B	0.9	6.6	0.68	0.68	42.0
2	T1	224	10.0	0.511	11.6	LOS B	4.6	35.2	0.83	0.72	42.6
3	R2	64	15.0	0.511	16.4	LOS B	4.6	35.2	0.84	0.73	41.9
Approach		351	10.0	0.511	12.8	LOS B	4.6	35.2	0.81	0.72	42.3
East: Best Street											
4	L2	68	15.0	0.125	15.3	LOS B	1.0	7.7	0.73	0.71	40.9
5	T1	128	10.0	0.352	11.7	LOS B	2.7	20.9	0.80	0.69	42.5
6	R2	46	10.0	0.352	16.4	LOS B	2.7	20.9	0.80	0.69	41.8
Approach		243	11.4	0.352	13.6	LOS B	2.7	20.9	0.78	0.69	41.9
North: William Street											
7	L2	78	10.0	0.120	13.7	LOS B	1.0	7.8	0.68	0.70	41.7
8	T1	282	5.0	0.465	10.6	LOS B	4.7	34.3	0.80	0.69	43.4
9	R2	23	2.0	0.465	15.2	LOS B	4.7	34.3	0.80	0.69	42.9
Approach		383	5.8	0.465	11.5	LOS B	4.7	34.3	0.78	0.69	43.0
West: Best Street											
10	L2	43	2.0	0.096	15.0	LOS B	0.8	5.8	0.73	0.66	41.7
11	T1	177	5.0	0.480	12.2	LOS B	4.0	29.7	0.84	0.73	42.1
12	R2	80	10.0	0.480	17.0	LOS B	4.0	29.7	0.85	0.73	41.4
Approach		300	5.9	0.480	13.9	LOS B	4.0	29.7	0.82	0.72	41.8
All Vehicles		1277	8.1	0.511	12.8	LOS B	4.7	35.2	0.80	0.70	42.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P2	East Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P4	West Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.



## MOVEMENT SUMMARY

 Site: 101 [Best Street/ William Street - 2019 Option 4 PM Peak]

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	83	5.0	0.138	13.7	LOS B	1.2	9.0	0.69	0.69	41.9
2	T1	269	5.0	0.690	14.5	LOS B	6.7	49.7	0.92	0.86	41.1
3	R2	93	10.0	0.690	19.4	LOS B	6.7	49.7	0.92	0.87	40.5
Approach		445	6.0	0.690	15.4	LOS B	6.7	49.7	0.87	0.83	41.1
East: Best Street											
4	L2	125	10.0	0.222	15.7	LOS B	1.9	14.1	0.76	0.73	40.8
5	T1	219	5.0	0.591	13.8	LOS B	5.2	38.3	0.90	0.78	41.5
6	R2	73	10.0	0.591	18.5	LOS B	5.2	38.3	0.90	0.78	40.9
Approach		417	7.4	0.591	15.2	LOS B	5.2	38.3	0.86	0.77	41.2
North: William Street											
7	L2	89	5.0	0.133	13.7	LOS B	1.2	8.6	0.69	0.70	41.7
8	T1	357	2.0	0.599	11.4	LOS B	6.4	45.6	0.86	0.74	43.1
9	R2	31	2.0	0.599	16.0	LOS B	6.4	45.6	0.86	0.74	42.5
Approach		477	2.6	0.599	12.1	LOS B	6.4	45.6	0.83	0.74	42.8
West: Best Street											
10	L2	47	2.0	0.112	15.1	LOS B	1.0	6.8	0.73	0.66	41.7
11	T1	193	2.0	0.562	13.3	LOS B	4.5	32.1	0.87	0.76	41.5
12	R2	84	2.0	0.562	18.2	LOS B	4.5	32.1	0.89	0.77	40.9
Approach		324	2.0	0.562	14.8	LOS B	4.5	32.1	0.86	0.75	41.4
All Vehicles		1663	4.6	0.690	14.3	LOS B	6.7	49.7	0.85	0.77	41.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P2	East Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P4	West Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

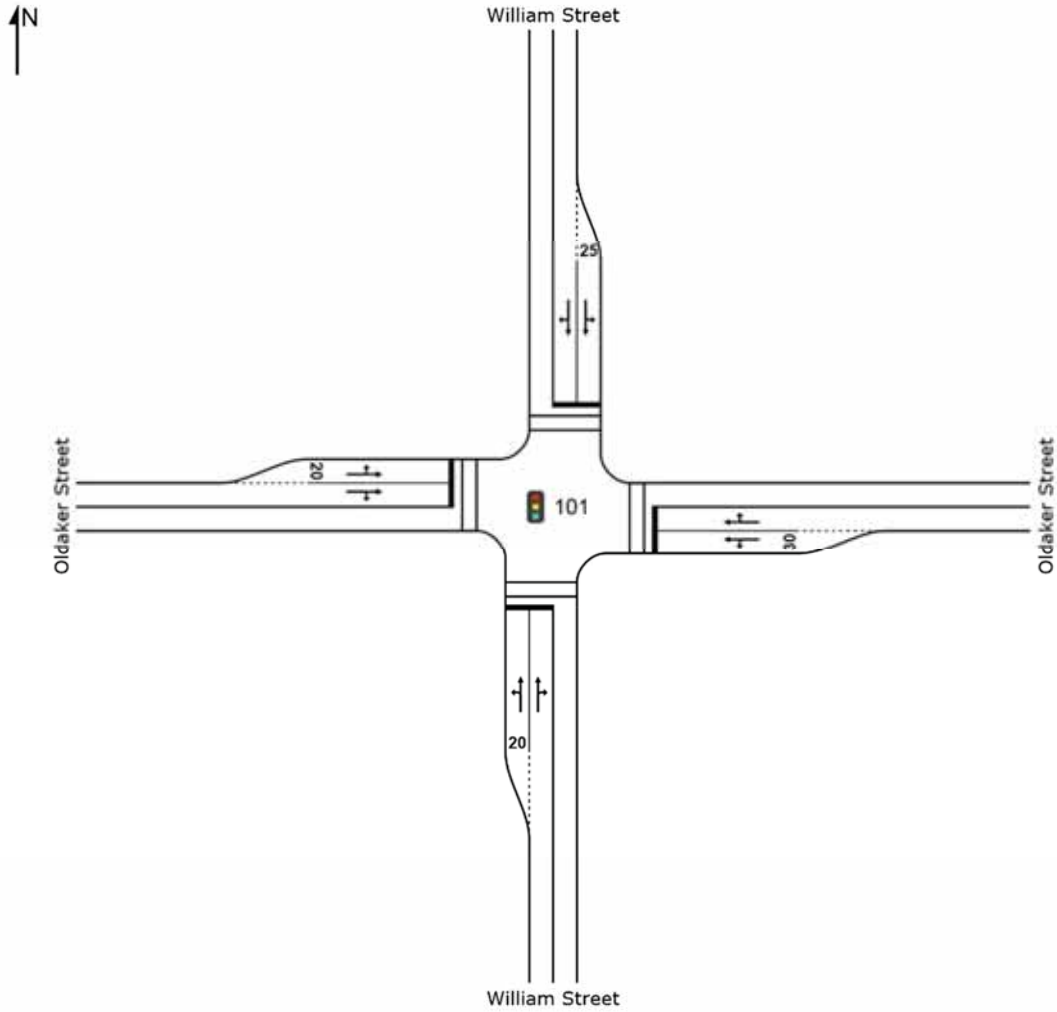
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### SITE LAYOUT

 Site: 101 [Oldaker Street/ William Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:59:50 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street -William Street.sip7



## MOVEMENT SUMMARY

**Site: 101 [Oldaker Street/ William Street - 2019 Option 4 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	60	2.0	0.103	15.1	LOS B	0.9	6.2	0.73	0.70	41.2
2	T1	155	10.0	0.516	13.3	LOS B	4.0	30.0	0.87	0.75	41.5
3	R2	79	5.0	0.516	17.9	LOS B	4.0	30.0	0.88	0.75	41.0
Approach		294	7.0	0.516	14.9	LOS B	4.0	30.0	0.84	0.74	41.3
East: Oldaker Street											
4	L2	157	5.0	0.233	14.2	LOS B	2.2	15.9	0.72	0.73	41.5
5	T1	313	2.0	0.608	11.6	LOS B	6.3	44.6	0.86	0.76	42.8
6	R2	61	2.0	0.608	16.2	LOS B	6.3	44.6	0.86	0.76	42.2
Approach		531	2.9	0.608	12.9	LOS B	6.3	44.6	0.82	0.75	42.3
North: William Street											
7	L2	35	2.0	0.093	15.0	LOS B	0.8	5.6	0.73	0.64	41.9
8	T1	263	5.0	0.465	12.0	LOS B	4.3	31.5	0.83	0.70	42.6
9	R2	23	2.0	0.465	16.7	LOS B	4.3	31.5	0.84	0.71	42.1
Approach		321	4.5	0.465	12.7	LOS B	4.3	31.5	0.82	0.70	42.5
West: Oldaker Street											
10	L2	31	2.0	0.097	13.5	LOS B	0.9	6.3	0.68	0.60	43.1
11	T1	263	2.0	0.485	11.2	LOS B	4.5	31.8	0.81	0.70	42.8
12	R2	53	2.0	0.485	16.1	LOS B	4.5	31.8	0.83	0.71	42.2
Approach		346	2.0	0.485	12.1	LOS B	4.5	31.8	0.80	0.69	42.8
All Vehicles		1492	3.8	0.608	13.1	LOS B	6.3	44.6	0.82	0.72	42.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

## MOVEMENT SUMMARY

**Site: 101 [Oldaker Street/ William Street - 2019 Option 4 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: William Street												
1	L2	97	2.0	0.163	15.3	LOS B	1.4	9.9	0.75	0.72	41.0	
2	T1	193	5.0	0.593	13.9	LOS B	5.0	36.0	0.90	0.79	41.3	
3	R2	84	2.0	0.593	18.5	LOS B	5.0	36.0	0.90	0.79	40.8	
Approach		374	3.5	0.593	15.3	LOS B	5.0	36.0	0.86	0.77	41.1	
East: Oldaker Street												
4	L2	174	5.0	0.258	14.3	LOS B	2.4	17.8	0.73	0.74	41.5	
5	T1	396	2.0	0.835	19.4	LOS B	10.8	76.8	0.96	1.06	39.2	
6	R2	75	2.0	0.835	24.0	LOS C	10.8	76.8	0.96	1.06	38.7	
Approach		644	2.8	0.835	18.6	LOS B	10.8	76.8	0.90	0.97	39.7	
North: William Street												
7	L2	62	2.0	0.104	15.1	LOS B	0.9	6.2	0.73	0.70	41.1	
8	T1	252	5.0	0.507	12.4	LOS B	4.7	34.0	0.86	0.72	42.5	
9	R2	29	2.0	0.507	17.0	LOS B	4.7	34.0	0.86	0.72	42.0	
Approach		343	4.2	0.507	13.3	LOS B	4.7	34.0	0.83	0.72	42.2	
West: Oldaker Street												
10	L2	31	2.0	0.113	13.6	LOS B	1.0	7.4	0.68	0.60	43.2	
11	T1	263	2.0	0.563	12.7	LOS B	4.8	34.2	0.85	0.73	42.0	
12	R2	61	2.0	0.563	18.1	LOS B	4.8	34.2	0.89	0.76	41.2	
Approach		355	2.0	0.563	13.7	LOS B	4.8	34.2	0.84	0.72	42.0	
All Vehicles		1716	3.1	0.835	15.8	LOS B	10.8	76.8	0.87	0.83	41.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians										
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped		
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80		
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85		
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80		
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85		
All Pedestrians		211	13.7	LOS B			0.83	0.83		

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

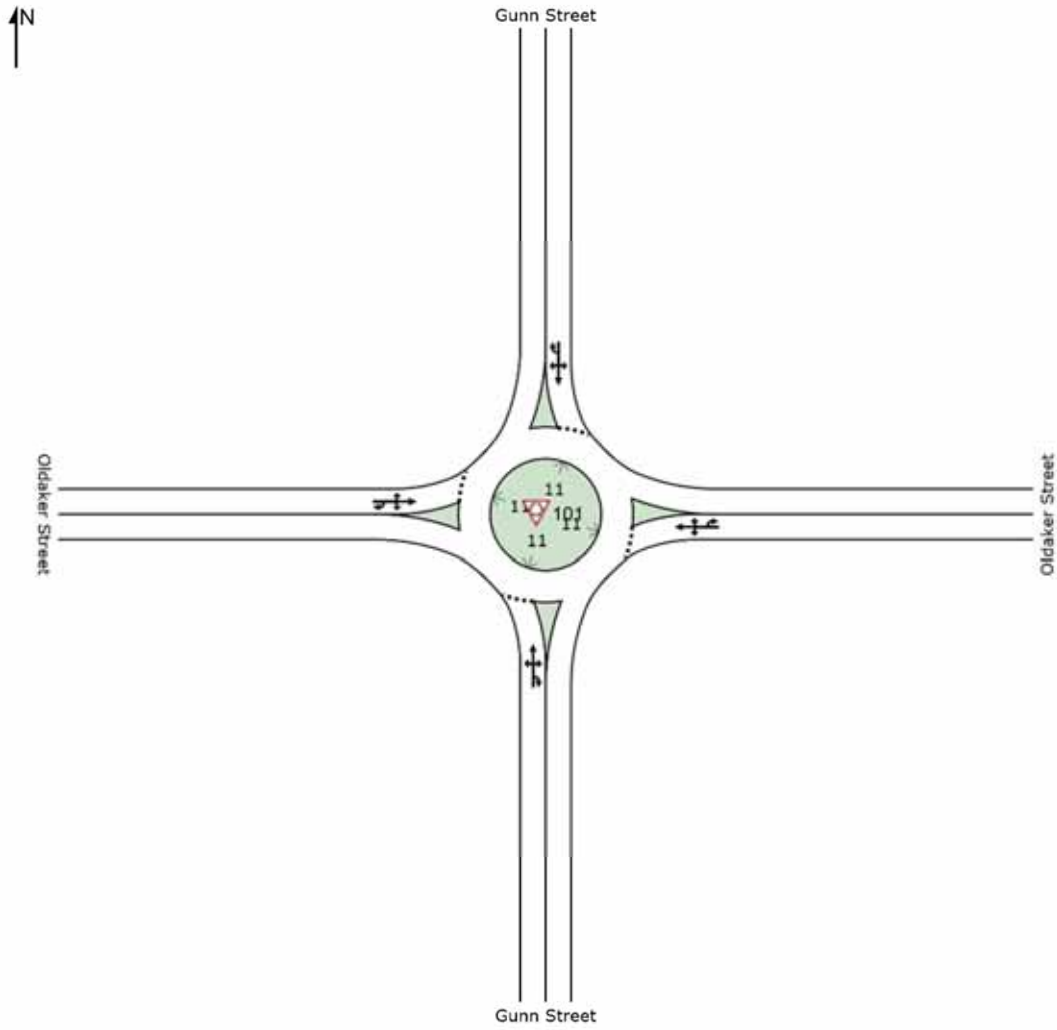
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### SITE LAYOUT

▽ Site: 101 [Oldaker Street/ Gunn Street - Existing Layout]

Roundabout



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:04:45 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Gunn Street.sip7

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Gunn Street - 2019 Option 4 AM Peak]

08:15-09:15

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	48	2.0	0.177	5.4	LOS A	0.8	6.0	0.41	0.60	45.5
2	T1	74	2.0	0.177	5.4	LOS A	0.8	6.0	0.41	0.60	46.2
3	R2	43	2.0	0.177	8.7	LOS A	0.8	6.0	0.41	0.60	46.1
3u	U	1	2.0	0.177	10.3	LOS B	0.8	6.0	0.41	0.60	46.6
Approach		166	2.0	0.177	6.3	LOS A	0.8	6.0	0.41	0.60	46.0
East: Oldaker Street											
4	L2	42	5.0	0.329	5.2	LOS A	2.2	15.4	0.51	0.57	45.5
5	T1	253	2.0	0.329	5.1	LOS A	2.2	15.4	0.51	0.57	46.2
6	R2	32	2.0	0.329	8.5	LOS A	2.2	15.4	0.51	0.57	46.1
6u	U	15	2.0	0.329	10.0	LOS A	2.2	15.4	0.51	0.57	46.6
Approach		341	2.4	0.329	5.6	LOS A	2.2	15.4	0.51	0.57	46.1
North: Gunn Street											
7	L2	35	5.0	0.218	6.7	LOS A	1.5	10.4	0.62	0.63	45.2
8	T1	148	2.0	0.218	6.6	LOS A	1.5	10.4	0.62	0.63	46.0
9	R2	7	2.0	0.218	9.9	LOS A	1.5	10.4	0.62	0.63	45.8
9u	U	1	2.0	0.218	11.5	LOS B	1.5	10.4	0.62	0.63	46.4
Approach		192	2.5	0.218	6.7	LOS A	1.5	10.4	0.62	0.63	45.8
West: Oldaker Street											
10	L2	13	2.0	0.350	4.7	LOS A	2.1	15.1	0.34	0.51	45.9
11	T1	314	5.0	0.350	4.7	LOS A	2.1	15.1	0.34	0.51	46.6
12	R2	67	2.0	0.350	8.0	LOS A	2.1	15.1	0.34	0.51	46.5
12u	U	2	2.0	0.350	9.5	LOS A	2.1	15.1	0.34	0.51	47.0
Approach		396	4.4	0.350	5.3	LOS A	2.1	15.1	0.34	0.51	46.5
All Vehicles		1095	3.1	0.350	5.8	LOS A	2.2	15.4	0.45	0.57	46.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:21:34 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Gunn Street.sip7

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Gunn Street - 2019 Option 4 PM Peak]

15:00-16:00

Roundabout

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Gunn Street												
1	L2	54	2.0	0.390	8.8	LOS A	2.3	16.1	0.66	0.79	43.8	
2	T1	142	2.0	0.390	8.7	LOS A	2.3	16.1	0.66	0.79	44.5	
3	R2	56	5.0	0.390	12.2	LOS B	2.3	16.1	0.66	0.79	44.3	
3u	U	1	2.0	0.390	13.6	LOS B	2.3	16.1	0.66	0.79	44.8	
Approach		253	2.7	0.390	9.5	LOS A	2.3	16.1	0.66	0.79	44.3	
East: Oldaker Street												
4	L2	91	2.0	0.638	5.4	LOS A	6.1	43.5	0.64	0.60	45.2	
5	T1	545	2.0	0.638	5.4	LOS A	6.1	43.5	0.64	0.60	45.9	
6	R2	95	2.0	0.638	8.7	LOS A	6.1	43.5	0.64	0.60	45.8	
6u	U	4	2.0	0.638	10.3	LOS B	6.1	43.5	0.64	0.60	46.3	
Approach		735	2.0	0.638	5.8	LOS A	6.1	43.5	0.64	0.60	45.8	
North: Gunn Street												
7	L2	47	2.0	0.186	6.6	LOS A	1.2	8.5	0.63	0.65	45.1	
8	T1	93	2.0	0.186	6.5	LOS A	1.2	8.5	0.63	0.65	45.9	
9	R2	17	2.0	0.186	9.9	LOS A	1.2	8.5	0.63	0.65	45.7	
9u	U	1	2.0	0.186	11.4	LOS B	1.2	8.5	0.63	0.65	46.2	
Approach		158	2.0	0.186	6.9	LOS A	1.2	8.5	0.63	0.65	45.6	
West: Oldaker Street												
10	L2	9	2.0	0.421	5.9	LOS A	2.6	18.4	0.49	0.61	45.4	
11	T1	324	2.0	0.421	5.8	LOS A	2.6	18.4	0.49	0.61	46.1	
12	R2	71	2.0	0.421	9.2	LOS A	2.6	18.4	0.49	0.61	46.0	
12u	U	4	2.0	0.421	10.7	LOS B	2.6	18.4	0.49	0.61	46.5	
Approach		408	2.0	0.421	6.4	LOS A	2.6	18.4	0.49	0.61	46.1	
All Vehicles		1554	2.1	0.638	6.7	LOS A	6.1	43.5	0.60	0.64	45.6	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:22:06 AM

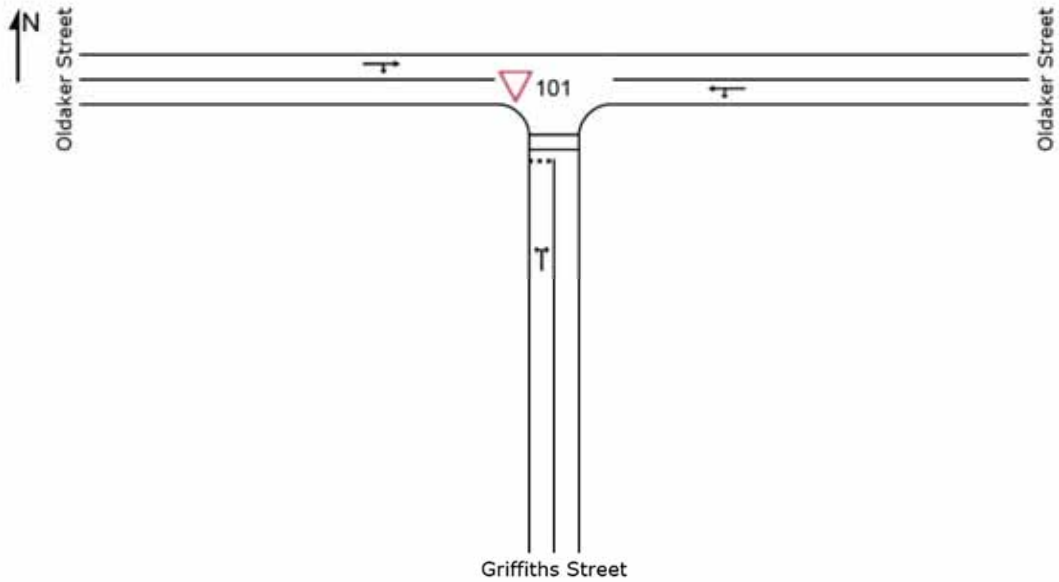
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Gunn Street.sip7



### SITE LAYOUT

▽ Site: 101 [Oldaker Street/ Griffiths Street - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:07:51 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Griffiths Street.sip7



## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Griffiths Street - 2019 Option 4 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Griffiths Street												
1	L2	72	5.0	0.111	5.9	LOS A	0.4	2.7	0.39	0.64	45.4	
3	R2	31	2.0	0.111	8.4	LOS A	0.4	2.7	0.39	0.64	45.0	
Approach		102	4.1	0.111	6.7	LOS A	0.4	2.7	0.39	0.64	45.3	
East: Oldaker Street												
4	L2	79	5.0	0.223	4.6	LOS A	0.0	0.0	0.00	0.10	48.8	
5	T1	344	2.0	0.223	0.0	LOS A	0.0	0.0	0.00	0.10	49.4	
Approach		423	2.6	0.223	0.9	NA	0.0	0.0	0.00	0.10	49.3	
West: Oldaker Street												
11	T1	249	5.0	0.199	0.8	LOS A	0.7	4.9	0.25	0.15	48.6	
12	R2	75	5.0	0.199	6.6	LOS A	0.7	4.9	0.25	0.15	47.6	
Approach		324	5.0	0.199	2.1	NA	0.7	4.9	0.25	0.15	48.3	
All Vehicles		849	3.7	0.223	2.1	NA	0.7	4.9	0.14	0.18	48.4	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:28:42 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Griffiths Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Griffiths Street - 2019 Option 4 PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Griffiths Street												
1	L2	195	2.0	0.304	7.8	LOS A	1.4	9.9	0.60	0.82	44.2	
3	R2	37	5.0	0.304	13.9	LOS B	1.4	9.9	0.60	0.82	43.8	
Approach		232	2.5	0.304	8.7	LOS A	1.4	9.9	0.60	0.82	44.2	
East: Oldaker Street												
4	L2	138	2.0	0.369	4.6	LOS A	0.0	0.0	0.00	0.11	48.8	
5	T1	565	2.0	0.369	0.0	LOS A	0.0	0.0	0.00	0.11	49.3	
Approach		703	2.0	0.369	0.9	NA	0.0	0.0	0.00	0.11	49.2	
West: Oldaker Street												
11	T1	327	2.0	0.306	2.5	LOS A	1.7	12.2	0.44	0.20	47.3	
12	R2	111	2.0	0.306	9.3	LOS A	1.7	12.2	0.44	0.20	46.4	
Approach		438	2.0	0.306	4.2	NA	1.7	12.2	0.44	0.20	47.0	
All Vehicles		1373	2.1	0.369	3.3	NA	1.7	12.2	0.24	0.26	47.6	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

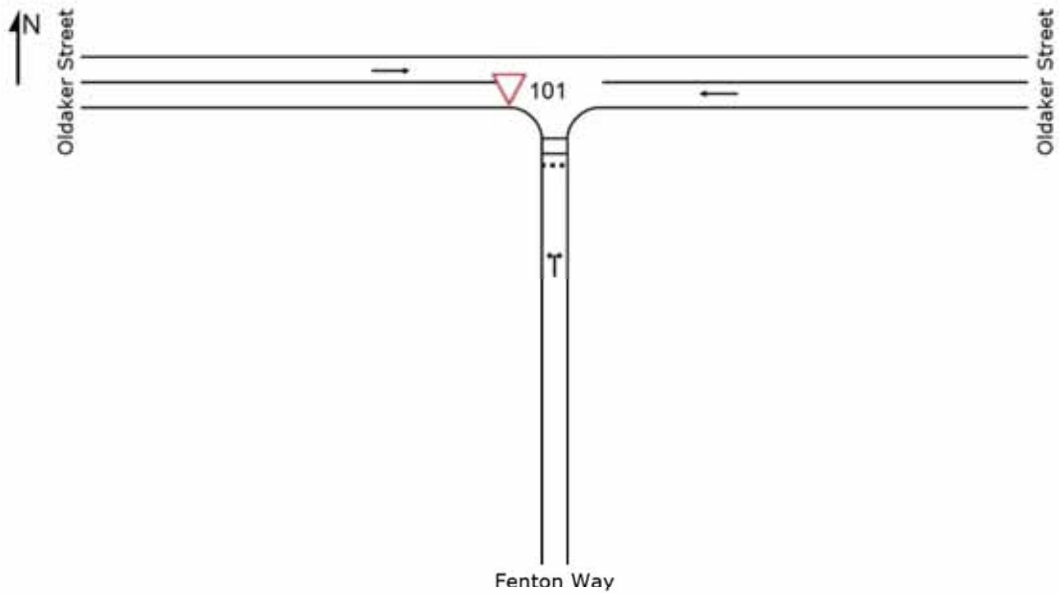
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:29:19 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Griffiths Street.sip7

### SITE LAYOUT

▽ Site: 101 [Oldaker Street/ Fenton Way - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:11:43 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Fenton Way.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Fenton Way - 2019 Option 4 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Fenton Way												
1	L2	108	2.0	0.137	5.8	LOS A	0.5	3.3	0.33	0.62	45.6	
3	R2	35	2.0	0.137	7.9	LOS A	0.5	3.3	0.33	0.62	45.0	
Approach		143	2.0	0.137	6.3	LOS A	0.5	3.3	0.33	0.62	45.4	
East: Oldaker Street												
5	T1	324	5.0	0.172	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		324	5.0	0.172	0.0	NA	0.0	0.0	0.00	0.00	50.0	
West: Oldaker Street												
11	T1	278	5.0	0.147	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		278	5.0	0.147	0.0	NA	0.0	0.0	0.00	0.00	50.0	
All Vehicles		745	4.4	0.172	1.2	NA	0.5	3.3	0.06	0.12	49.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Fenton Way - 2019 Option 4 PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Fenton Way												
1	L2	321	2.0	0.502	7.5	LOS A	3.0	21.2	0.51	0.81	44.3	
3	R2	138	2.0	0.502	11.3	LOS B	3.0	21.2	0.51	0.81	43.8	
Approach		459	2.0	0.502	8.7	LOS A	3.0	21.2	0.51	0.81	44.1	
East: Oldaker Street												
5	T1	384	2.0	0.200	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		384	2.0	0.200	0.0	NA	0.0	0.0	0.00	0.00	50.0	
West: Oldaker Street												
11	T1	366	5.0	0.194	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		366	5.0	0.194	0.0	NA	0.0	0.0	0.00	0.00	50.0	
All Vehicles		1209	2.9	0.502	3.3	NA	3.0	21.2	0.19	0.31	47.6	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

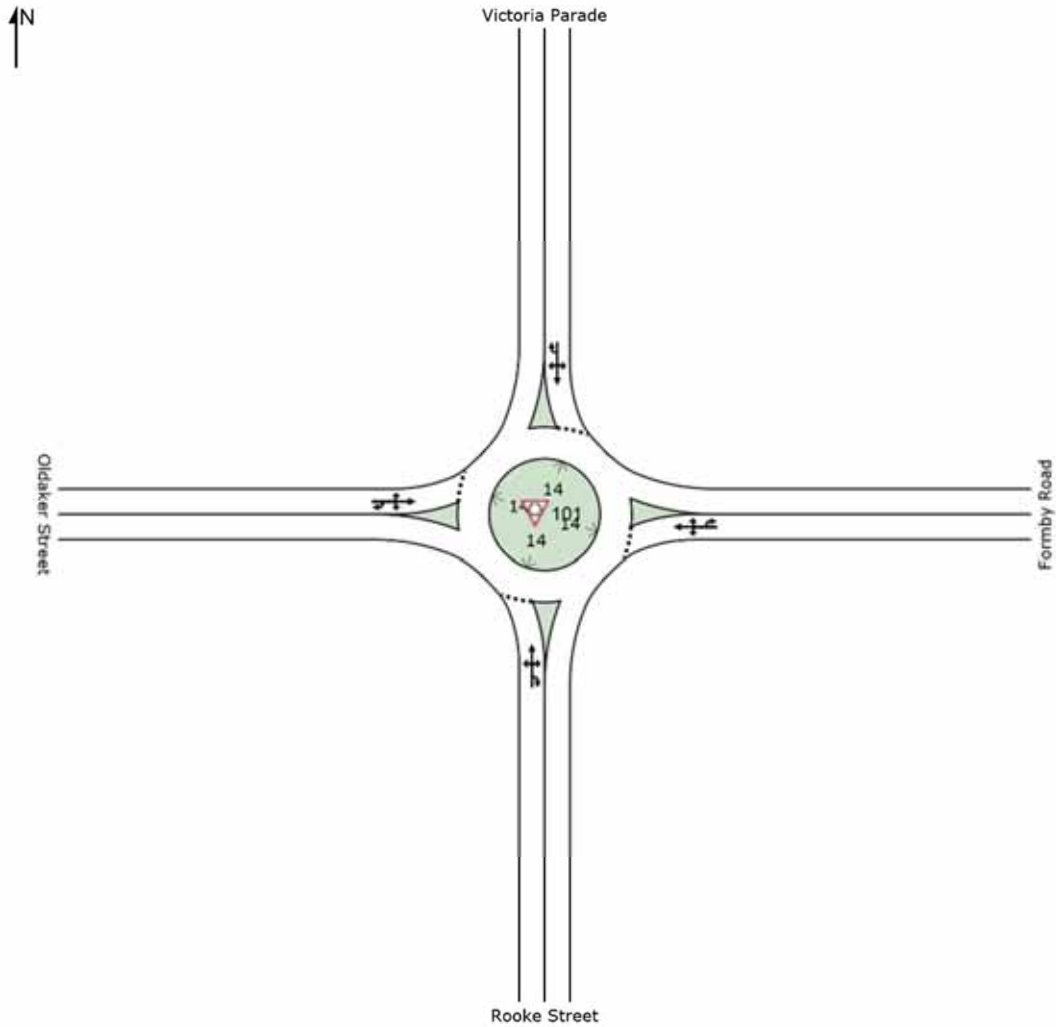
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

### SITE LAYOUT

▽ Site: 101 [Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade - Existing Layout]

Roundabout



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:16:32 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker-Rooke-Formby-Victoria.sip7



## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade - 2019 Option 4 AM Peak]

08:15-09:15  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Rooke Street											
1	L2	88	5.0	0.239	3.6	LOS A	1.2	9.7	0.17	0.43	46.8
2	T1	186	10.0	0.239	3.6	LOS A	1.2	9.7	0.17	0.43	47.7
3	R2	2	10.0	0.239	7.4	LOS A	1.2	9.7	0.17	0.43	47.6
3u	U	28	75.0	0.239	9.9	LOS A	1.2	9.7	0.17	0.43	47.2
Approach		305	14.6	0.239	4.2	LOS A	1.2	9.7	0.17	0.43	47.4
East: Formby Road											
4	L2	2	20.0	0.035	5.5	LOS A	0.2	1.1	0.41	0.57	45.1
5	T1	16	2.0	0.035	5.1	LOS A	0.2	1.1	0.41	0.57	46.1
6	R2	14	2.0	0.035	8.9	LOS A	0.2	1.1	0.41	0.57	46.1
6u	U	1	20.0	0.035	11.0	LOS B	0.2	1.1	0.41	0.57	46.4
Approach		33	3.7	0.035	6.9	LOS A	0.2	1.1	0.41	0.57	46.1
North: Victoria Parade											
7	L2	14	2.0	0.197	4.3	LOS A	1.1	8.1	0.39	0.49	46.1
8	T1	184	2.0	0.197	4.3	LOS A	1.1	8.1	0.39	0.49	47.0
9	R2	19	5.0	0.197	8.1	LOS A	1.1	8.1	0.39	0.49	46.9
9u	U	1	2.0	0.197	9.7	LOS A	1.1	8.1	0.39	0.49	47.6
Approach		218	2.3	0.197	4.6	LOS A	1.1	8.1	0.39	0.49	46.9
West: Oldaker Street											
10	L2	38	5.0	0.162	4.8	LOS A	1.0	7.2	0.44	0.60	45.0
11	T1	16	2.0	0.162	4.7	LOS A	1.0	7.2	0.44	0.60	45.9
12	R2	112	5.0	0.162	8.6	LOS A	1.0	7.2	0.44	0.60	45.8
12u	U	3	30.0	0.162	10.7	LOS B	1.0	7.2	0.44	0.60	46.0
Approach		168	5.2	0.162	7.4	LOS A	1.0	7.2	0.44	0.60	45.6
All Vehicles		724	8.2	0.239	5.2	LOS A	1.2	9.7	0.31	0.49	46.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade - 2019 Option 4 PM Peak]

15:00-16:00  
Roundabout

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Rooke Street												
1	L2	143	2.0	0.337	3.7	LOS A	2.0	14.1	0.21	0.47	46.4	
2	T1	221	2.0	0.337	3.7	LOS A	2.0	14.1	0.21	0.47	47.3	
3	R2	2	2.0	0.337	7.5	LOS A	2.0	14.1	0.21	0.47	47.2	
3u	U	85	10.0	0.337	9.2	LOS A	2.0	14.1	0.21	0.47	47.7	
Approach		452	3.5	0.337	4.7	LOS A	2.0	14.1	0.21	0.47	47.1	
East: Formby Road												
4	L2	2	15.0	0.038	6.2	LOS A	0.2	1.3	0.48	0.60	44.8	
5	T1	16	2.0	0.038	5.9	LOS A	0.2	1.3	0.48	0.60	45.8	
6	R2	14	2.0	0.038	9.6	LOS A	0.2	1.3	0.48	0.60	45.7	
6u	U	1	2.0	0.038	11.3	LOS B	0.2	1.3	0.48	0.60	46.3	
Approach		33	2.8	0.038	7.6	LOS A	0.2	1.3	0.48	0.60	45.7	
North: Victoria Parade												
7	L2	14	2.0	0.249	4.9	LOS A	1.5	11.0	0.50	0.56	45.7	
8	T1	205	5.0	0.249	5.0	LOS A	1.5	11.0	0.50	0.56	46.6	
9	R2	31	2.0	0.249	8.7	LOS A	1.5	11.0	0.50	0.56	46.5	
9u	U	1	2.0	0.249	10.3	LOS B	1.5	11.0	0.50	0.56	47.2	
Approach		251	4.5	0.249	5.4	LOS A	1.5	11.0	0.50	0.56	46.5	
West: Oldaker Street												
10	L2	47	2.0	0.219	5.4	LOS A	1.4	10.2	0.53	0.64	44.7	
11	T1	16	2.0	0.219	5.4	LOS A	1.4	10.2	0.53	0.64	45.5	
12	R2	149	2.0	0.219	9.1	LOS A	1.4	10.2	0.53	0.64	45.4	
12u	U	6	2.0	0.219	10.8	LOS B	1.4	10.2	0.53	0.64	46.0	
Approach		219	2.0	0.219	8.1	LOS A	1.4	10.2	0.53	0.64	45.3	
All Vehicles		954	3.4	0.337	5.8	LOS A	2.0	14.1	0.37	0.54	46.5	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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



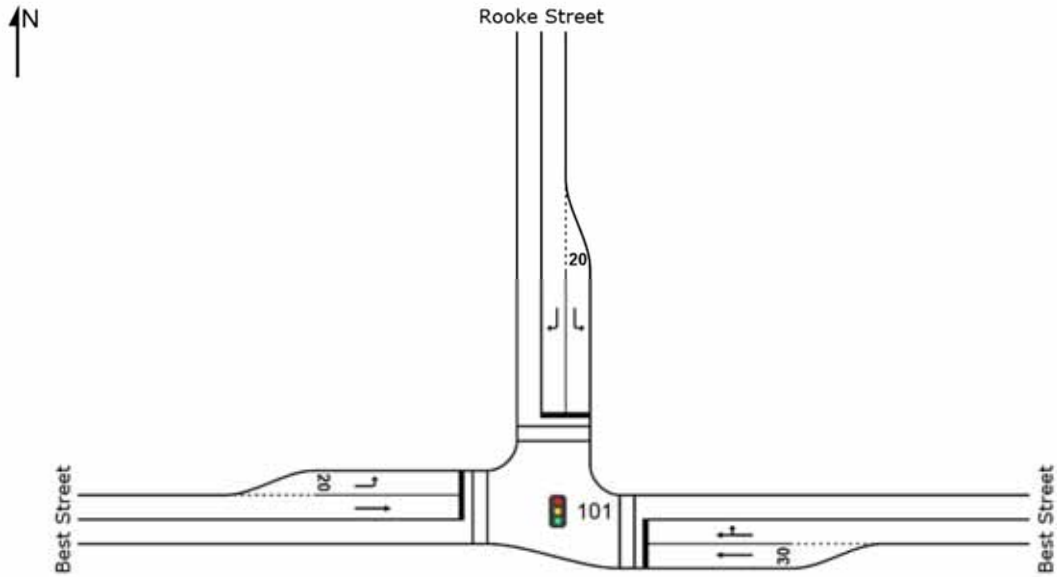
Appendix F

SIDRA Intersection Traffic Modelling Results – Option 5

### SITE LAYOUT

 Site: 101 [Best Street/ Rooke Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:01:42 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Rooke Street.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Rooke Street - 2019 Option 5 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 50 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Best Street											
5	T1	399	5.0	0.832	14.9	LOS B	14.0	102.5	0.76	0.79	40.8
6	R2	285	5.0	0.832	24.3	LOS C	14.0	102.5	0.88	1.00	37.9
Approach		684	5.0	0.832	18.8	LOS B	14.0	102.5	0.81	0.88	39.5
North: Rooke Street											
7	L2	253	20.0	0.623	23.6	LOS C	5.8	47.6	0.93	0.83	37.4
9	R2	51	20.0	0.120	20.5	LOS C	1.0	8.0	0.80	0.71	38.4
Approach		303	20.0	0.623	23.1	LOS C	5.8	47.6	0.90	0.81	37.6
West: Best Street											
10	L2	79	20.0	0.097	11.9	LOS B	1.0	8.4	0.55	0.67	42.5
11	T1	176	5.0	0.186	7.5	LOS A	2.4	17.4	0.58	0.48	45.3
Approach		255	9.6	0.186	8.9	LOS A	2.4	17.4	0.57	0.54	44.4
All Vehicles		1242	9.6	0.832	17.8	LOS B	14.0	102.5	0.79	0.79	39.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P3	North Full Crossing	53	10.3	LOS B	0.0	0.0	0.64	0.64	
P4	West Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
All Pedestrians		158	16.4	LOS B			0.80	0.80	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
 Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:33:36 PM  
 Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Rooke Street.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Rooke Street - 2019 Option 5 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Best Street											
5	T1	501	2.0	1.045	63.5	LOS E	78.3	557.3	0.66	0.77	26.4
6	R2	396	2.0	1.045	135.0	LOS F	78.3	557.3	1.00	1.29	17.5
Approach		897	2.0	1.045	95.0	LOS F	78.3	557.3	0.81	1.00	21.5
North: Rooke Street											
7	L2	338	15.0	1.031	138.1	LOS F	37.6	296.7	1.00	1.17	17.1
9	R2	83	10.0	0.267	54.3	LOS D	4.9	37.1	0.85	0.75	28.4
Approach		421	14.0	1.031	121.5	LOS F	37.6	296.7	0.97	1.09	18.5
West: Best Street											
10	L2	105	10.0	0.088	12.8	LOS B	2.5	18.9	0.35	0.63	42.1
11	T1	359	2.0	0.319	9.5	LOS A	9.8	70.0	0.41	0.36	44.3
Approach		464	3.8	0.319	10.2	LOS B	9.8	70.0	0.40	0.42	43.8
All Vehicles		1782	5.3	1.045	79.2	LOS E	78.3	557.3	0.74	0.87	23.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Pedestrian	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	49.7	LOS E	0.2	0.2	0.82	0.82	
P3	North Full Crossing	53	9.7	LOS A	0.1	0.1	0.36	0.36	
P4	West Full Crossing	53	49.7	LOS E	0.2	0.2	0.82	0.82	
All Pedestrians		158	36.4	LOS D			0.66	0.66	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

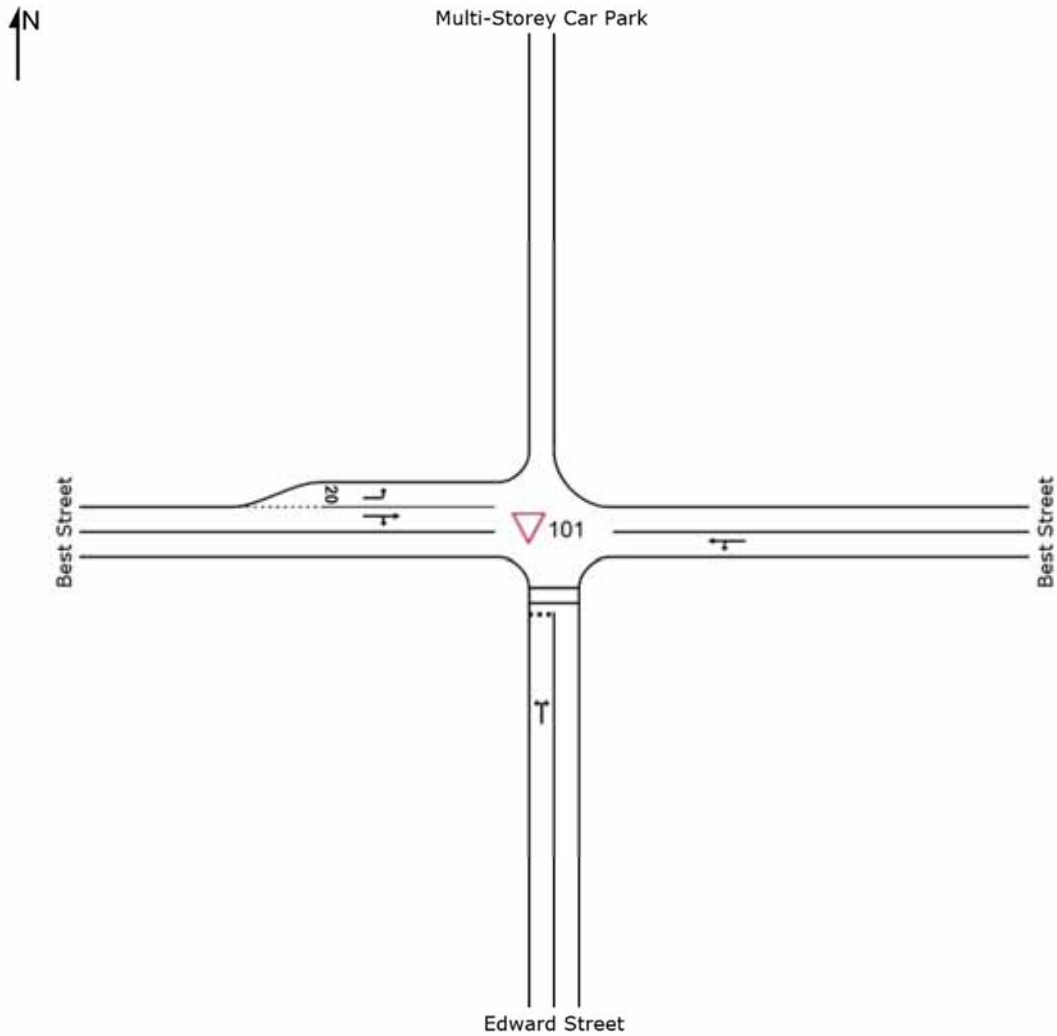
SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
 Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:34:21 PM  
 Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Rooke Street.sip7



### SITE LAYOUT

▽ Site: 101 [Best Street/ Edward Street - Living City Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:20:36 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Edward Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Edward Street - 2019 Option 5 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Edward Street												
1	L2	55	2.0	0.087	6.1	LOS A	0.4	2.7	0.49	0.64	44.9	
3	R2	16	10.0	0.087	12.3	LOS B	0.4	2.7	0.49	0.64	44.4	
Approach		71	3.8	0.087	7.5	LOS A	0.4	2.7	0.49	0.64	44.8	
East: Best Street												
4	L2	61	10.0	0.248	4.7	LOS A	0.0	0.0	0.00	0.07	48.9	
5	T1	389	10.0	0.248	0.0	LOS A	0.0	0.0	0.00	0.07	49.5	
Approach		451	10.0	0.248	0.7	NA	0.0	0.0	0.00	0.07	49.5	
West: Best Street												
10	L2	12	2.0	0.006	5.6	LOS A	0.0	0.0	0.00	0.58	53.5	
11	T1	222	10.0	0.183	1.0	LOS A	0.7	5.2	0.24	0.15	48.4	
12	R2	69	5.0	0.183	6.9	LOS A	0.7	5.2	0.24	0.15	47.4	
Approach		303	8.5	0.183	2.5	NA	0.7	5.2	0.23	0.16	48.3	
All Vehicles		824	8.9	0.248	1.9	NA	0.7	5.2	0.13	0.15	48.6	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
 Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:21:35 PM  
 Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Edward Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Edward Street - 2019 Option 5 PM Peak]

16:00-17:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Edward Street												
1	L2	107	2.0	0.229	6.9	LOS A	0.9	6.8	0.62	0.74	43.6	
3	R2	27	10.0	0.229	22.2	LOS C	0.9	6.8	0.62	0.74	43.1	
Approach		135	3.6	0.229	10.0	LOS B	0.9	6.8	0.62	0.74	43.5	
East: Best Street												
4	L2	93	10.0	0.330	4.7	LOS A	0.0	0.0	0.00	0.08	48.8	
5	T1	506	10.0	0.330	0.0	LOS A	0.0	0.0	0.00	0.08	49.5	
Approach		599	10.0	0.330	0.8	NA	0.0	0.0	0.00	0.08	49.4	
West: Best Street												
10	L2	11	2.0	0.006	5.6	LOS A	0.0	0.0	0.00	0.58	53.5	
11	T1	414	10.0	0.336	1.7	LOS A	1.7	12.6	0.33	0.14	47.9	
12	R2	104	5.0	0.336	8.8	LOS A	1.7	12.6	0.33	0.14	46.9	
Approach		528	8.9	0.336	3.2	NA	1.7	12.6	0.32	0.15	47.8	
All Vehicles		1262	8.8	0.336	2.8	NA	1.7	12.6	0.20	0.18	48.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

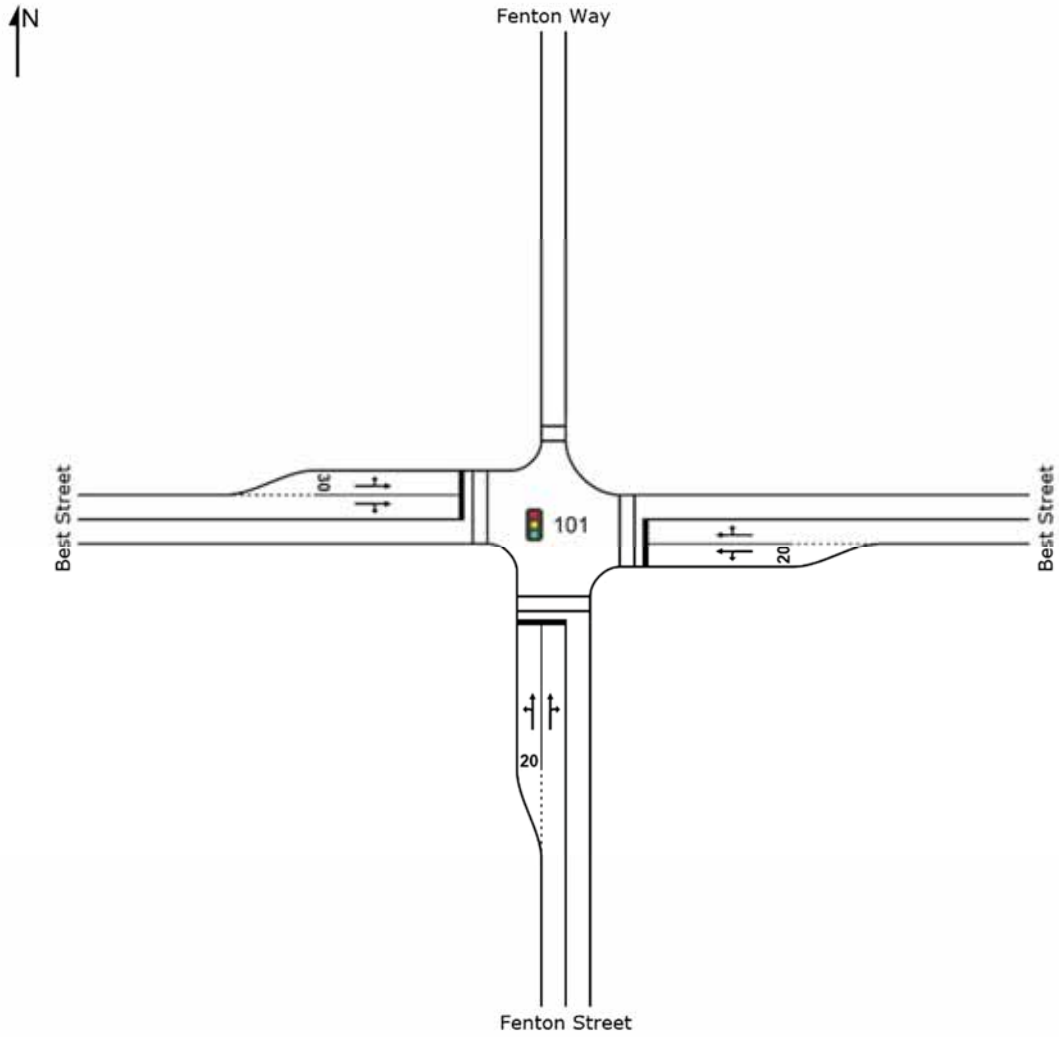
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
 Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:22:20 PM  
 Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Edward Street.sip7

### SITE LAYOUT

📍 Site: 101 [Best Street/ Fenton Way - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:39:06 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Fenton Way.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Fenton Way - 2019 Option 5 AM Peak]**

08:30-09:30

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fenton Street											
1	L2	128	2.0	0.216	15.5	LOS B	1.9	13.5	0.76	0.73	40.9
2	T1	118	2.0	0.280	11.2	LOS B	2.6	18.6	0.78	0.67	42.7
3	R2	52	10.0	0.280	15.9	LOS B	2.6	18.6	0.78	0.67	42.0
Approach		298	3.4	0.280	13.9	LOS B	2.6	18.6	0.77	0.70	41.8
East: Best Street											
4	L2	42	10.0	0.130	13.8	LOS B	1.1	8.7	0.69	0.62	42.8
5	T1	340	10.0	0.648	12.4	LOS B	6.2	47.0	0.86	0.78	42.2
6	R2	57	2.0	0.648	17.8	LOS B	6.2	47.0	0.88	0.80	41.2
Approach		439	9.0	0.648	13.3	LOS B	6.2	47.0	0.84	0.77	42.1
West: Best Street											
10	L2	58	2.0	0.130	13.7	LOS B	1.2	8.6	0.69	0.65	42.5
11	T1	257	10.0	0.650	13.4	LOS B	5.9	44.6	0.88	0.81	41.5
12	R2	92	10.0	0.650	18.7	LOS B	5.9	44.6	0.91	0.83	40.7
Approach		406	8.9	0.650	14.6	LOS B	5.9	44.6	0.86	0.79	41.5
All Vehicles		1143	7.5	0.650	13.9	LOS B	6.2	47.0	0.83	0.76	41.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	9.1	LOS A	0.0	0.0	0.68	0.68	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		211	12.7	LOS B			0.80	0.80	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:44:54 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Fenton Way.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ Fenton Way - 2019 Option 5 PM Peak]**

14:45-15:45

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fenton Street											
1	L2	178	2.0	1.548	560.9	LOS F	40.1	285.5	1.00	1.92	5.5
2	T1	109	2.0	1.491	506.3	LOS F	36.5	259.8	1.00	1.95	6.0
3	R2	60	2.0	1.491	510.9	LOS F	36.5	259.8	1.00	1.95	6.0
Approach		347	2.0	1.548	535.1	LOS F	40.1	285.5	1.00	1.94	5.8
East: Best Street											
4	L2	56	5.0	0.396	7.4	LOS A	6.6	48.1	0.23	0.26	47.2
5	T1	451	5.0	1.980	161.6	LOS F	41.4	299.0	0.36	0.59	15.1
6	R2	69	2.0	1.980	939.1	LOS F	41.4	299.0	1.00	2.17	3.5
Approach		576	4.6	1.980	240.4	LOS F	41.4	299.0	0.43	0.75	11.3
West: Best Street											
10	L2	45	2.0	0.425	7.5	LOS A	8.1	57.8	0.24	0.26	47.3
11	T1	515	2.0	2.123	114.3	LOS F	47.4	337.8	0.32	0.47	18.9
12	R2	105	2.0	2.123	1063.4	LOS F	47.4	337.8	1.00	2.25	3.1
Approach		665	2.0	2.123	257.2	LOS F	47.4	337.8	0.43	0.73	10.7
All Vehicles		1588	3.0	2.123	311.9	LOS F	47.4	337.8	0.55	1.00	9.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	3.4	LOS A	0.0	0.0	0.21	0.21	
P2	East Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96	
P3	North Full Crossing	53	2.4	LOS A	0.0	0.0	0.18	0.18	
P4	West Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96	
All Pedestrians		211	36.1	LOS D			0.58	0.58	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

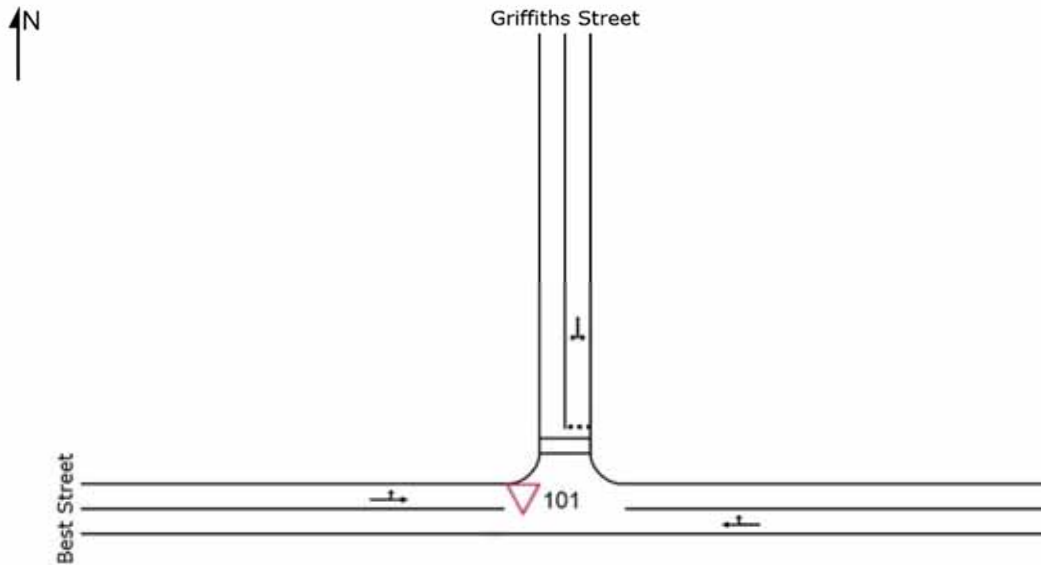
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.



### SITE LAYOUT

▽ Site: 101 [Best Street/ Griffiths Street - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:44:24 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Griffiths Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Griffiths Street - 2019 Option 5 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: Best Street												
5	T1	428	5.0	0.260	0.2	LOS A	0.4	3.0	0.09	0.05	49.5	
6	R2	42	5.0	0.260	6.2	LOS A	0.4	3.0	0.09	0.05	48.4	
Approach		471	5.0	0.260	0.8	NA	0.4	3.0	0.09	0.05	49.4	
North: Griffiths Street												
7	L2	84	5.0	0.109	5.7	LOS A	0.4	3.2	0.40	0.61	45.5	
9	R2	24	5.0	0.109	8.8	LOS A	0.4	3.2	0.40	0.61	45.1	
Approach		108	5.0	0.109	6.4	LOS A	0.4	3.2	0.40	0.61	45.4	
West: Best Street												
10	L2	17	2.0	0.167	4.6	LOS A	0.0	0.0	0.00	0.03	49.3	
11	T1	299	5.0	0.167	0.0	LOS A	0.0	0.0	0.00	0.03	49.8	
Approach		316	4.8	0.167	0.3	NA	0.0	0.0	0.00	0.03	49.8	
All Vehicles		895	4.9	0.260	1.3	NA	0.4	3.2	0.09	0.11	49.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:54:33 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Griffiths Street.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Best Street/ Griffiths Street - 2019 Option 5 PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
East: Best Street												
5	T1	592	5.0	0.361	0.4	LOS A	0.8	5.6	0.12	0.05	49.3	
6	R2	54	2.0	0.361	7.4	LOS A	0.8	5.6	0.12	0.05	48.3	
Approach		645	4.8	0.361	1.0	NA	0.8	5.6	0.12	0.05	49.2	
North: Griffiths Street												
7	L2	165	2.0	0.256	6.4	LOS A	1.1	7.6	0.52	0.70	44.8	
9	R2	44	5.0	0.256	13.0	LOS B	1.1	7.6	0.52	0.70	44.3	
Approach		209	2.6	0.256	7.8	LOS A	1.1	7.6	0.52	0.70	44.7	
West: Best Street												
10	L2	39	5.0	0.241	4.6	LOS A	0.0	0.0	0.00	0.05	49.1	
11	T1	415	5.0	0.241	0.0	LOS A	0.0	0.0	0.00	0.05	49.7	
Approach		454	5.0	0.241	0.4	NA	0.0	0.0	0.00	0.05	49.6	
All Vehicles		1308	4.5	0.361	1.9	NA	1.1	7.6	0.14	0.15	48.6	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

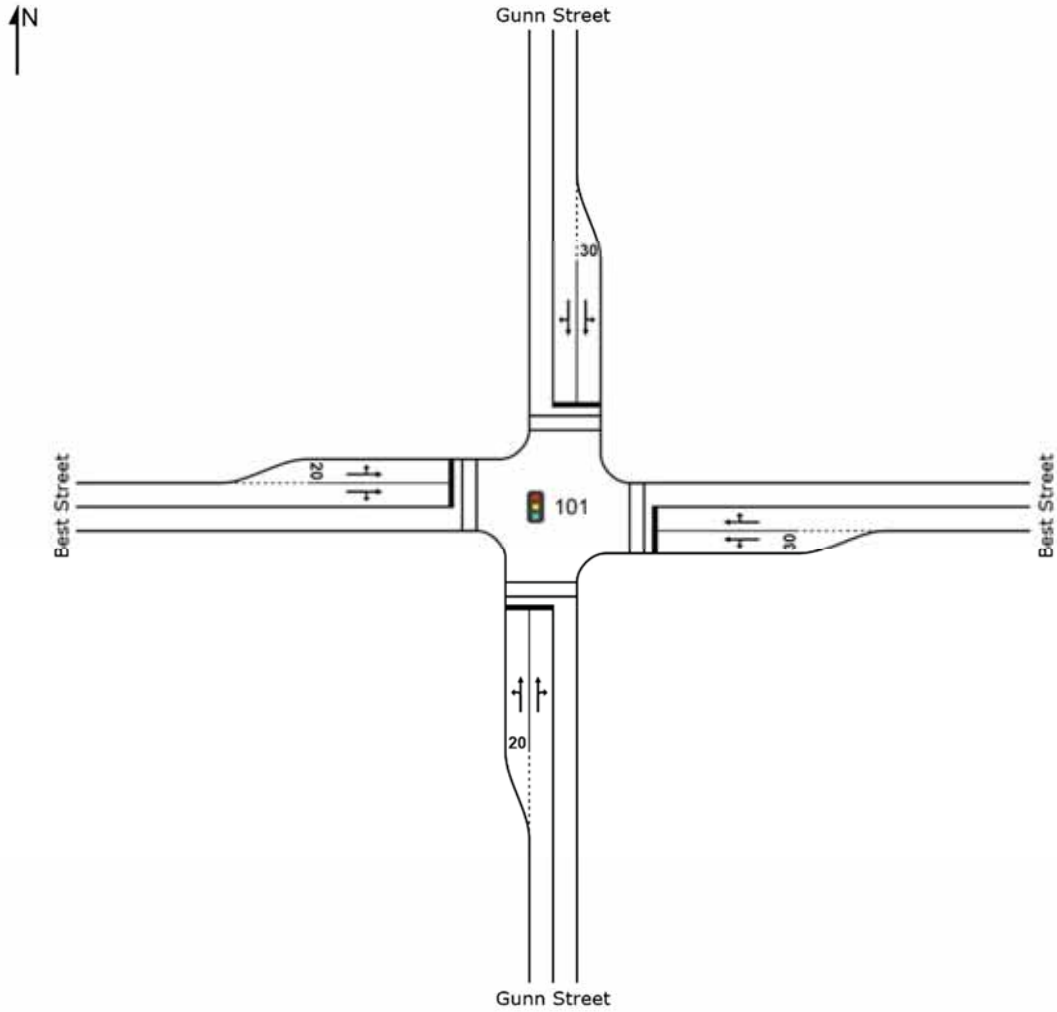
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Monday, 5 June 2017 9:55:12 PM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Griffiths Street.sip7

### SITE LAYOUT

 Site: 101 [Best Street/ Gunn Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:49:52 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-Gunn Street.sip7

### MOVEMENT SUMMARY

**Site: 101 [Best Street/ Gunn Street - 2019 Option 5 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	43	5.0	0.089	14.3	LOS B	0.8	5.6	0.70	0.65	42.0
2	T1	173	2.0	0.446	11.2	LOS B	3.8	27.1	0.81	0.71	42.5
3	R2	81	2.0	0.446	16.0	LOS B	3.8	27.1	0.81	0.71	41.9
Approach		297	2.4	0.446	13.0	LOS B	3.8	27.1	0.79	0.70	42.3
East: Best Street											
4	L2	47	2.0	0.089	14.2	LOS B	0.8	5.5	0.70	0.67	41.8
5	T1	241	15.0	0.445	11.3	LOS B	4.1	31.7	0.81	0.69	43.0
6	R2	25	2.0	0.445	15.9	LOS B	4.1	31.7	0.81	0.69	42.5
Approach		314	12.0	0.445	12.1	LOS B	4.1	31.7	0.79	0.69	42.8
North: Gunn Street											
7	L2	43	2.0	0.067	14.1	LOS B	0.6	4.1	0.69	0.68	41.5
8	T1	181	2.0	0.330	10.7	LOS B	3.1	21.8	0.78	0.65	43.3
9	R2	23	2.0	0.330	15.3	LOS B	3.1	21.8	0.78	0.65	42.8
Approach		247	2.0	0.330	11.8	LOS B	3.1	21.8	0.76	0.66	42.9
West: Best Street											
10	L2	33	5.0	0.082	14.2	LOS B	0.7	5.2	0.70	0.63	42.3
11	T1	229	10.0	0.411	11.0	LOS B	3.7	28.0	0.79	0.68	43.1
12	R2	27	5.0	0.411	15.8	LOS B	3.7	28.0	0.80	0.68	42.5
Approach		289	9.0	0.411	11.8	LOS B	3.7	28.0	0.78	0.67	42.9
All Vehicles		1147	6.6	0.446	12.2	LOS B	4.1	31.7	0.78	0.68	42.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
P2	East Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
P3	North Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
P4	West Full Crossing	53	13.6	LOS B	0.0	0.0	0.83	0.83	
All Pedestrians		211	13.6	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### MOVEMENT SUMMARY

**Site: 101 [Best Street/ Gunn Street - 2019 Option 5 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	48	10.0	0.102	15.1	LOS B	0.8	6.2	0.73	0.67	41.4
2	T1	216	2.0	0.509	12.3	LOS B	4.4	31.6	0.85	0.73	42.2
3	R2	60	2.0	0.509	17.0	LOS B	4.4	31.6	0.86	0.73	41.7
Approach		324	3.2	0.509	13.6	LOS B	4.4	31.6	0.83	0.72	42.0
East: Best Street											
4	L2	72	2.0	0.121	13.6	LOS B	1.1	7.8	0.69	0.68	42.1
5	T1	348	5.0	0.606	11.5	LOS B	6.4	46.4	0.85	0.75	42.9
6	R2	45	2.0	0.606	16.1	LOS B	6.4	46.4	0.86	0.75	42.3
Approach		465	4.2	0.606	12.2	LOS B	6.4	46.4	0.83	0.74	42.7
North: Gunn Street											
7	L2	51	2.0	0.087	15.0	LOS B	0.7	5.2	0.72	0.69	41.2
8	T1	208	2.0	0.437	12.0	LOS B	3.9	27.8	0.83	0.70	42.6
9	R2	35	2.0	0.437	16.6	LOS B	3.9	27.8	0.83	0.70	42.1
Approach		294	2.0	0.437	13.1	LOS B	3.9	27.8	0.81	0.70	42.3
West: Best Street											
10	L2	52	2.0	0.089	13.5	LOS B	0.8	5.7	0.67	0.66	42.2
11	T1	295	5.0	0.444	10.5	LOS B	4.5	33.1	0.79	0.67	43.6
12	R2	13	2.0	0.444	15.1	LOS B	4.5	33.1	0.79	0.67	43.0
Approach		359	4.5	0.444	11.1	LOS B	4.5	33.1	0.77	0.67	43.3
All Vehicles		1442	3.6	0.606	12.4	LOS B	6.4	46.4	0.81	0.71	42.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

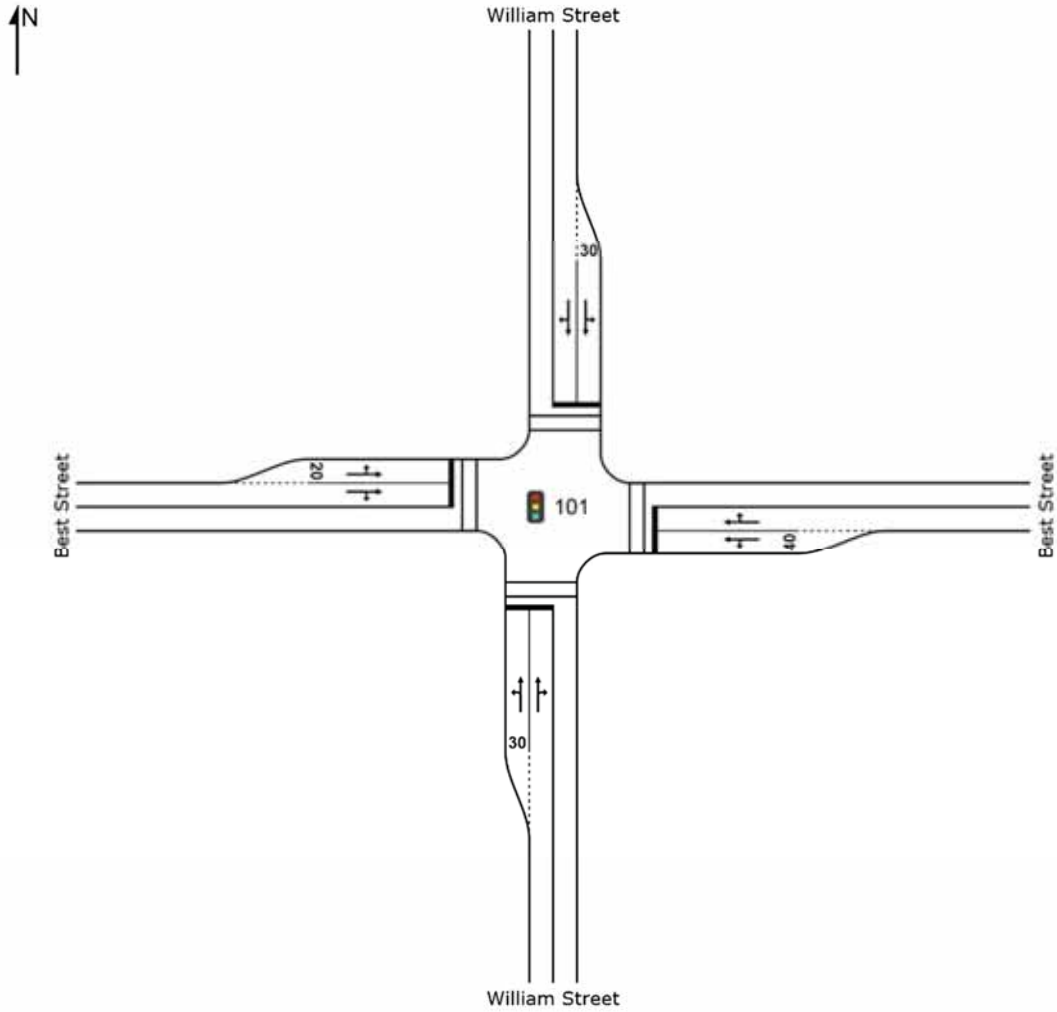
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.



### SITE LAYOUT

 Site: 101 [Best Street/ William Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:54:04 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Best Street-William Street.sip7

## MOVEMENT SUMMARY

**Site: 101 [Best Street/ William Street - 2019 Option 5 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	62	5.0	0.102	13.6	LOS B	0.9	6.6	0.68	0.68	42.0
2	T1	224	10.0	0.511	11.6	LOS B	4.6	35.2	0.83	0.72	42.6
3	R2	64	15.0	0.511	16.4	LOS B	4.6	35.2	0.84	0.73	41.9
Approach		351	10.0	0.511	12.8	LOS B	4.6	35.2	0.81	0.72	42.3
East: Best Street											
4	L2	68	15.0	0.125	15.3	LOS B	1.0	7.7	0.73	0.71	40.9
5	T1	133	10.0	0.362	11.7	LOS B	2.8	21.6	0.81	0.69	42.5
6	R2	47	10.0	0.362	16.4	LOS B	2.8	21.6	0.81	0.69	41.8
Approach		248	11.4	0.362	13.6	LOS B	2.8	21.6	0.79	0.69	41.9
North: William Street											
7	L2	80	10.0	0.123	13.7	LOS B	1.1	8.0	0.69	0.70	41.7
8	T1	282	5.0	0.465	10.6	LOS B	4.7	34.3	0.80	0.69	43.4
9	R2	23	2.0	0.465	15.2	LOS B	4.7	34.3	0.80	0.69	42.9
Approach		385	5.9	0.465	11.6	LOS B	4.7	34.3	0.78	0.69	43.0
West: Best Street											
10	L2	43	2.0	0.097	15.0	LOS B	0.8	5.8	0.73	0.66	41.7
11	T1	179	5.0	0.485	12.2	LOS B	4.0	29.9	0.84	0.73	42.1
12	R2	80	10.0	0.485	17.0	LOS B	4.0	29.9	0.85	0.73	41.4
Approach		302	5.9	0.485	13.9	LOS B	4.0	29.9	0.82	0.72	41.8
All Vehicles		1286	8.1	0.511	12.8	LOS B	4.7	35.2	0.80	0.70	42.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P2	East Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P4	West Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### MOVEMENT SUMMARY

**Site: 101 [Best Street/ William Street - 2019 Option 5 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	83	5.0	0.138	13.7	LOS B	1.2	9.0	0.69	0.69	41.9
2	T1	269	5.0	0.690	14.5	LOS B	6.7	49.7	0.92	0.86	41.1
3	R2	93	10.0	0.690	19.4	LOS B	6.7	49.7	0.92	0.87	40.5
Approach		445	6.0	0.690	15.4	LOS B	6.7	49.7	0.88	0.83	41.1
East: Best Street											
4	L2	125	10.0	0.222	15.7	LOS B	1.9	14.1	0.76	0.73	40.8
5	T1	223	5.0	0.625	14.3	LOS B	5.5	40.2	0.91	0.81	41.3
6	R2	74	10.0	0.625	19.0	LOS B	5.5	40.2	0.91	0.81	40.7
Approach		422	7.4	0.625	15.5	LOS B	5.5	40.2	0.87	0.79	41.0
North: William Street											
7	L2	92	5.0	0.136	13.7	LOS B	1.2	8.9	0.69	0.70	41.7
8	T1	357	2.0	0.599	11.4	LOS B	6.4	45.6	0.86	0.74	43.1
9	R2	31	2.0	0.599	16.0	LOS B	6.4	45.6	0.86	0.74	42.5
Approach		479	2.6	0.599	12.2	LOS B	6.4	45.6	0.83	0.74	42.8
West: Best Street											
10	L2	47	2.0	0.115	15.1	LOS B	1.0	7.0	0.73	0.66	41.8
11	T1	195	2.0	0.577	14.1	LOS B	4.6	33.1	0.89	0.77	41.1
12	R2	84	2.0	0.577	19.1	LOS B	4.6	33.1	0.91	0.79	40.5
Approach		326	2.0	0.577	15.5	LOS B	4.6	33.1	0.87	0.76	41.1
All Vehicles		1673	4.6	0.690	14.5	LOS B	6.7	49.7	0.86	0.78	41.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P2	East Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P3	North Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P4	West Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

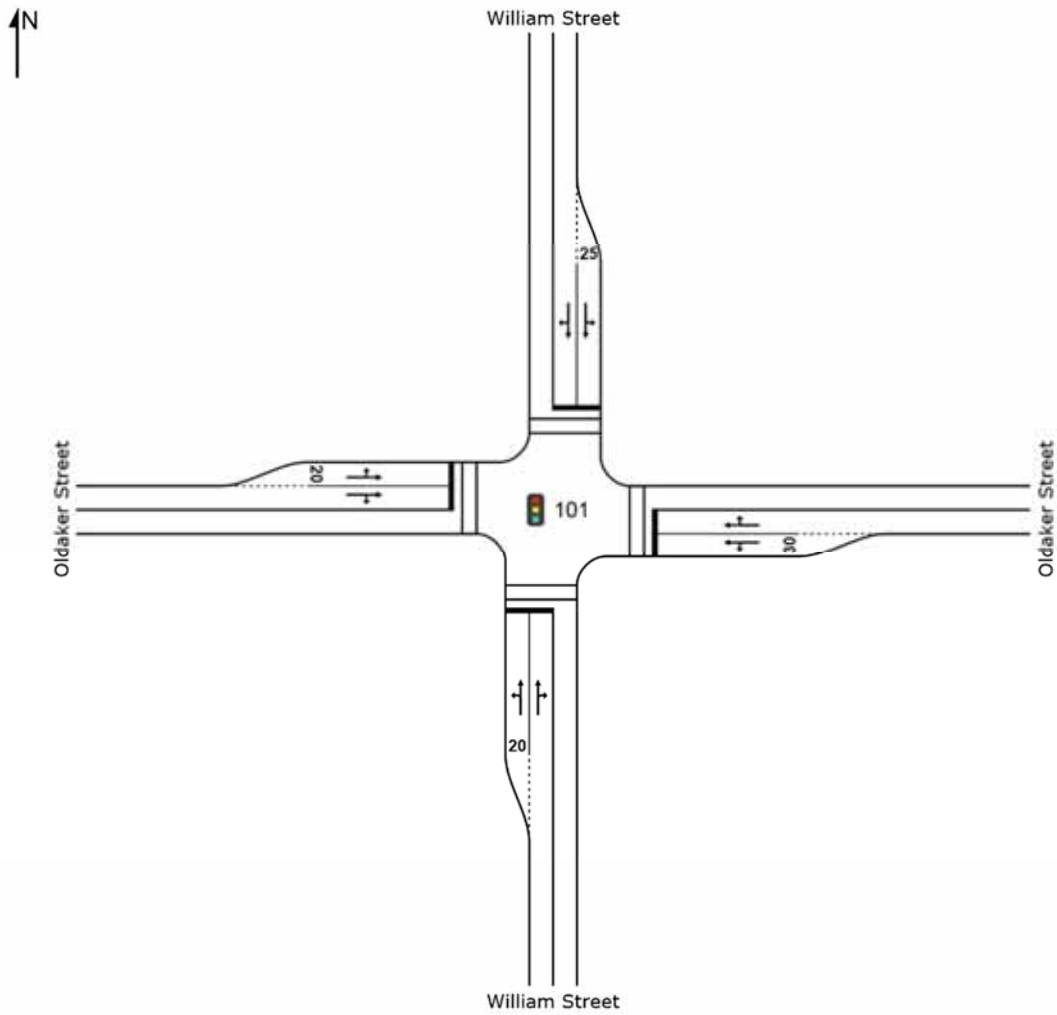
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

### SITE LAYOUT

 Site: 101 [Oldaker Street/ William Street - Existing Layout]

Signals - Fixed Time Isolated



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 4:59:50 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street -William Street.sip7

## MOVEMENT SUMMARY

**Site: 101 [Oldaker Street/ William Street - 2019 Option 5 AM Peak]**

08:15-09:15

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	60	2.0	0.103	15.1	LOS B	0.9	6.2	0.73	0.70	41.2
2	T1	155	10.0	0.516	13.3	LOS B	4.0	30.0	0.87	0.75	41.5
3	R2	79	5.0	0.516	17.9	LOS B	4.0	30.0	0.88	0.75	41.0
Approach		294	7.0	0.516	14.9	LOS B	4.0	30.0	0.84	0.74	41.3
East: Oldaker Street											
4	L2	157	5.0	0.233	14.2	LOS B	2.2	15.9	0.72	0.73	41.5
5	T1	318	2.0	0.617	11.8	LOS B	6.4	45.7	0.86	0.77	42.7
6	R2	61	2.0	0.617	16.3	LOS B	6.4	45.7	0.86	0.77	42.1
Approach		536	2.9	0.617	13.0	LOS B	6.4	45.7	0.82	0.76	42.3
North: William Street											
7	L2	35	2.0	0.093	15.0	LOS B	0.8	5.6	0.73	0.64	41.9
8	T1	263	5.0	0.465	12.0	LOS B	4.3	31.5	0.83	0.70	42.6
9	R2	23	2.0	0.465	16.7	LOS B	4.3	31.5	0.84	0.71	42.1
Approach		321	4.5	0.465	12.7	LOS B	4.3	31.5	0.82	0.70	42.5
West: Oldaker Street											
10	L2	31	2.0	0.100	13.5	LOS B	0.9	6.5	0.68	0.60	43.1
11	T1	272	2.0	0.501	11.2	LOS B	4.6	33.0	0.81	0.70	42.8
12	R2	55	2.0	0.501	16.2	LOS B	4.6	33.0	0.84	0.72	42.1
Approach		357	2.0	0.501	12.2	LOS B	4.6	33.0	0.80	0.70	42.7
All Vehicles		1507	3.8	0.617	13.1	LOS B	6.4	45.7	0.82	0.73	42.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.



### MOVEMENT SUMMARY

**Site: 101 [Oldaker Street/ William Street - 2019 Option 5 PM Peak]**

15:00-16:00

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: William Street											
1	L2	98	2.0	0.165	15.3	LOS B	1.4	10.1	0.75	0.72	41.0
2	T1	193	5.0	0.593	13.9	LOS B	5.0	36.0	0.90	0.79	41.3
3	R2	84	2.0	0.593	18.5	LOS B	5.0	36.0	0.90	0.79	40.8
Approach		375	3.5	0.593	15.3	LOS B	5.0	36.0	0.86	0.77	41.1
East: Oldaker Street											
4	L2	174	5.0	0.258	14.3	LOS B	2.4	17.8	0.73	0.74	41.5
5	T1	401	2.0	0.849	20.5	LOS C	11.2	80.0	0.97	1.09	38.7
6	R2	75	2.0	0.849	25.1	LOS C	11.2	80.0	0.97	1.09	38.3
Approach		649	2.8	0.849	19.4	LOS B	11.2	80.0	0.90	1.00	39.4
North: William Street											
7	L2	62	2.0	0.104	15.1	LOS B	0.9	6.2	0.73	0.70	41.1
8	T1	252	5.0	0.507	12.4	LOS B	4.7	34.0	0.86	0.72	42.5
9	R2	29	2.0	0.507	17.0	LOS B	4.7	34.0	0.86	0.72	42.0
Approach		343	4.2	0.507	13.3	LOS B	4.7	34.0	0.83	0.72	42.2
West: Oldaker Street											
10	L2	31	2.0	0.116	13.6	LOS B	1.1	7.7	0.68	0.59	43.2
11	T1	272	2.0	0.582	12.8	LOS B	5.0	35.7	0.86	0.74	42.0
12	R2	63	2.0	0.582	18.3	LOS B	5.0	35.7	0.90	0.78	41.1
Approach		365	2.0	0.582	13.8	LOS B	5.0	35.7	0.85	0.73	41.9
All Vehicles		1733	3.1	0.849	16.1	LOS B	11.2	80.0	0.87	0.84	40.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P2	East Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
P3	North Full Crossing	53	12.8	LOS B	0.0	0.0	0.80	0.80	
P4	West Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85	
All Pedestrians		211	13.7	LOS B			0.83	0.83	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

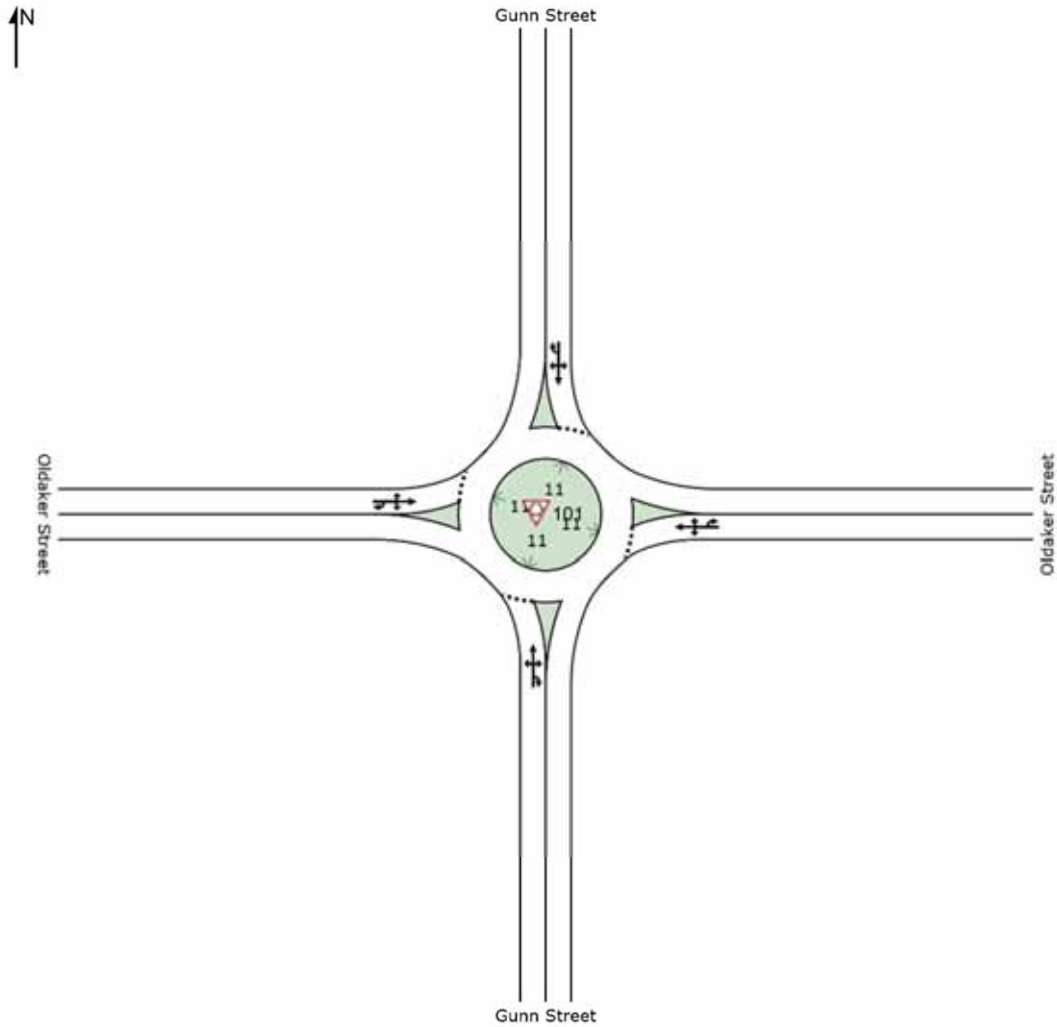
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.



### SITE LAYOUT

▽ Site: 101 [Oldaker Street/ Gunn Street - Existing Layout]

Roundabout



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:04:45 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Gunn Street.sip7

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Gunn Street - 2019 Option 5 AM Peak]

08:15-09:15

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Gunn Street											
1	L2	48	2.0	0.177	5.5	LOS A	0.8	6.0	0.42	0.60	45.5
2	T1	74	2.0	0.177	5.4	LOS A	0.8	6.0	0.42	0.60	46.2
3	R2	43	2.0	0.177	8.8	LOS A	0.8	6.0	0.42	0.60	46.1
3u	U	1	2.0	0.177	10.3	LOS B	0.8	6.0	0.42	0.60	46.6
Approach		166	2.0	0.177	6.3	LOS A	0.8	6.0	0.42	0.60	46.0
East: Oldaker Street											
4	L2	42	5.0	0.333	5.2	LOS A	2.2	15.7	0.51	0.58	45.5
5	T1	258	2.0	0.333	5.1	LOS A	2.2	15.7	0.51	0.58	46.2
6	R2	32	2.0	0.333	8.5	LOS A	2.2	15.7	0.51	0.58	46.1
6u	U	15	2.0	0.333	10.0	LOS A	2.2	15.7	0.51	0.58	46.6
Approach		346	2.4	0.333	5.6	LOS A	2.2	15.7	0.51	0.58	46.1
North: Gunn Street											
7	L2	35	5.0	0.220	6.8	LOS A	1.5	10.5	0.63	0.63	45.2
8	T1	148	2.0	0.220	6.6	LOS A	1.5	10.5	0.63	0.63	46.0
9	R2	7	2.0	0.220	10.0	LOS B	1.5	10.5	0.63	0.63	45.8
9u	U	1	2.0	0.220	11.5	LOS B	1.5	10.5	0.63	0.63	46.3
Approach		192	2.5	0.220	6.8	LOS A	1.5	10.5	0.63	0.63	45.8
West: Oldaker Street											
10	L2	13	2.0	0.356	4.7	LOS A	2.1	15.5	0.35	0.51	45.9
11	T1	321	5.0	0.356	4.7	LOS A	2.1	15.5	0.35	0.51	46.6
12	R2	67	2.0	0.356	8.0	LOS A	2.1	15.5	0.35	0.51	46.5
12u	U	2	2.0	0.356	9.6	LOS A	2.1	15.5	0.35	0.51	47.0
Approach		403	4.4	0.356	5.3	LOS A	2.1	15.5	0.35	0.51	46.5
All Vehicles		1107	3.1	0.356	5.8	LOS A	2.2	15.7	0.46	0.57	46.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:22:39 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Gunn Street.sip7

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Gunn Street - 2019 Option 5 PM Peak]

15:00-16:00

Roundabout

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Gunn Street												
1	L2	55	2.0	0.394	8.9	LOS A	2.3	16.4	0.66	0.80	43.7	
2	T1	142	2.0	0.394	8.8	LOS A	2.3	16.4	0.66	0.80	44.4	
3	R2	56	5.0	0.394	12.3	LOS B	2.3	16.4	0.66	0.80	44.3	
3u	U	1	2.0	0.394	13.7	LOS B	2.3	16.4	0.66	0.80	44.8	
Approach		254	2.7	0.394	9.6	LOS A	2.3	16.4	0.66	0.80	44.2	
East: Oldaker Street												
4	L2	91	2.0	0.641	5.4	LOS A	6.2	44.0	0.65	0.60	45.2	
5	T1	549	2.0	0.641	5.4	LOS A	6.2	44.0	0.65	0.60	45.9	
6	R2	95	2.0	0.641	8.7	LOS A	6.2	44.0	0.65	0.60	45.8	
6u	U	4	2.0	0.641	10.3	LOS B	6.2	44.0	0.65	0.60	46.3	
Approach		739	2.0	0.641	5.8	LOS A	6.2	44.0	0.65	0.60	45.8	
North: Gunn Street												
7	L2	47	2.0	0.187	6.7	LOS A	1.2	8.6	0.64	0.65	45.1	
8	T1	93	2.0	0.187	6.6	LOS A	1.2	8.6	0.64	0.65	45.8	
9	R2	17	2.0	0.187	10.0	LOS A	1.2	8.6	0.64	0.65	45.7	
9u	U	1	2.0	0.187	11.5	LOS B	1.2	8.6	0.64	0.65	46.2	
Approach		158	2.0	0.187	7.0	LOS A	1.2	8.6	0.64	0.65	45.6	
West: Oldaker Street												
10	L2	9	2.0	0.428	5.9	LOS A	2.7	18.9	0.49	0.61	45.4	
11	T1	332	2.0	0.428	5.8	LOS A	2.7	18.9	0.49	0.61	46.1	
12	R2	71	2.0	0.428	9.2	LOS A	2.7	18.9	0.49	0.61	46.0	
12u	U	4	2.0	0.428	10.7	LOS B	2.7	18.9	0.49	0.61	46.5	
Approach		416	2.0	0.428	6.5	LOS A	2.7	18.9	0.49	0.61	46.1	
All Vehicles		1566	2.1	0.641	6.7	LOS A	6.2	44.0	0.61	0.64	45.6	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

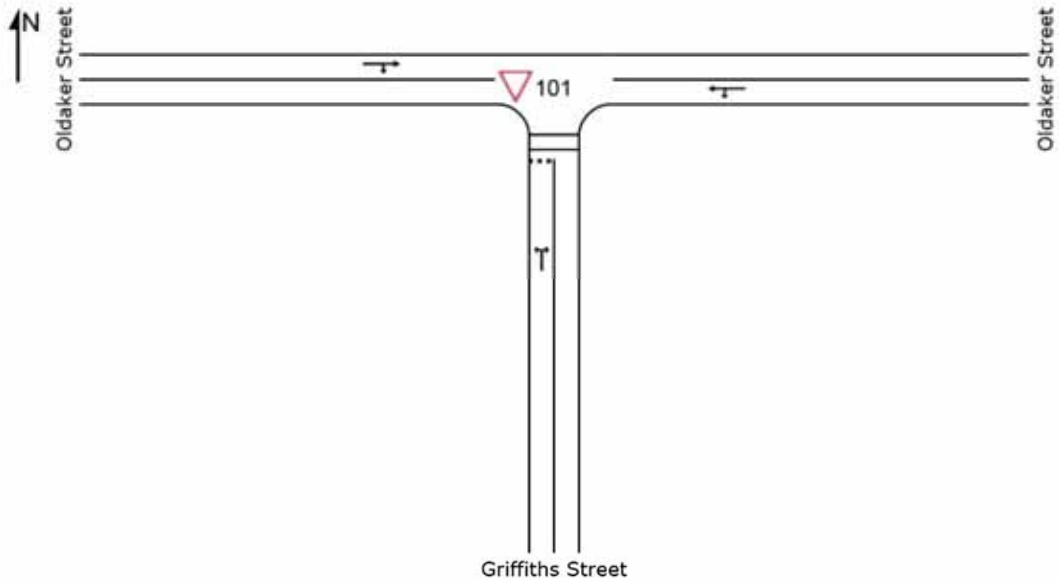
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:23:10 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Gunn Street.sip7

**SITE LAYOUT**

▽ Site: 101 [Oldaker Street/ Griffiths Street - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:07:51 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Griffiths Street.sip7

**MOVEMENT SUMMARY**

▽ Site: 101 [Oldaker Street/ Griffiths Street - 2019 Option 5 AM Peak]

08:15-09:15  
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Griffiths Street												
1	L2	72	5.0	0.111	5.9	LOS A	0.4	2.7	0.40	0.65	45.3	
3	R2	31	2.0	0.111	8.5	LOS A	0.4	2.7	0.40	0.65	45.0	
Approach		102	4.1	0.111	6.7	LOS A	0.4	2.7	0.40	0.65	45.2	
East: Oldaker Street												
4	L2	79	5.0	0.225	4.6	LOS A	0.0	0.0	0.00	0.10	48.9	
5	T1	348	2.0	0.225	0.0	LOS A	0.0	0.0	0.00	0.10	49.4	
Approach		427	2.6	0.225	0.9	NA	0.0	0.0	0.00	0.10	49.3	
West: Oldaker Street												
11	T1	256	5.0	0.204	0.8	LOS A	0.7	5.0	0.25	0.14	48.6	
12	R2	76	5.0	0.204	6.7	LOS A	0.7	5.0	0.25	0.14	47.6	
Approach		332	5.0	0.204	2.2	NA	0.7	5.0	0.25	0.14	48.3	
All Vehicles		861	3.7	0.225	2.1	NA	0.7	5.0	0.14	0.18	48.4	

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

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Griffiths Street - 2019 Option 5 PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn w/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Griffiths Street												
1	L2	196	2.0	0.308	7.8	LOS A	1.4	10.1	0.60	0.83	44.2	
3	R2	37	5.0	0.308	14.1	LOS B	1.4	10.1	0.60	0.83	43.8	
Approach		233	2.5	0.308	8.8	LOS A	1.4	10.1	0.60	0.83	44.1	
East: Oldaker Street												
4	L2	138	2.0	0.371	4.6	LOS A	0.0	0.0	0.00	0.11	48.8	
5	T1	568	2.0	0.371	0.0	LOS A	0.0	0.0	0.00	0.11	49.3	
Approach		706	2.0	0.371	0.9	NA	0.0	0.0	0.00	0.11	49.2	
West: Oldaker Street												
11	T1	334	2.0	0.311	2.5	LOS A	1.8	12.6	0.44	0.20	47.2	
12	R2	112	2.0	0.311	9.4	LOS A	1.8	12.6	0.44	0.20	46.3	
Approach		445	2.0	0.311	4.2	NA	1.8	12.6	0.44	0.20	47.0	
All Vehicles		1384	2.1	0.371	3.3	NA	1.8	12.6	0.24	0.26	47.6	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 8:30:22 AM

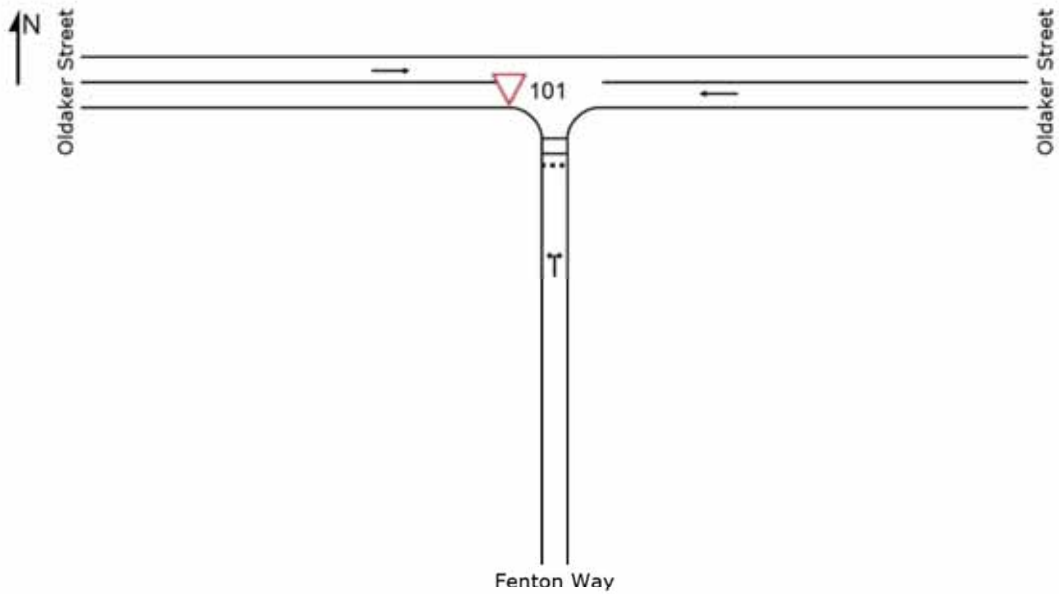
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Griffiths Street.sip7



### SITE LAYOUT

▽ Site: 101 [Oldaker Street/ Fenton Way - Existing Layout]

Giveaway / Yield (Two-Way)



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:11:43 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker Street-Fenton Way.sip7

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Fenton Way - 2019 Option 5 AM Peak]

08:15-09:15

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Fenton Way												
1	L2	109	2.0	0.139	5.8	LOS A	0.5	3.4	0.33	0.62	45.6	
3	R2	35	2.0	0.139	7.9	LOS A	0.5	3.4	0.33	0.62	45.0	
Approach		144	2.0	0.139	6.4	LOS A	0.5	3.4	0.33	0.62	45.4	
East: Oldaker Street												
5	T1	327	5.0	0.173	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		327	5.0	0.173	0.0	NA	0.0	0.0	0.00	0.00	50.0	
West: Oldaker Street												
11	T1	284	5.0	0.150	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		284	5.0	0.150	0.0	NA	0.0	0.0	0.00	0.00	50.0	
All Vehicles		756	4.4	0.173	1.2	NA	0.5	3.4	0.06	0.12	49.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

## MOVEMENT SUMMARY

▽ Site: 101 [Oldaker Street/ Fenton Way - 2019 Option 5 PM Peak]

15:00-16:00

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h	
South: Fenton Way												
1	L2	322	2.0	0.506	7.6	LOS A	3.0	21.5	0.51	0.82	44.2	
3	R2	138	2.0	0.506	11.5	LOS B	3.0	21.5	0.51	0.82	43.7	
Approach		460	2.0	0.506	8.7	LOS A	3.0	21.5	0.51	0.82	44.1	
East: Oldaker Street												
5	T1	387	2.0	0.201	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		387	2.0	0.201	0.0	NA	0.0	0.0	0.00	0.00	50.0	
West: Oldaker Street												
11	T1	373	5.0	0.197	0.0	LOS A	0.0	0.0	0.00	0.00	50.0	
Approach		373	5.0	0.197	0.0	NA	0.0	0.0	0.00	0.00	50.0	
All Vehicles		1220	2.9	0.506	3.3	NA	3.0	21.5	0.19	0.31	47.6	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

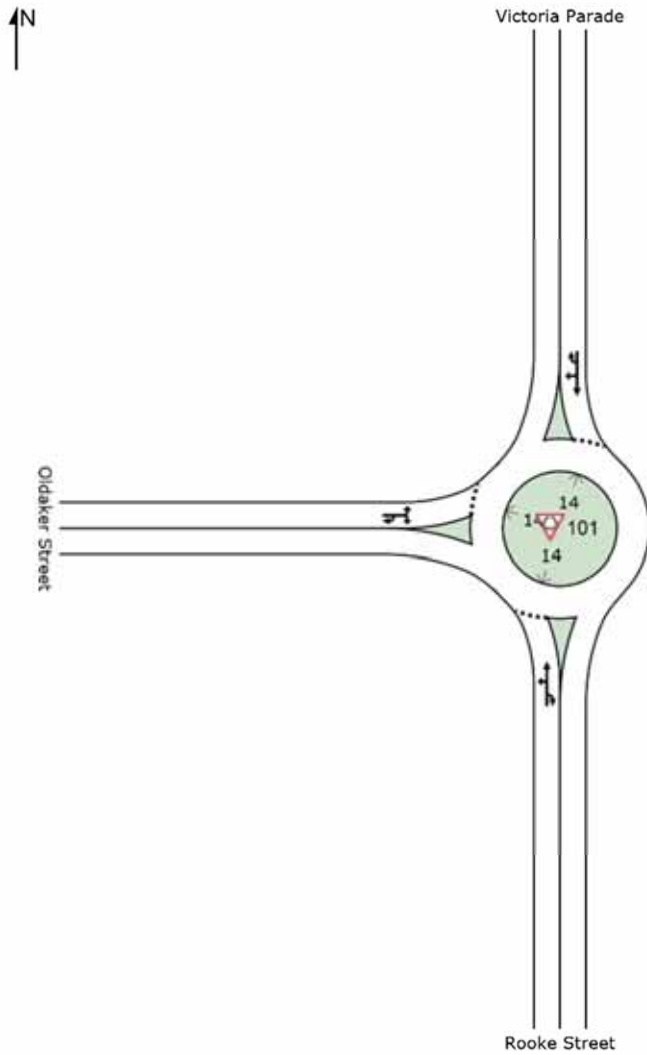
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

### SITE LAYOUT

▽ Site: 101 [Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade - Option 5 Layout]

Roundabout



SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com  
Organisation: PITT & SHERRY CONSULTING ENGINEERS | Created: Tuesday, 6 June 2017 5:18:39 PM  
Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker-Rooke-Formby-Victoria.sip7

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade - 2019 Option 5 AM Peak]

08:15-09:15  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Rooke Street											
1	L2	94	5.0	0.234	3.4	LOS A	1.2	9.6	0.11	0.42	47.0
2	T1	200	10.0	0.234	3.4	LOS A	1.2	9.6	0.11	0.42	47.9
3u	U	31	75.0	0.234	9.5	LOS A	1.2	9.6	0.11	0.42	47.4
Approach		324	14.7	0.234	4.0	LOS A	1.2	9.6	0.11	0.42	47.6
North: Victoria Parade											
8	T1	198	2.0	0.195	4.2	LOS A	1.1	8.0	0.38	0.48	47.0
9	R2	19	5.0	0.195	8.1	LOS A	1.1	8.0	0.38	0.48	46.9
9u	U	1	2.0	0.195	9.6	LOS A	1.1	8.0	0.38	0.48	47.6
Approach		218	2.3	0.195	4.6	LOS A	1.1	8.0	0.38	0.48	47.0
West: Oldaker Street											
10	L2	38	5.0	0.152	4.8	LOS A	0.9	6.7	0.44	0.60	44.9
12	R2	118	5.0	0.152	8.6	LOS A	0.9	6.7	0.44	0.60	45.6
12u	U	3	30.0	0.152	10.7	LOS B	0.9	6.7	0.44	0.60	45.9
Approach		159	5.5	0.152	7.7	LOS A	0.9	6.7	0.44	0.60	45.4
All Vehicles		701	8.7	0.234	5.0	LOS A	1.2	9.6	0.27	0.48	46.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 9:38:10 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker-Rooke-Formby-Victoria.sip7

## MOVEMENT SUMMARY

Site: 101 [Oldaker Street/ Rooke Street/ Formby Road/ Victoria Parade - 2019 Option 5 PM Peak]

15:00-16:00  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Rooke Street											
1	L2	148	2.0	0.329	3.5	LOS A	2.0	14.3	0.15	0.46	46.5
2	T1	235	2.0	0.329	3.5	LOS A	2.0	14.3	0.15	0.46	47.4
3u	U	87	10.0	0.329	9.0	LOS A	2.0	14.3	0.15	0.46	47.9
Approach		471	3.5	0.329	4.5	LOS A	2.0	14.3	0.15	0.46	47.2
North: Victoria Parade											
8	T1	219	5.0	0.246	4.9	LOS A	1.5	10.9	0.49	0.55	46.6
9	R2	31	2.0	0.246	8.6	LOS A	1.5	10.9	0.49	0.55	46.5
9u	U	1	2.0	0.246	10.3	LOS B	1.5	10.9	0.49	0.55	47.2
Approach		251	4.6	0.246	5.4	LOS A	1.5	10.9	0.49	0.55	46.6
West: Oldaker Street											
10	L2	47	2.0	0.208	5.3	LOS A	1.4	9.7	0.52	0.64	44.6
12	R2	156	2.0	0.208	9.1	LOS A	1.4	9.7	0.52	0.64	45.4
12u	U	6	2.0	0.208	10.8	LOS B	1.4	9.7	0.52	0.64	45.9
Approach		209	2.0	0.208	8.3	LOS A	1.4	9.7	0.52	0.64	45.2
All Vehicles		931	3.5	0.329	5.6	LOS A	2.0	14.3	0.33	0.52	46.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 6 June 2017 9:38:48 AM

Project: J:\DEV\2017\001-050\DV17026\14P - Calculations\SIDRA\DV17026 Oldaker-Rooke-Formby-Victoria.sip7





Appendix G

Austrorods Pedestrian Facility Tool Assessment

# Australasian Pedestrian Crossing Facility Selection Tool

- View help tips by hovering over the help icon (i)
- See the [Quick-start guide](#) or [User guide](#)
- [Request help](#) or [report a problem](#)
- [Print page](#)



Project name:

Project location:

Option/assessment number:

Date of assessment:

### Save/load parameters

Load parameters:  No file chosen

Save parameters:

Clear parameters:

### Site information

Jurisdiction:

Midblock or intersection?:

### Physical/environmental variables

Number of flow directions:

Centre treatment:

Parking/shoulder:

Pedestrian visibility:  metres

<b>Direction 1</b>	<b>Direction 2</b>
Flow: <input type="text" value="Left to Right"/>	Flow: <input type="text" value="Right to Left"/>
Trafficked lanes: <input type="text" value="1"/>	Trafficked lanes: <input type="text" value="1"/>
Crossing distance: <input type="text" value="3.5"/> metres	Crossing distance: <input type="text" value="3.5"/> metres

### Operational variables

Posted speed limit:  km/h

Approach speed (85<sup>th</sup> percentile):  km/h

Traffic volume (AADT):  veh/day

Peak sensitive pedestrian volume:  ped/hr

Peak non-sensitive:

<b>Direction 1</b>	<b>Direction 2</b>
Flow type: <input type="text" value="Uninterrupted"/>	Flow type: <input type="text" value="Interrupted"/>
Peak vehicle volume: <input type="text" value="500"/> veh/hr	Peak vehicle volume: <input type="text" value="500"/> veh/hr

Site layout diagram



### Overall site characteristics

Total crossing distance:  
3.5 + 3.5 = **7 metres**

Total peak hourly vehicle flow:  
500 + 500 = **1,000 veh/hr**

Estimated pedestrian crossing time:  
**6 seconds**

Annual maximum pedestrian volume:  ped/hr  
 Estimated daily pedestrian volume:  ped/day  
 Average vehicle occupancy:  pers/veh

**Crash information**  
 Use crash model or crash history?

**Model parameters** [Show/Hide](#)

[Calculate feasibility](#) [Click here to view a description of the facility feasibility process \(PDF\)](#)

**Feasible facilities**

	Suitable for site?	Built parameters	Construction cost	Show in final output? <small>Select all/none/feasible</small>
Platform	Yes	Vehicle negotiation speed: <input type="text" value="20"/> km/h	\$ 20000	<input checked="" type="checkbox"/>
Kerb extensions	Yes	Total crossing distance after treatment: <input type="text" value="7"/> metres	\$ 20000	<input checked="" type="checkbox"/>
Median refuge	Yes	Direction 1 crossing distance after treatment: <input type="text" value="3.5"/> metres Median refuge width: <input type="text" value="2"/> metres Direction 2 crossing distance after treatment: <input type="text" value="3.5"/> metres	\$ 20000	<input checked="" type="checkbox"/>
Kerb extensions and median refuge	Yes	Direction 1 crossing distance after treatment: <input type="text" value="3.5"/> metres Median refuge width: <input type="text" value="2"/> metres Direction 2 crossing distance after treatment: <input type="text" value="3.5"/> metres	\$ 40000	<input checked="" type="checkbox"/>
Zebra only	No	<i>No parameters</i>	\$	<input type="checkbox"/>
Zebra with platform	Yes	<i>Applies vehicle negotiation speed from Platform above</i>	\$ 22000	<input checked="" type="checkbox"/>

Zebra with kerb extensions	No	Applies total crossing distance from <b>Kerb extensions</b> above	\$	<input type="checkbox"/>
Zebra with platform and kerb extensions	Yes	Applies vehicle negotiation speed from <b>Platform</b> and total crossing distance from <b>Kerb extensions</b> above	\$ 42000	<input checked="" type="checkbox"/>
Zebra with median refuge	No	Applies distances and refuge width from <b>Median refuge</b> above	\$	<input type="checkbox"/>
Zebra with kerb extensions and median refuge	No	Applies distances and refuge width from <b>Kerb extensions and median refuge</b> above	\$	<input type="checkbox"/>
Signals	Yes	Signals activated by pedestrian call button? <input type="text" value="Yes"/> Delay before green pedestrian phase: <input type="text" value="10"/> seconds Pedestrian walk + clearance time: <input type="text" value="15"/> seconds Pedestrian platoon size: <input type="text" value="2"/> peds	\$100000	<input checked="" type="checkbox"/>
Signals with kerb extensions	Yes	Applies parameters from <b>Signals</b> and total crossing distance from <b>Kerb extensions</b> above	\$120000	<input checked="" type="checkbox"/>
Grade separation	Maybe	N/a	\$000000	<input checked="" type="checkbox"/>

**Calculate assessment**

Automatically calculate when inputs are updated?

**Facility assessment**

	Suitable for site?	Pedestrian delay	Vehicle delay	Predicted crash rate	CSD	ASD	SISD
No facility		8 sec	0 sec	0.05 /year	97 m	48 m	90 m
Platform	Yes	8 sec	5 sec	0.04 /year	97 m	48 m	90 m
Kerb extensions	Yes	8 sec	0 sec	0.04 /year	97 m	48 m	90 m
Median refuge	Yes	3 sec	0 sec	0.02 /year	49 m	48 m	90 m
Kerb extensions and median refuge	Yes	3 sec	0 sec	0.02 /year	49 m	48 m	90 m
Zebra with platform	Yes	5 sec	8 sec	0.04 /year	97 m	48 m	90 m
Zebra with platform and kerb extensions	Yes	5 sec	8 sec	0.04 /year	97 m	48 m	90 m
Signals	Yes	11 sec	3 sec	0.03 /year	97 m	48 m	90 m
Signals with kerb extensions	Yes	11 sec	3 sec	0.03 /year	97 m	48 m	90 m
Grade separation	Maybe	0 sec	0 sec	0.01 /year			

	Perceived delay ⓘ	Perceived safety ⓘ	Pedestrian LOS ⓘ	Pedestrian delay cost ⓘ	Pedestrian delay saving ⓘ	Vehicle delay cost ⓘ	Crash cost ⓘ	Safety saving ⓘ	Total benefits ⓘ	BCR ⓘ
No facility	B	D	C	\$ 131,000			\$ 157,000			
Platform	B	C	C	\$ 131,000	\$ 0	\$ 1,829,000	\$ 110,000	\$ 47,000	-\$ 1,782,000	-89.1
Kerb extensions	B	C	C	\$ 131,000	\$ 0	\$ 0	\$ 102,000	\$ 55,000	\$ 55,000	2.7
Median refuge	B	B	B	\$ 48,000	\$ 83,000	\$ 0	\$ 69,000	\$ 88,000	\$ 171,000	8.5
Kerb extensions and median refuge	B	B	B	\$ 48,000	\$ 83,000	\$ 0	\$ 69,000	\$ 88,000	\$ 171,000	4.3
Zebra with platform	B	B	B	\$ 80,000	\$ 52,000	\$ 2,134,000	\$ 110,000	\$ 47,000	-\$ 2,035,000	-92.5
Zebra with platform and kerb extensions	B	B	B	\$ 80,000	\$ 52,000	\$ 1,829,000	\$ 102,000	\$ 55,000	-\$ 1,722,000	-41.0
Signals	B	B	B	\$ 167,000	-\$ 36,000	\$ 415,000	\$ 86,000	\$ 71,000	-\$ 381,000	-3.8
Signals with kerb extensions	B	B	B	\$ 167,000	-\$ 36,000	\$ 415,000	\$ 86,000	\$ 71,000	-\$ 381,000	-3.2
Grade separation			A	\$ 0	\$ 131,000	\$ 0	\$ 22,000	\$ 135,000	\$ 266,000	0.3

Notes

[Click here to return to top of the page to save or load new parameters](#)

Disclaimer

This tool is freely provided by Austroads and Abley Transportation Consultants Limited. The tool is intended to help practitioners select an appropriate pedestrian crossing facility for a particular location. The tool is based on literature, and analytical and behavioural research coupled with a number of mathematical models. Its development is detailed in the Austroads report [Development of the Pedestrian Facility Selection Tool](#). As with all mathematical models care must be taken to understand input limitations and background assumptions when interpreting the outputs. The tool does not replace professional engineering or planning advice and neither Austroads nor Abley Transportation Consultants Limited accept any responsibility regarding the tool. While we have endeavoured to ensure the information output by the tool is appropriate, we make no representations or warranties of any kind about the completeness, accuracy, reliability, suitability or availability with respect to the outputs. Any reliance you place on such information is strictly at your own risk and it is your responsibility to check all information output by the tool.

Version: 1.1.0

**Contact**

Rebekah Giana  
 03 6210 1402  
 rgiana@pittsh.com.au



**Brisbane**

Level 2  
 276 Edward Street  
 Brisbane QLD 4000  
 T: (07) 3221 0080  
 F: (07) 3221 0083

**Devonport**

Level 1  
 35 Oldaker Street  
 PO Box 836  
 Devonport TAS 7310  
 T: (03) 6424 1641  
 F: (03) 6424 9215

**Hobart**

199 Macquarie Street  
 GPO Box 94  
 Hobart TAS 7001  
 T: (03) 6210 1400  
 F: (03) 6223 1299

**Launceston**

Level 4  
 113 Cimitiere Street  
 PO Box 1409  
 Launceston TAS 7250  
 T: (03) 6323 1900  
 F: (03) 6334 4651

**Melbourne**

Level 1, HWT Tower  
 40 City Road  
 Southbank VIC 3006  
 PO Box 259  
 South Melbourne VIC 3205  
 T: (03) 9682 5290  
 F: (03) 9682 5292

**Newcastle**

Level 1  
 81 Hunter Street  
 Newcastle NSW 2300  
 T: (02) 4910 3600

**Sydney**

Suite 902, Level 9,  
 1-5 Railway Street  
 Chatswood NSW 2067  
 PO Box 5487  
 West Chatswood NSW 1515  
 T: (02) 9468 9300

E: [info@pittsh.com.au](mailto:info@pittsh.com.au)  
 W: [www.pittsh.com.au](http://www.pittsh.com.au)

incorporated as  
 Pitt & Sherry (Operations) Pty Ltd  
 ABN 67 140 184 309





## 5.4 ANNUAL FINANCIAL STATEMENT - 30 JUNE 2017

File: 31641 D489416

### RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

Strategy 5.5.1 Provide financial services to support Council's operations and meet reporting and accountability requirements

### SUMMARY

This report is provided to present to Council the Annual Financial Statements for the year ended 30 June 2017. The report also details information relating to the carried forward capital works funding as at 1 July 2017 following the completion of the end of year balancing.

### BACKGROUND

The Annual Financial Statements have been prepared in accordance with the requirements of the *Local Government Act 1993*, the *Audit Act 2008* and relevant Accounting Standards.

The Audit Opinion and the Annual Financial Statements are attached to this report, available on Council's website and for viewing at LINC and Customer Services.

### STATUTORY REQUIREMENTS

Section 72 of the *Local Government Act 1993* requires Council to prepare an Annual Report containing the Annual Financial Statements and other statutory requirements. The Annual Report must be considered at the Annual General Meeting, which is to be held no later than 15 December.

The Annual Financial Statements are required to be prepared in accordance with applicable Accounting Standards; Section 84 of the *Local Government Act 1993* and the *Audit Act 2008*.

The *Audit Act 2008* requires that the financial statements are to be prepared within 45 days of the end of the financial year and forwarded to the Auditor-General as soon as practicable. The Tasmanian Audit Office then has a further 45 days to complete the audit of the Statements.

Section 84 (4) of the *Local Government Act 1993* requires that '*the general manager is to ensure that the certified financial statements are tabled at a meeting of the council as soon as practicable*'.

This is the first opportunity for the certified financial statement to be provided formally to Council.

Section 82 (4) of the Act "*a council may alter by absolute majority any estimate referred to in subsection (2) during the financial year*".

### DISCUSSION

The Annual Financial Statements meet the requirements of the *Local Government Act 1993* and applicable Accounting Standards and have been audited by the Tasmanian Audit Office. An unqualified audit opinion is expected to be issued by the Auditor General on 20 September 2017.

---

 Report to Council meeting on 25 September 2017
 

---

The Annual Financial Report comprises four financial statements, together with notes to the accounts. The 'notes' provide additional detail and explanation to the financial statements. The Annual Financial Statements fully comply with the accounting standards and Council's statutory obligations. The four primary financial statements are:

1. Statement of Profit or Loss and Other Comprehensive Income
2. Statement of Financial Position
3. Statement of Changes in Equity
4. Statement of Cash Flows

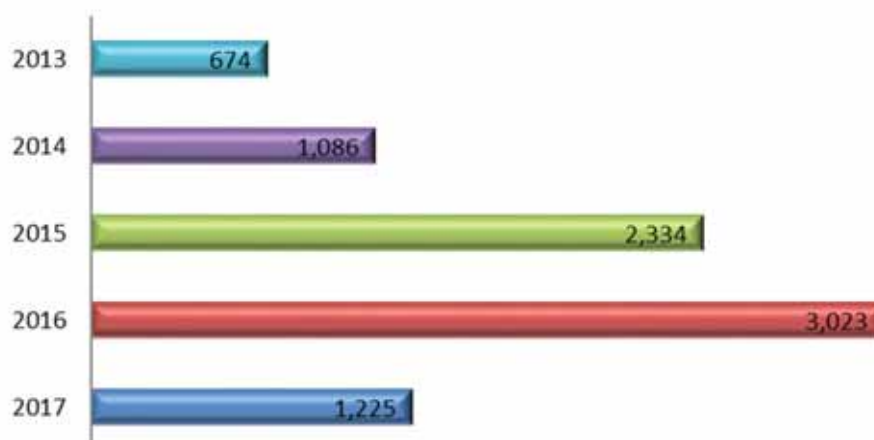
The draft financial statements were referred to the Audit Panel for review at its meeting on 7 August 2017 prior to the audit.

Below is a summary of the results of Council's financial activities during the year.

	<b>Actual \$000</b>	<b>Budget \$000</b>
<b>Ordinary activities</b>		
Total operating income	40,094	37,728
Total operating expenditure	38,043	37,135
<b>Surplus / (Deficit) from ordinary activities</b>	<b>2,052</b>	<b>593</b>
<b>Adjustments</b>		
Prepaid Financial Assistance Grant 2017/18	(1,020)	0
Loss on Disposal of Assets	(697)	(699)
Share of profit in Dulverton Regional Waste Management Authority	798	105
Net adjustment for repairs relating to 2016 flood	92	0
	(827)	(594)
<b>Underlying Surplus/(Deficit)</b>	<b>1,225</b>	<b>(1)</b>

Council has achieved an underlying surplus of \$1.225M for the 2016/17 financial year compared to a breakeven budget position. Increased income and the share of profit from Dulverton Regional Waste Management Authority have contributed to the positive result.

### Underlying surplus/(deficit) \$'000



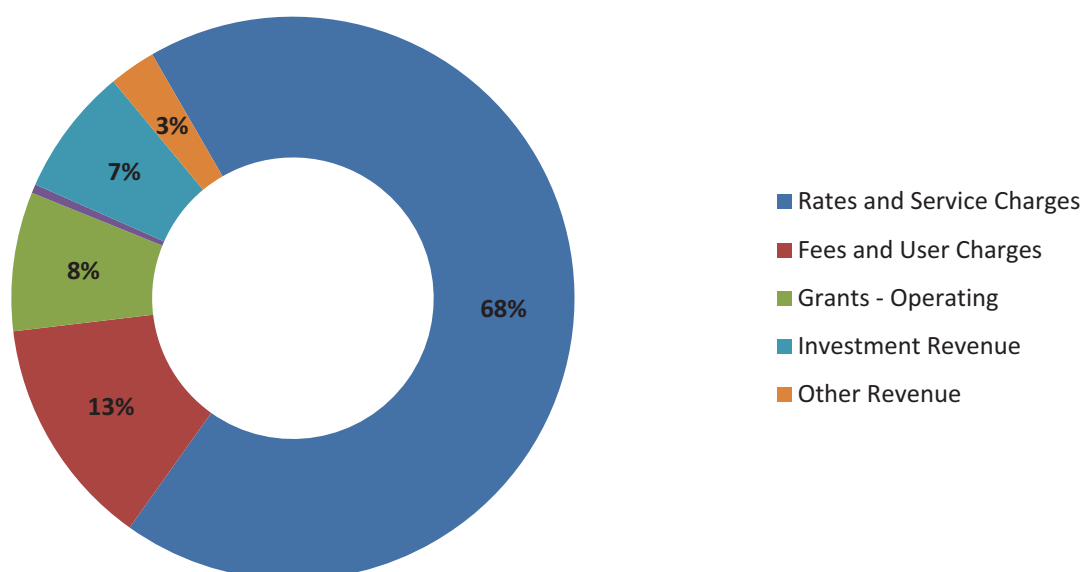
Operating Income	Actual 2016/17 \$'000	Budget 2016/17 \$'000	Variance \$'000
Rates and Service Charges	27,334	26,970	364
Fees and User Charges	5,324	5,233	91
Grants - Operating	3,201	2,127	1,074
Contributions - Operating	205	82	123
Investment Revenue	2,947	2,257	690
Other Revenue	1,083	1,059	24
<b>Total Operating Income</b>	<b>40,094</b>	<b>37,728</b>	<b>2,366</b>

Total operating revenue was \$2.366M or 6.27% higher than budget. The major variations include:

- Rates and service charges were 1.35% above budget due to a higher than anticipated number of supplementary assessments received.
- Operating Grants were 50.49% above budget due to the decision by the Australian Government to prepay two instalments of the 2017/18 Financial Assistance Grants (FAGs) prior to 30 June.
- Interest and dividend income was 30.57% higher than budget due in part to increased interest from short term deposits and the increased distributions from the Dulverton Regional Waste Management Authority.

The chart below depicts Council's operating income by source for the 2016/17 financial year:

## Operating Income - 2017



Operating Expenditure	Actual 2016/17 \$000	Budget 2016/17 \$000	Variance \$000
Employee Benefits	11,440	12,125	(685)
Materials and Services	11,574	11,885	(311)
Depreciation	8,395	8,311	84
Financial Costs	2,736	1,077	1,659
Levies and Taxes	3,302	3,238	64
Other Expenses	1,042	1,068	(26)
Internal Charges and Recoveries	(446)	(569)	123
<b>Total Operating Expenditure</b>	<b>38,043</b>	<b>37,135</b>	<b>908</b>

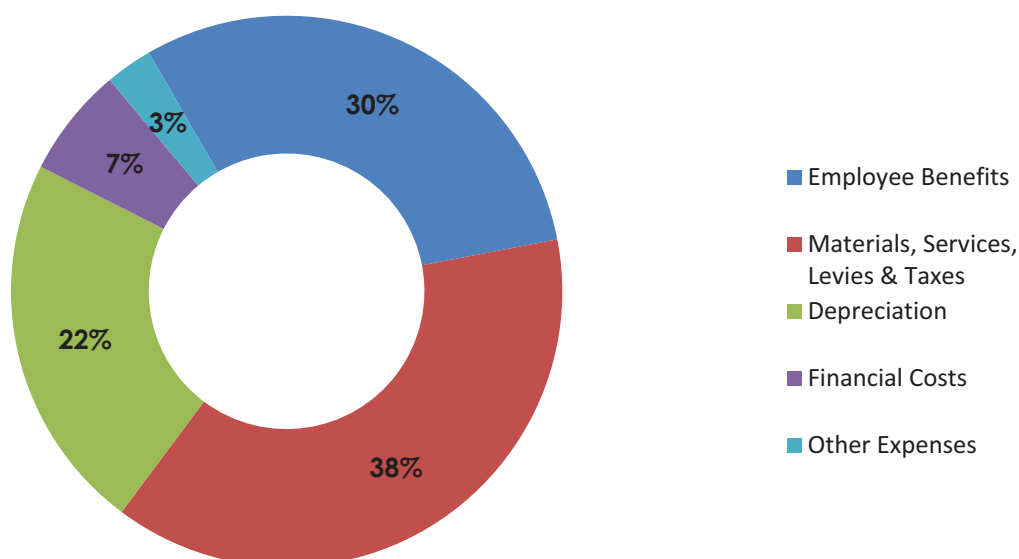
Total operating expenditure was \$908K or 2.44% more than budget. The major variations include:

- Employee benefits were 5.65% less than budget primarily due to the number of full time equivalent employees (FTE's) being 144 for the year compared to budget of 149.
- Material and services were 2.61% lower than budget. Lower than expected street lighting costs contributed to this saving.
- Depreciation was 1.01% higher than budget across a number of asset classes.
- Financial costs were 154.03% higher than budget due to the market adjustment payment of \$1.709M relating to the refinancing of Council's existing debt from TasCorp to ANZ Bank.

- Levies and taxes were 2.00% higher than budget and relates to stamp duty on land purchased during the year to construct the car park in Steele/King Streets.

The chart below depicts Council's expenditure by type for the 2016/17 financial year:

## Operating Expenditure



Capital Expenditure – Council spent \$28.290M on capital works during the 2016/17 financial year. A reconciliation of the Capital Works Program for 2016/17 is as follows:

	Capital Funding Available			Capital Expenditure		
	C/fw from 2015/16 and adjustments 2016/17	Original Budget Alloc.	Total Budget	Actual	To be C/fw to 2017/18	Unspent / Savings
Public Space/Rec Facilities	343,995	414,000	757,995	299,995	328,193	129,807
Stormwater	122,418	2,224,000	2,346,418	503,626	1,640,214	202,578
Transport	55,273	742,000	797,273	540,801	149,114	107,358
Plant & Fleet	607,722	5,517,000	6,124,722	5,271,110	693,450	160,162
Office Equipment	189,499	809,300	998,799	728,559	267,051	3,189
LIVING CITY	206,643	152,000	358,643	170,148	188,495	-
	704,915	30,000,000	30,704,915	20,775,894	9,929,021	-
<b>TOTAL CAPITAL WORKS</b>	<b>\$ 2,230,465</b>	<b>\$ 39,858,300</b>	<b>\$ 42,088,765</b>	<b>\$ 28,290,133</b>	<b>\$ 13,195,538</b>	<b>\$ 603,094</b>

There was a saving of \$603,094 on the capital budget in 2016/17. The total carried forward amount of \$13,195,538 is the balance of funding in the 2016/17 capital account.

The following table details the carried forward capital works now identified as a result of the finalisation of the year end reports.

## Report to Council meeting on 25 September 2017

Project	Budget 2017/18	Balance C/fw 2016/17	Additional Funds Required	Updated Budget 2017/18
<b>Public Space &amp; Recreation</b>				
Signage Strategy Actions	-	66,313	-	66,313
Don River Rail Trail - Don to Tugrah	-	115,052	-	115,052
Home Hill - Signage	-	5,000	-	5,000
Path Lighting - Victoria Parade	-	8,633	-	8,633
<b>Transport</b>				
Victoria Parade Boat Ramp area	300,000	141,535	24,117	465,652
Steele / Fenton Street Upgrade	-	-	10,000	10,000
William Street Renewal	-	-	4,500	4,500
Formby Rd / Best Street Intersection	-	262,089	-	262,089
Tarleton / Wright St Blackspot	-	112,036	-	112,036
Middle Road Off Ramp	-	69,791	14,873	84,664
Parking Infrastructure Renewal	-	20,539	-	20,539
Steele/Rooke/Macfie Intersection	-	27,709	34,669	62,378
Elizabeth Street Renewal	-	-	2,000	2,000
Ronald Street Renewal	-	151,506	-	151,506
Buster Road Renewal	750,000	41,440	-	791,440
<b>Stormwater</b>				
Tugrah Road - pipe crossing	-	13,187	12,813	26,000
Squibbs Road	-	66,886	-	66,886
Sorell Street Stormwater Renewal	-	69,041	-	69,041
<b>Buildings &amp; Facilities</b>				
Public Art	-	23,418	-	23,418
Vehicle Wash Bay	-	67,371	40,000	107,371
Art Gallery / VIC Integration	1,300,000	1,549,425	-	2,849,425
<b>Plant &amp; Fleet</b>				
Hire Plant Replacements	320,000	65,452	-	385,452
Minor Plant Replacements	59,100	45,347	-	104,447
Fleet Replacements	170,000	156,252	-	326,252
<b>Office &amp; Equipment</b>				
Office Equipment	-	47,546	-	47,546
Information Technology	263,000	140,949	-	403,949
<b>Living City</b>	39,000,000	9,929,021		48,929,021
<b>Land Purchase</b>				
Former Maternity Hospital - purchase			1,000,000	1,000,000
<b>CARRIED FORWARD CAPITAL WORKS</b>	<b>\$ 42,162,100</b>	<b>\$ 13,195,538</b>	<b>\$ 1,142,972</b>	<b>\$ 56,500,610</b>

As noted in the table above there is \$142,972 commitments for projects in addition to the amount of the recognised carried forwards. This amount is more than compensated by the savings recognised in the overall capital budget of \$603,094.

Subsequent to the adoption of the budget the Council agreed to purchase the former maternity hospital situated at 169 Steele Street, Devonport for \$950,000. The State Government agreed to provide to Council a grant of up to \$950,000 to allow for its demolition. As a result in accordance with the *Local Government Act 1993* Council authorised an adjustment to the capital works budget of \$1.0M (includes an allowance of \$50K in relation to stamp duty and legal costs associated with the purchase) to reflect this project.



**Report to Council meeting on 25 September 2017**

A summary of the Council's equity position at 30 June 2017 compared with the previous year was:

<b>Financial Position</b>	<b>2017</b>	<b>2016</b>
	<b>\$000</b>	<b>\$000</b>
Total Assets	561,348	534,414
Total Liabilities	39,819	26,290
<b>Net Community Equity</b>	<b>521,529</b>	<b>508,124</b>
<b>Key Assets and Liabilities (included in Financial Position)</b>		
Cash Assets	16,125	16,975
Property, plant and equipment	422,545	414,855
Council Borrowing	19,738	20,507

Cash assets include operating accounts, trust deposits and investments held by Council at 30 June 2017.

Loan debt is shown on the Balance Sheet as a current liability as required by the Auditor General due to the terms and conditions of loan arrangements with ANZ Bank. In reality though Council have a repayment schedule covering a 20-year period and will continue to make interest and principal repayments over that time.

Although Council received approval for additional borrowings of up to \$39M for Stage 1 of LIVING CITY as at 30 June 2017 no funds had been drawn down.

**COMMUNITY ENGAGEMENT**

The preparation of the Annual Report and the conduct of the Annual General Meeting underpins the community engagement in relation to this matter.

A date for the conduct of Council Annual General Meeting is Monday 30 October 2017 commencing at 5:30pm in the Council Chambers.

**FINANCIAL IMPLICATIONS**

Whilst the Annual Financial Statement deals with the finances of Council, there are no direct financial consequences relating to the consideration of this covering report.

Subsequent to the adoption of the budget the Council agreed to purchase the former maternity hospital situated at 169 Steele Street, Devonport for \$950,000. The State Government agreed to provide to Council a grant of up to \$950,000 to allow for its demolition. As a result in accordance with the *Local Government Act 1993* Council authorised an adjustment to the capital works budget of \$1.0M to reflect this project.

**RISK IMPLICATIONS**

There are no specific identified risks in relation to the content of this report.

**CONCLUSION**

The Annual Financial Report for the year ended 30 June 2017 provides detailed information as to Council's financial performance and position as at balance date.

Copies of the following documents are provided to support this report:

1. Auditor's Opinion

Report to Council meeting on 25 September 2017

---

2. Financial Statements for the Year Ended 30 June 2017

The Annual Report is currently being finalised and will be tabled at the Annual General Meeting.

The finalisation of the capital works program for year ended 30 June 2017 identifies that a number of projects by necessity would be carried forward into the new financial year. This report has detailed the carried forward requirements and recommends that the 2017/18 capital budget be updated accordingly.

**ATTACHMENTS**

1. Independent Auditor's Opinion for Year Ended 30 June 2017
2. Financial Statements for the Year Ended 30 June 2017

**RECOMMENDATION**

That the report of the General Manager relating to the Annual Financial Report for the year ended 30 June 2017 be received and that Council:

- (a) receive the Annual Financial Report and note that it will be included as an Appendix in the 2017 Annual Report;
- (b) in accordance with Section 82(4) of the *Local Government Act 1993* by absolute majority amend the 2017/18 estimates to adjust the carried forward capital works projects budget as listed in this report to the value of \$13,338,510, and
- (c) note the capital budget has also been amended by \$1,000,000 to include the costs associated with the purchase of the former maternity hospital.

Author:	Paul West
Position:	General Manager



## Independent Auditor's Report

### To the Aldermen of Devonport City Council

### Report on the Audit of the Financial Report

#### Opinion

I have audited the financial report of Devonport City Council (Council), which comprises the statement of financial position as at 30 June 2017 and statements of comprehensive income, changes in equity and cash flows for the year then ended, notes to the financial statements, including a summary of significant accounting policies, other explanatory notes and the General Manager's statement.

In my opinion the accompanying financial report:

- (a) presents fairly, in all material respects, Council's financial position as at 30 June 2017 and of its financial performance and its cash flows for the year then ended
- (b) is in accordance with the *Local Government Act 1993* and Australian Accounting Standards.

#### Basis for Opinion

I conducted the audit in accordance with Australian Auditing Standards. My responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Report* section of my report. I am independent of Council in accordance with the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants* (the Code) that are relevant to my audit of the financial report in Australia. I have also fulfilled my other ethical responsibilities in accordance with the Code.

The *Audit Act 2008* further promotes the independence of the Auditor-General. The Auditor-General is the auditor of all Tasmanian public sector entities and can only be removed by Parliament. The Auditor-General may conduct an audit in any way considered appropriate and is not subject to direction by any person about the way in which audit powers are to be exercised. The Auditor-General has for the purposes of conducting an audit, access to all documents and property and can report to Parliament matters which in the Auditor-General's opinion are significant.

My audit responsibility does not extend to the budget figures included in the statement of comprehensive income, the asset renewal funding ratio disclosed in note 42, nor the Significant Business Activities disclosed in note 3 to the financial report and accordingly, I express no opinion on them.

...1 of 3

To provide independent assurance to the Parliament and Community on the performance and accountability of the Tasmanian Public sector.  
Professionalism | Respect | Camaraderie | Continuous Improvement | Customer Focus

*Strive | Lead | Excel | To Make a Difference*

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

#### **Responsibilities of the General Manager for the Financial Report**

The General Manager is responsible for the preparation and fair presentation of the financial report in accordance with Australian Accounting Standards and the *Local Government Act 1993* and for such internal control as determined necessary to enable the preparation of the financial report that is free from material misstatement, whether due to fraud or error.

In preparing the financial report, the General Manager is responsible for assessing Council's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless Council is to be dissolved by an Act of Parliament or the Aldermen intend to cease operations, or have no realistic alternative but to do so.

#### **Auditor's Responsibilities for the Audit of the Financial Report**

My objectives are to obtain reasonable assurance about whether the financial report as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this financial report.

As part of an audit in accordance with the Australian Auditing Standards, I exercise professional judgement and maintain professional scepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the financial report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of Council's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the General Manager.
- Conclude on the appropriateness of the General Manager's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Council's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial report or, if such disclosures are inadequate, to modify my opinion. My conclusion is based

...2 of 3

To provide independent assurance to the Parliament and Community on the performance and accountability of the Tasmanian Public sector.  
Professionalism | Respect | Camaraderie | Continuous Improvement | Customer Focus

*Strive | Lead | Excel | To Make a Difference*

on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause Council to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial report, including the disclosures, and whether the financial report represents the underlying transactions and events in a manner that achieves fair presentation.

I communicate with the General Manager regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.



Rod Whitehead  
**Auditor-General**

**Tasmanian Audit Office**

20 September 2017  
Hobart

...3 of 3

To provide independent assurance to the Parliament and Community on the performance and accountability of the Tasmanian Public sector.  
Professionalism | Respect | Camaraderie | Continuous Improvement | Customer Focus

*Strive | Lead | Excel | To Make a Difference*



## DEVONPORT CITY COUNCIL

### FINANCIAL STATEMENTS FOR THE YEAR ENDED 30 JUNE 2017

#### Contents

	Page
Statement of Profit or Loss and Other Comprehensive Income	1
Statement of Financial Position as at 30 June 2017	2
Statement of Changes in Equity	3
Statement of Cash Flows	4
Reporting Entity	
Note 1 Statement of accounting policies	5
Note 2 Functions / activities	8
Note 3 Significant business activities	10
Note 4 Correction of a Prior Period Error	12
Note 5 Rates and service charges	13
Note 6 Fees and charges	14
Note 7 Grants	15
Note 8 Contributions	16
Note 9 Investment revenue from TasWater	17
Note 10 Other investment revenue	17
Note 11 Other income	17
Note 12 Employee benefits	18
Note 13 Materials and services	18
Note 14 Depreciation	19
Note 15 Finance costs	19
Note 16 Other expenses	20
Note 17 Net loss on the disposal of assets	20
Note 18 Donated Assets	20
Note 19 Capital works completed on assets not owned by Council	20
Note 20 Derecognition of assets	21
Note 21 Cash and cash equivalents	21
Note 22 Receivables	22
Note 23 Prepayments	22
Note 24 Investment in TasWater	23
Note 25 Investments in associates	24
Note 26 Property, plant and equipment	25
Note 27 Capital work in progress - at cost	30
Note 28 Payables	30
Note 29 Interest bearing liabilities	30
Note 30 Other Financial Liabilities	31
Note 31 Provisions	31
Note 32 Capital and capital reserves	32
Note 33 Other reserves	33
Note 34 Superannuation	33
Note 35 Commitments	35
Note 36 Contingent liabilities	35
Note 37 Trust funds	35
Note 38 Reconciliation of cash flows from operating activities to surplus / (deficit)	36
Note 39 Joint Authorities	36
Note 40 Controlling Authority transactions	37
Note 41 Related party transactions	38
Note 42 Financial instruments	41
Note 43 Management indicators	48
Note 44 Fair Value Measurements	52
Certification of the Financial Report	56
Independent Audit Report	



**DEVONPORT CITY COUNCIL**  
**FINANCIAL STATEMENTS FOR THE YEAR ENDED 30 JUNE 2017**

**Statement of Profit or Loss and Other Comprehensive Income**

	Note	Budget 2017 \$'000	Actual 2017 \$'000	Actual 2016 \$'000
<b>Income from continuing operations</b>				
<b>Recurrent income</b>				
Rates and service charges	5	26,970	27,334	26,458
Fees and charges	6	5,233	5,324	5,558
Grants	7	2,127	3,200	1,286
Contributions - cash	8	82	205	82
Investment revenue from TasWater	9	1,638	1,679	1,551
Other investment revenue	10	619	1,268	1,129
Other income	11	1,059	1,084	1,449
<b>Total recurrent income</b>		<b>37,728</b>	<b>40,094</b>	<b>37,513</b>
<b>Capital income</b>				
Capital grants received specifically for new or upgraded assets	7	4,928	3,104	1,314
Contributions - non-monetary assets	8	14,200	3,107	2,268
Contributions - cash	8	0	270	0
Share of profit of associates accounted for by the equity method	25	105	798	837
Net loss on the disposal of property, infrastructure, plant and equipment	17	(699)	(697)	(559)
Donated Assets	18	0	(360)	0
Capital works completed on assets not owned by Council	19	0	(20)	67
Derecognition of assets	20	0	(165)	(3,089)
<b>Total capital income</b>		<b>18,534</b>	<b>6,037</b>	<b>838</b>
<b>Total income from continuing operations</b>		<b>56,262</b>	<b>46,131</b>	<b>38,351</b>
<b>Expenses from continuing operations</b>				
Employee benefits	12	12,125	11,441	11,389
Materials and services	13	14,555	14,431	13,705
Depreciation	14	8,310	8,393	8,666
Finance costs	15	1,077	2,736	1,151
Other expenses	16	1,068	1,042	838
<b>Total expenses from continuing operations</b>		<b>37,135</b>	<b>38,043</b>	<b>35,749</b>
<b>Result from continuing operations</b>		<b>19,127</b>	<b>8,088</b>	<b>2,602</b>
<b>Net result for the year</b>		<b>19,127</b>	<b>8,088</b>	<b>2,602</b>
<b>Other comprehensive income</b>				
<i>Items that may be reclassified to surplus / (deficit)</i>				
Fair Value adjustment on Available for Sale Assets	24	0	562	1,433
<i>Items that will not be reclassified to surplus / (deficit)</i>				
Net asset revaluation increment / (decrement) - Council	32	0	4,773	1,901
Net asset revaluation increment / (decrement) - Associates	25	0	(22)	53
<b>Total other comprehensive income</b>		<b>0</b>	<b>5,313</b>	<b>3,387</b>
<b>Total comprehensive result</b>		<b>19,127</b>	<b>13,401</b>	<b>5,989</b>

The above statement should be read in conjunction with the accompanying notes.

Page 1

**DEVONPORT CITY COUNCIL**  
**FINANCIAL STATEMENTS FOR THE YEAR ENDED 30 JUNE 2017**

**Statement of Financial Position as at 30 June 2017**

	Note	2017 \$'000	Restated* 2016 \$'000
<b>Current Assets</b>			
Cash and cash equivalents	21	16,125	16,975
Receivables	22	1,410	1,710
Prepayments	23	96	76
<b>Total current assets</b>		<b>17,631</b>	<b>18,761</b>
<b>Non-Current Assets</b>			
Receivables	22	31	0
Investment in TasWater	24	86,226	85,664
Investments in associates	25	5,515	4,739
Property, plant and equipment	26	422,545	414,855
Capital work in progress	27	29,400	10,395
<b>Total non-current assets</b>		<b>543,717</b>	<b>515,653</b>
<b>TOTAL ASSETS</b>		<b>561,348</b>	<b>534,414</b>
<b>Current Liabilities</b>			
Payables	28	4,197	3,182
Interest bearing liabilities	29	19,738	892
Provisions	31	2,145	2,146
<b>Total current liabilities</b>		<b>26,080</b>	<b>6,220</b>
<b>Non-Current Liabilities</b>			
Payables	28	13,000	0
Interest bearing liabilities	29	0	19,615
Other Financial Liabilities	30	307	0
Provisions	31	432	455
<b>Total non-current liabilities</b>		<b>13,739</b>	<b>20,070</b>
<b>TOTAL LIABILITIES</b>		<b>39,819</b>	<b>26,290</b>
<b>NET ASSETS</b>		<b>521,529</b>	<b>508,124</b>
<b>Equity</b>			
Asset revaluation reserve - Council	32	306,158	301,385
Asset revaluation reserve - Associates	32	1,446	1,468
Other reserves	33	9,829	9,266
Accumulated surplus	32	204,096	196,005
<b>TOTAL EQUITY</b>		<b>521,529</b>	<b>508,124</b>

\* Refer to Note 4 for details of prior period restatement

**DEVONPORT CITY COUNCIL**  
FINANCIAL STATEMENTS FOR THE YEAR ENDED 30 JUNE 2017

**Statement of Changes in Equity**

<b>2017</b>	Asset Revaluation Reserve - Council Note 32 (i) \$'000	Asset Revaluation Reserve - Associate Note 32 (ii) \$'000	Accumulated Surplus Note 32 (iii) \$'000	Other Reserves Note 33 \$'000	Total \$'000
Balance at beginning of year	301,385	1,468	196,005	9,266	508,124
Adjust for roundings (inc. prior years)			3	1	4
Surplus / (deficit)	0	0	8,088	0	8,088
Other comprehensive income	4,773	(22)	0	562	5,313
Transfers between reserves	0	0	0	0	0
Balance at end of year	306,158	1,446	204,096	9,829	521,529

<b>2016 Restated *</b>	Asset Revaluation Reserve - Council Note 32 (i) \$'000	Asset Revaluation Reserve - Associate Note 32 (ii) \$'000	Accumulated Surplus Note 32 (iii) \$'000	Other Reserves Note 33 \$'000	Total \$'000
Balance at beginning of year	295,401	1,415	194,274	7,833	498,923
Net effect of a correction of error	4,083	0	(871)	0	3,212
Restated balance at the beginning of the reporting period	299,484	1,415	193,403	7,833	502,135
Surplus / (deficit)	0	0	2,602	0	2,602
Other comprehensive income	1,901	53	0	1,433	3,387
Transfers between reserves	0	0	0	0	0
Balance at end of year	301,385	1,468	196,005	9,266	508,124

The above Statement of Changes in Equity should be read in conjunction with the accompanying notes.

\*Refer to Note 4 for details of prior period restatement

Page 3

## DEVONPORT CITY COUNCIL

### FINANCIAL STATEMENTS FOR THE YEAR ENDED 30 JUNE 2017

#### Statement of Cash Flows

	Note	2017 \$'000	2016 \$'000
<b>Cash flows from operating activities :</b>			
Rates and other user charges		31,902	31,404
Refunds from Australian Taxation Office for GST		3,129	1,473
Interest		494	541
Contributions - cash		205	82
Government grants and subsidies		3,200	1,286
Investment revenue from TasWater		2,417	929
Other receipts		1,084	1,449
Payments to suppliers and employees		(27,460)	(25,975)
Finance Costs		(544)	(1,078)
Refinance Costs		(1,709)	0
Other payments		(1,042)	(838)
<b>Net cash flows provided by operating activities</b>	38	<b>11,676</b>	<b>9,273</b>
<b>Cash flows from investing activities :</b>			
Proceeds from sale of non current assets		51	204
Payments for non current assets		(28,906)	(12,023)
Capital grants		3,104	1,314
Contributions - cash		270	0
Other investments		759	534
Sale proceeds in advance		13,000	0
Loans to community organisations		(35)	0
<b>Net cash used in investing activities</b>		<b>(11,757)</b>	<b>(9,971)</b>
<b>Cash Flows from financing activities :</b>			
Proceeds from borrowings		0	0
Repayment of borrowings		(769)	(985)
<b>Net cash provided by financing activities</b>		<b>(769)</b>	<b>(985)</b>
Net increase / (decrease) in cash and cash equivalents		(850)	(1,683)
Cash and cash equivalents at beginning of the financial year		16,975	18,658
<b>Cash and cash equivalents at end of the financial year</b>	21	<b>16,125</b>	<b>16,975</b>

The above Statement of Cash Flows should be read in conjunction with the accompanying notes.

Page 4

## DEVONPORT CITY COUNCIL

### Notes to the Financial Report

#### For the year ended 30 June 2017

#### Reporting Entity

- (a) The Devonport City Council was established in 1908 and is a body corporate with perpetual succession and a common seal. Council's main office is located at 17 Fenton Way, Devonport.
- (b) The purpose of the Council is to:
- provide for health, safety and welfare of the community;
  - represent and promote the interests of the community;
  - provide for the peace, order and good government in the municipality.

#### 1 Statement of accounting policies

##### (a) Basis of accounting

These financial statements are a general purpose financial report that consists of the Statement of Profit and Loss and Other Comprehensive Income, Statement of Financial Position, Statement of Changes in Equity, Statement of Cash Flows, and accompanying notes. The general purpose financial report complies with Australian Accounting Standards and the *Local Government Act 1993 (LGA 1993) (as amended)*. Council has determined that it does not have profit generation as a prime objective. Consequently, where appropriate, Council has elected to apply options and exemptions within accounting standards that are applicable to not-for-profit entities.

All amounts are presented in Australian dollars and unless stated, have been rounded to the nearest thousand dollars.

This financial report has been prepared on an accrual and going concern basis. This financial report has been prepared under the historical cost convention, except where specifically stated in Notes 24, 26, 29, 30 and 31.

Unless otherwise stated, all accounting policies are consistent with those applied in the prior year. Where appropriate, comparative figures have been amended to accord with current presentation, and disclosure has been made of any material changes to comparatives.

All entities controlled by Council that have material assets or liabilities, such as special committees of management, and material subsidiaries or joint ventures, have been included in this financial report. Where relevant, all transactions between these entities and Council have been eliminated in full. Details of entities not included in this financial report based on their materiality are detailed in Note 39.

##### Judgements and assumptions

In the application of Australian Accounting Standards, Council is required to make judgements, estimates and assumptions about carrying values of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and various other factors that are believed to be reasonable under the circumstances, the results of which form the basis of making the judgements. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised, if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

Council has made no assumptions concerning the future that may cause a material adjustment to the carrying amounts of assets and liabilities within the next reporting period. Judgements made by Council that have significant effects on the financial report are disclosed in the relevant notes as follows:

##### *Employee entitlements*

Assumptions are utilised in the determination of Council's employee entitlement provisions. These assumptions are discussed in Note 30.

##### *Defined benefit superannuation fund obligations*

Actuarial assumptions are utilised in the determination of Council's defined benefit superannuation fund obligations. These assumptions are discussed in Note 34.

##### *Fair Value of Property Plant & Equipment*

Assumptions and judgements are utilised in determining the fair value of Council's property, plant and equipment including useful lives and depreciation rates. These assumptions are discussed in Note 1(f) and Note 26.

##### *Investment in water corporation*

Assumptions utilised in the determination of Council's valuation of its investment in TasWater are discussed in Note 24.



**DEVONPORT CITY COUNCIL**  
**Notes to the Financial Report**  
**For the year ended 30 June 2017**

**1 Statement of accounting policies (continued)**

**(b) Adoption of new and amended accounting standards**

*AASB 2015-6 Amendments to Australian Accounting Standards - Extending Related Party Disclosures to Not-for-Profit Public Sector Entities* (effective from 1 July 2016)

The amendments extend the scope to AASB 124 *Related Party Disclosures* to include not-for-profit public sector entities.

The application of this standard has resulted in additional disclosures reported in the annual financial statements.

**(c) Pending Accounting Standards**

Certain new accounting standards and interpretations have been published that are not mandatory for 30 June 2017 reporting periods. Council's assessment of the impact of the relevant new standards and interpretations is set out below. *(Note: standards are applicable to reporting periods beginning on or after the effective date referred to below).*

**(i) AASB 9 Financial Instruments and the relevant amending standards (effective from 1 January 2018)**

AASB 9 is one of a series of amendments that are expected to replace AASB 139 *Financial Instruments: Recognition and Measurement*. The main impact of the standard is to change the requirements for the classification, measurement and disclosures associated with financial assets. Under the new requirements the four categories of financial assets in AASB 139 will be replaced with two measurement categories: fair value and amortised cost.

Amortised cost is to be used for assets with contractual terms giving rise to principal and interest payments.

Fair value is to be used for all other financial assets. Gains or losses on financial assets at fair value are to be recognised in profit and loss unless the asset is part of a hedging relationship or an irrevocable election has been made to present in other comprehensive income changes in the fair value of an equity instrument not held for trading.

There will be no impact on Council's accounting for financial liabilities, as the new requirements only affect the accounting for financial liabilities that are designated at fair value through profit or loss and Council does not have any such liabilities. The derecognition rules have been transferred from AASB 139 *Financial Instruments: Recognition and Measurement* and have not been changed.

**(ii) AASB 15 Revenue from Contracts with Customers, and AASB 2014-5 Amendments to Australian Accounting Standards arising from AASB 15 (effective from 1 January 2018)**

Under the new standard, a single model that applies to contracts with customers and two approaches to recognising revenue, at a point in time or over time is proposed. The model features a contract-based five-step analysis of transactions to determine whether, how much and when revenue is recognised.

The new standard will apply to contracts of not-for-profit entities that are exchange contracts. AASB 1004 *Contributions* will continue to apply to non-exchange transactions until the Income from Transactions of Not-for-Profit Entities project is completed.

The impact of the standards application has not been assessed at balance date due to its effective date.

**(iii) AASB 16 Leases (effective from 1 January 2019)**

AASB 16 introduces a single lessee accounting model and requires a lessee to recognise assets and liabilities for all leases with a term of more than 12 months, unless the underlying asset is of low value. A lessee is required to recognise a right-of-use asset representing its right to use the underlying leased asset and a lease liability representing its obligations to make lease payments.

The impact of the standards application has not been assessed at balance date due to its effective date.



**DEVONPORT CITY COUNCIL****Notes to the Financial Report  
For the year ended 30 June 2017****1 Statement of accounting policies (continued)****(d) Allocation between current and non-current**

In the determination of whether an asset or liability is current or non-current, consideration is given to the time when each asset or liability is expected to be settled. The asset or liability is classified as current if it is expected to be settled within the next 12 months, being Council's operational cycle, or if Council does not have an unconditional right to defer settlement of a liability for at least 12 months after the reporting date.

**(e) Taxation**

Council is exempt from all forms of taxation except Fringe Benefits Tax, Payroll Tax and the Goods and Services Tax.

*Goods and Services Tax (GST)*

Revenues, expenses and assets are recognised net of the amount of GST, except where the amount of GST incurred is not recoverable from the Australian Tax Office. In these circumstances the GST is recognised as part of the cost of acquisition of the asset or as part of an item of the expense. Receivables and payables in the balance sheet are shown inclusive of GST.

Cash flows are presented in the Statement of Cash Flows on a gross basis, except for the GST component of investing and financing activities, which are disclosed as operating cash flows.

**(f) Impairment of assets**

At each reporting date, Council reviews the carrying value of its assets to determine whether there is any indication that these assets have been impaired. If such an indication exists, the recoverable amount of the asset, being the higher of the asset's fair value less costs to sell and value in use, is compared to the assets carrying value. Any excess of the assets carrying value over its recoverable amount is expensed to the Statement of profit or loss and other comprehensive income, unless the asset is carried at the revalued amount in which case, the impairment loss is recognised directly against the revaluation reserve in respect of the same class of asset to the extent that the impairment loss does not exceed the amount in the revaluation surplus for that same class of asset. For non-cash generating assets of Council such as roads, drains, public buildings and the like, value in use is represented by the deprival value of the asset approximated by its written down replacement cost.

**(g) Rounding**

Unless otherwise stated, amounts in the financial report have been rounded to the nearest thousand dollars.

**(h) Budget**

The budgeted revenue and expense amounts in the Statement of Profit or Loss and Other Comprehensive Income represent original budget amounts adopted on 27 June 2016 and are not audited.

## DEVONPORT CITY COUNCIL

Notes to the Financial Report  
For the year ended 30 June 2017

### 2 Functions / activities

#### (a) Council's functions and activities

Revenue, expenses and assets have been attributed to the following functions :

Programs	Revenue		Expenses	Surplus/(deficit) for Year	Assets
	Grants	Other			
	2017 \$'000	2017 \$'000			
Corporate	3,108	27,762	6,503	24,367	124,617
Community, Cultural & Recreation	90	825	7,210	(6,295)	4,759
Parking	0	2,474	1,498	976	8,939
Economic Development	1,500	488	2,890	(902)	39,259
Roads	1,570	1,513	7,195	(4,112)	132,047
Stormwater	0	1,266	1,905	(639)	70,112
Waste Management	0	4,269	4,051	218	1,425
Parks & Gardens	29	407	4,716	(4,280)	165,053
Buildings	0	(54)	373	(427)	11,639
Infrastructure Administration	0	84	117	(33)	3,457
Regulatory Services	7	793	1,585	(785)	41
<b>TOTAL</b>	<b>6,304</b>	<b>39,827</b>	<b>38,043</b>	<b>8,088</b>	<b>561,348</b>

#### 2016 Restated

Programs	Revenue		Expenses	Surplus/(deficit) for Year	Assets
	Grants	Other			
	2016 \$'000	2016 \$'000			
Corporate	1,071	27,021	8,937	19,155	104,680
Community, Cultural & Recreation	269	1,449	7,129	(5,411)	4,545
Parking	0	2,642	1,362	1,280	9,383
Economic Development	0	720	1,539	(819)	12,157
Roads	1,260	1,320	7,647	(5,067)	126,799
Stormwater	0	844	1,885	(1,041)	71,083
Waste Management	0	3,982	4,086	(104)	2,286
Parks & Gardens	0	343	4,736	(4,393)	163,892
Buildings	0	3	497	(494)	36,214
Infrastructure Administration	0	121	(60)	181	3,251
Regulatory Services	0	887	1,572	(685)	124
<b>TOTAL</b>	<b>2,600</b>	<b>39,332</b>	<b>39,330</b>	<b>2,602</b>	<b>534,414</b>

#### (b) Reconciliation of Assets from note 2 with the Statement of Financial Position at 30 June:

	2017 \$'000	2016 \$'000
Current assets	17,631	18,761
Non-current assets	543,717	515,653
	<b>561,348</b>	<b>534,414</b>

\* Refer to Note 4 for details of prior period restatement

## DEVONPORT CITY COUNCIL

### Notes to the Financial Report For the year ended 30 June 2017

#### 2 Functions / activities

##### (c) - Council's programs and activities

The activities relating to the Programs in Note 2 (a) are as follows

##### **CORPORATE**

*This Program includes the following activities*

Executive Management  
Receptions & Functions  
Communication  
Emergency Management  
Corporate Services  
Administration  
Elected Members Support  
Risk Management  
Human Resource Management  
Information Technology  
Payroll Services  
Accounting & Finance  
Customer Services

##### **COMMUNITY, CULTURAL AND RECREATION**

*This Program includes the following activities*

Community Development  
Community Financial Assistance  
Devonport Regional Gallery  
Devonport Aquatic Centre  
Devonport Recreation Centre  
East Devonport Recreation Centre  
Devonport Entertainment & Convention Centre  
Visitor Information Centre  
Events & Marketing  
Bass Strait Maritime Centre  
Home Hill  
Tiagarra

##### **ECONOMIC DEVELOPMENT**

*This Program includes the following activities*

Living City Project  
Economic Development

##### **PARKING**

Parking

##### **ROADS**

*This Program includes the following activities*

Roads maintenance  
Street Lighting

##### **STORMWATER**

*This Program includes the following activities*

Stormwater maintenance

##### **WASTE MANAGEMENT**

*This Program includes the following activities*

Waste Management Operations

##### **PARKS & GARDENS**

*This Program includes the following activities*

Parks & Open Space maintenance  
Cemetery Operations

##### **BUILDINGS**

*This Program includes the following activities*

Building Maintenance

##### **INFRASTRUCTURE ADMINISTRATION**

*This Program includes the following activities*

Project Management  
Engineering Services  
Plant Services

##### **REGULATORY SERVICES**

*This Program includes the following activities*

Town Planning & Development  
Building Permit Authority  
Plumbing Assessment & Inspections  
Environmental Health Services  
Animal Control

## DEVONPORT CITY COUNCIL

Notes to the Financial Report  
For the year ended 30 June 2017

### 3 Significant business activities

The operating capital and competitive neutrality costs of the Council's significant business activities:

	2017		
	Parking	Waste Management	Devonport Entertainment & Convention Centre
	\$'000	\$'000	\$'000
<b>Operating Statement</b>			
<b>Revenue</b>			
Fees and charges	1,650	4,259	229
Donated assets	0	0	0
Other	951	10	73
Grants and contributions	0	0	0
<b>Total revenue</b>	<b>2,601</b>	<b>4,269</b>	<b>302</b>
<b>Expenses - Direct</b>			
Employee costs	295	474	407
Materials and services	888	3,527	309
Levies and taxes	181	3	37
<b>Total expenses (before depreciation)</b>	<b>1,364</b>	<b>4,004</b>	<b>753</b>
<b>Capital costs</b>			
Depreciation expense	134	47	166
Opportunity cost of capital	2.5%	229	46
(Gain) / loss on sale of non-current assets	128	0	0
	<b>491</b>	<b>93</b>	<b>275</b>
<b>Competitive neutrality adjustments</b>			
Loan guarantee fees	0	0	0
	<b>0</b>	<b>0</b>	<b>0</b>
<b>Calculated surplus / (deficit)</b>	<b>975</b>	<b>218</b>	<b>(617)</b>
<b>Income Tax Equivalent Rate 30%</b>			
Income tax equivalent	293	65	0
<b>Total fully attributed costs</b>	<b>2,148</b>	<b>4,162</b>	<b>1,028</b>

## DEVONPORT CITY COUNCIL

Notes to the Financial Report  
For the year ended 30 June 2017

### 3 Significant business activities (cont)

	2016		
	Parking	Waste Management	Entertainment & Convention
	\$'000	\$'000	\$'000
<b>Operating Statement</b>			
<b>Revenue</b>			
Fees and charges	1,628	3,975	282
Donated assets	0	0	0
Other	1,013		136
Grants and contributions	0	0	0
<b>Total revenue</b>	<b>2,641</b>	<b>3,975</b>	<b>418</b>
<b>Expenses - Direct</b>			
Employee costs	295	457	405
Materials and services	732	3,581	364
Levies and taxes	170	3	36
<b>Total expenses (before depreciation)</b>	<b>1,197</b>	<b>4,041</b>	<b>805</b>
<b>Capital costs</b>			
Depreciation expense	148	45	157
Opportunity cost of capital	224	56	106
(Gain) / loss on sale of non-current assets	16	0	0
	<b>388</b>	<b>101</b>	<b>263</b>
<b>Competitive neutrality adjustments</b>			
Loan guarantee fees	0	0	0
	<b>0</b>	<b>0</b>	<b>0</b>
<b>Calculated surplus / (deficit)</b>	<b>1,280</b>	<b>(111)</b>	<b>(544)</b>
<b>Income Tax Equivalent Rate 30%</b>			
Income tax equivalent	384	0	0
<b>Total fully attributed costs</b>	<b>1,969</b>	<b>4,142</b>	<b>1,068</b>

#### Accounting policy

Council is required to report the operating, capital and competitive neutrality costs in respect of each significant business activity undertaken by the Council. Council's disclosure is reconciled above. Council has determined, based upon materiality that Parking, Waste Management and the Devonport Entertainment and Convention Centre as defined above are considered significant business activities. Competitive neutrality costs include notional costs i.e. income tax equivalent, rates and loan guarantees. In preparing the information disclosed in relation to significant business activities, the following assumptions have been applied:

- the opportunity cost of capital is calculated at 2.5% of assets; and
- income tax equivalents are calculated using the company tax rate

## DEVONPORT CITY COUNCIL

### FINANCIAL STATEMENTS FOR THE YEAR ENDED 30 JUNE 2017

#### 4 Correction of a Prior Period Error

As a requirement of the *Urban Drainage Act 2013*, Devonport City Council is in the process of undertaking significant inspection of its stormwater network. This process will result in more precise information in both the geographic information system (GIS) and asset register. As a result of this process a number of stormwater assets have been identified as not being correctly stated resulting in corrections being made throughout the 2016/17 financial year. As the majority of corrections relate to assets taken up in prior years it is appropriate to restate the 30 June 2016 comparative figures for the Statement of Financial Position and Changes in Equity in accordance with *AASB 108 Accounting Policies, Changes in Accounting Estimates and Errors*. In addition to the stormwater assets, a number of road, park and office assets have also been corrected and included with the restated figures.

The 30 June 2016 comparatives have been restated to reflect the following changes:

Property Plant and Equipment adjustments resulted in an overall increase to Property, Plant and Equipment of \$3,212,738 consisting of assets taken up \$4,082,633 and asset disposals of \$869,895 as follows:

Stormwater assets increased in value by \$2,990,153 (net of disposals)

Road assets increased in value by \$180,682 (net of disposals)

Parks and Open Space assets increased in value by \$41,903 (net of disposals)

#### Statement of Financial Position as at 30 June 2016 (Extract)

	Note	2016 \$'000	Correction of Error \$'000	Restated 2016 \$'000
<b>Non-Current Assets</b>				
Property, plant and equipment	26	411,643	3,212	414,855
<b>Total non-current assets</b>		<b>512,441</b>	<b>3,212</b>	<b>414,855</b>
<b>TOTAL ASSETS</b>		<b>531,202</b>	<b>3,212</b>	<b>414,855</b>
<b>NET ASSETS</b>		<b>504,912</b>	<b>3,212</b>	<b>508,124</b>
<b>Equity</b>				
Asset revaluation reserve - Council	32	297,302	4,083	301,385
Accumulated surplus	32	196,876	(871)	196,005
<b>TOTAL EQUITY</b>		<b>504,912</b>	<b>3,212</b>	<b>508,124</b>

#### Note 26 - Property, plant and equipment (Extract)

Parks and open space at fair value	26	21,779	45	21,824
Less: Accumulated Depreciation on improvements	26	8,206	4	8,210
		<b>13,573</b>	<b>41</b>	<b>13,614</b>
Total infrastructure assets at fair value	26	390,338	6,172	396,510
Less: Accumulated Depreciation on improvements	26	198,989	3,001	201,990
		<b>191,349</b>	<b>3,171</b>	<b>194,520</b>

The above statement should be read in conjunction with the accompanying notes.

Page 12



**DEVONPORT CITY COUNCIL**

Notes to the Financial Report  
For the year ended 30 June 2017

**5 Rates and service charges**

Council uses Assessed Annual Value (AAV) as the basis of valuation, for rating purposes, of all properties within the municipal area. AAV is an assessment of the indicative rental value of a property for a 12 month period or a 4% minimum of capital value, at a specific date and in accordance with legislation. The Valuer-General determines the AAV under the *Valuation of Land Act 2001*.

	2017 \$'000	2016 \$'000
General rates	20,906	20,454
Penalty income from overdue rates and charges	121	115
Waste management rates & charges	3,753	3,450
Fire Service Levy	<u>2,554</u>	<u>2,439</u>
Total rates and service charges	<u><b>27,334</b></u>	<u><b>26,458</b></u>

The date of the last general revaluation of land for rating purposes within the municipal area was 1 July 2014, and the valuation was first applied in the rating year commencing 1 July 2015.

**Accounting Policy**

Rate income is recognised as revenue when Council obtains control over the assets comprising these receipts.

Control over assets acquired from rates is obtained at the commencement of the rating year as it is an enforceable debt linked to the rateable property or, where earlier, upon receipt of the rates. A provision for impairment on rates has not been established as unpaid rates represents a charge against the rateable property that will be recovered when the property is next sold.

## DEVONPORT CITY COUNCIL

Notes to the Financial Report  
For the year ended 30 June 2017

	2017 \$'000	2016 \$'000
<b>6 Fees and charges</b>		
Admission charges	211	224
Animal registrations	92	97
Cemetery fees	170	201
Certificate charges	188	186
Development fees	383	367
Equipment hire fees	16	14
Facility hire	254	207
Fines	623	734
Licences	75	74
Parking fees	1,650	1,629
Property leases & rental	985	1,065
Sales of goods	171	235
Waste management fees	506	525
<b>Total fees and charges</b>	<b>5,324</b>	<b>5,558</b>

Refer to Note 41 (e) for the aging analysis of contractual receivables.

**Accounting Policy****Fees and fines**

Fees and fines (including parking fees and fines) are recognised as revenue when the service has been provided, the payment is received, or when the penalty has been applied, whichever first occurs. A provision for impairment is recognised when collection in full is no longer likely. Aged infringement debtors are forwarded to the Monetary Penalties Enforcement Service for collection on Council's behalf, and recorded as an expense at that time. Any amounts recovered by the Monetary Penalties Enforcement Service are recorded as income when received.

**Property leases and rentals**

Rents are recognised as revenue when the payment is due or the payment is received, whichever first occurs. Rent payments received in advance are recognised as a liability until they are due.

**Operating leases as lessor**

Council is a lessor and enters into agreements with a number of lessees. These include commercial and non-commercial agreements. Lease income from operating leases where Council is a lessor is recognised as income on a straight-line basis over the lease of the term.

Where leases are non-commercial agreements, these are generally with a not for profit, such as sporting organisations. In these cases subsidised or peppercorn rents may be charged because Council recognises part of its role is community service and community support. In these situations, Council records lease revenue on an accruals basis and records the associated properties as part of land and buildings within property, plant and equipment. Buildings are recognised at fair value.

Where leases are commercial agreements, and properties leased are predominantly used for leasing to third parties, Council records lease revenue on an accruals basis. As stated in Note 26, property purchased as part of the LIVING CITY project is accounted for as land and buildings under AASB 116 *Property, Plant and Equipment* and not AASB 140 *Investment Properties*. Buildings are recognised at fair value. These leases may include incentives which have not been recognised in the Statement of Financial Position, on the basis the amounts are unlikely to be material and could not be reliably measured at balance date.

**Sale of goods**

Sale of goods are recognised as revenue when the product or service has been provided.

**DEVONPORT CITY COUNCIL**Notes to the Financial Report  
For the year ended 30 June 2017

	2017 \$'000	2016 \$'000
<b>7 Grants</b>		
<b>Grants - Recurrent</b>		
Commonwealth Government Financial Assistance Grants - General Purpose	1,222	414
Commonwealth Government Financial Assistance Grants - Roads	1,781	570
Arts	79	63
Community projects	61	150
Roads	57	87
Youth activities	0	2
<b>Total recurrent grants</b>	<b>3,200</b>	<b>1,286</b>
<p>The Australian Commonwealth Government provides Financial Assistance Grants to Council for general purpose use and the provision of local roads. The Australian Government released its budget on May 9, 2017 indicating its intention to prepay two instalments of the 2017/18 grant pool in 2016/17. In accordance with AASB 1004 Contributions, Council recognises these grants as revenue when it receives the funds and obtains control. The effect of the early receipt of instalments has resulted in additional Commonwealth Government Financial Assistance Grants income in 2016/17 of \$1,020,069.</p>		
<b>Capital grants received specifically for new or upgraded assets</b>		
Roads to recovery	865	1,069
Black Spot Program	418	85
Community projects	34	0
State Government - Road Projects	287	105
Urban Renewal - 'Living City' Project	1,500	0
Community Energy Efficiency Program	0	55
<b>Total capital grants</b>	<b>3,104</b>	<b>1,314</b>
<b>Total grants</b>	<b>6,304</b>	<b>2,600</b>
<p>Non-reciprocal grants recognised as revenue during the year that were obtained on condition that they be expended in a specified manner that had not occurred at balance date were:</p>		
<b>Operational Grants</b>		
Financial assistance grant	1,020	0

**Accounting Policy**

Grant income is recognised as revenue when Council obtains control over the assets comprising the receipt. Control over granted assets is normally obtained upon their receipt (or acquittal) or upon earlier notification that a grant has been secured, and are valued at their fair value at the date of transfer.

Where grants recognised as revenues during the financial year were obtained on condition that they be expended in a particular manner or used over a particular period and those conditions were undischarged at balance date, the unused grant is also disclosed. The note also discloses the amount of unused grant or contribution from prior years that was expended on Council's operations during the year.

Unreceived grants over which Council has control are recognised as receivables.

**DEVONPORT CITY COUNCIL**

Notes to the Financial Report  
For the year ended 30 June 2017

	2017 \$'000	2016 \$'000
<b>7 Grants (continued)</b>		
Non-reciprocal grants which were recognised as revenue in prior years and were expended during the current year in the manner specified by the grantor were:		
<b>Grants - Recurrent</b>		
Federal assistance	<u>0</u>	<u>981</u>
<b>8 Contributions</b>		
<b>Operating Contributions - cash</b>		
Training contributions	0	1
Sundry	100	63
Natural Disaster Claim	99	0
Developer Contribution	6	18
<b>Total operating contributions - cash</b>	<u>205</u>	<u>82</u>
<b>Capital Contributions - cash</b>		
Natural Disaster Claim	270	0
<b>Total capital contributions - cash</b>	<u>270</u>	<u>0</u>
<b>Contributions - non-monetary assets</b>		
Infrastructure from developers at fair value		
Land	0	440
Parks and Open Space	106	0
Roads	1,736	964
Stormwater	1,265	842
Other infrastructure	0	22
<b>Total contributions from developers</b>	<u>3,107</u>	<u>2,268</u>
<b>Total contributions</b>	<u>3,582</u>	<u>2,350</u>

**Accounting Policy**

Contributions are recognised as revenue when Council obtains control over the assets comprising the receipt.

Revenue is recognised when Council obtains control of the contribution or the right to receive the contribution, it is probable that the economic benefits comprising the contribution will flow to Council and the amount of the contribution can be measured reliably.

Non-monetary contributions (including developer contributions) with a value in excess of the recognition thresholds, are recognised as revenue and as non-current assets.

**DEVONPORT CITY COUNCIL**Notes to the Financial Report  
For the year ended 30 June 2017

	2017 \$'000	2016 \$'000
<b>9 Investment revenue from TasWater</b>		
Dividend revenue	1,062	1,110
Tax equivalent	476	308
Guarantee fee	141	133
	<u>1,679</u>	<u>1,551</u>
<b>Total investment revenue from TasWater</b>		
	<u>1,679</u>	<u>1,551</u>
<b>Accounting Policy</b>		
Distributions are recognised when Council's right to receive payment is established.		
<b>10 Other investment revenue</b>		
Interest received from investments	486	563
Dulverton Regional Waste Management Authority	782	566
	<u>1,268</u>	<u>1,129</u>
<b>Total other investment revenue</b>		
	<u>1,268</u>	<u>1,129</u>
<b>Accounting Policy</b>		
Interest is recognised progressively as it is earned.		
Distributions are recognised when Council's right to receive payment is established.		
<b>11 Other income</b>		
Commission	199	273
Recoverables	332	459
Miscellaneous	553	717
	<u>1,084</u>	<u>1,449</u>
<b>Total Other revenue</b>		
	<u>1,084</u>	<u>1,449</u>

**DEVONPORT CITY COUNCIL**Notes to the Financial Report  
For the year ended 30 June 2017

	2017 \$'000	2016 \$'000
<b>12 Employee benefits</b>		
Total wages and salaries	8,551	8,475
Annual and long service leave entitlements	1,115	1,123
Superannuation (Note 34)	<u>1,114</u>	<u>1,089</u>
	10,780	10,687
Other employee related expenses	<u>991</u>	<u>993</u>
	11,771	11,680
Less amounts capitalised	<u>(330)</u>	<u>(291)</u>
	<u><b>11,441</b></u>	<u><b>11,389</b></u>

**Accounting Policy**

Employee benefits include, where applicable, entitlements to wages and salaries, annual leave, sick leave, long service leave, superannuation and any other post-employment benefits.

**13 Materials and services**

Advertising, printing & other office costs	387	412
Computer services and maintenance	440	375
Consultants	740	452
Contractors	5,159	4,911
General - services & materials	1,627	1,391
Insurance	250	262
Levies & taxes	3,302	3,126
Memberships - organisations	253	264
Plant expenses	586	578
Professional services	93	208
Telephone & postage services	126	135
Utilities	<u>1,468</u>	<u>1,591</u>
	<u><b>14,431</b></u>	<u><b>13,705</b></u>

**Accounting Policy**

Routine maintenance, repair costs, and minor renewal costs are expensed as incurred. Where the repair relates to the replacement of a component of an asset and the cost exceeds the capitalisation threshold the cost is capitalised and depreciated. The carrying value of the replaced asset is expensed.



**DEVONPORT CITY COUNCIL**  
Notes to the Financial Report  
For the year ended 30 June 2017

	2017 \$'000	2016 \$'000
<b>14 Depreciation</b>		
Parks and open space	776	185
Buildings	1,387	1,269
Plant	588	626
Furniture and fittings	479	529
Roads	3,997	3,906
Stormwater	1,151	1,072
Other Infrastructure	0	1,066
Cultural and heritage	15	13
	<u>8,393</u>	<u>8,666</u>

**Accounting Policy**

Buildings, land improvements, plant and equipment, infrastructure and other assets having limited useful lives are systematically depreciated over their useful lives to the Council in a manner which reflects consumption of the service potential embodied in those assets. Estimates of remaining useful lives and residual values are made on a regular basis and depreciation rates and methods are reviewed annually.

Where assets have separate identifiable components that are subject to regular replacement, these components are assigned distinct useful lives and remaining values and a separate depreciation rate is determined for each component.

Land, artworks and road earthworks are not depreciated on the basis that they are assessed as not having a limited useful life.

Straight line depreciation is charged based on the residual useful life as determined each year.

Major depreciation periods used are listed below and are consistent with the prior year unless otherwise stated:

	Basis of Depreciation	Useful Life
Land	Not depreciated	Unlimited life
Parks and Open Space	Straight line	2 - 100 years
Buildings	Straight line	20 - 135 years
Plant	Straight line	2 - 50 years
Furniture and Fittings	Straight line	1 - 50 years
Roads	Straight line	15 - 100 years
Stormwater	Straight line	15 - 100 years
Other Infrastructure	Straight line	10 - 150 years
Cultural and Heritage	Majority not depreciated	5 years - Unlimited life

	2017 \$'000	2016 \$'000
<b>15 Finance costs</b>		
Bank charges	176	73
Interest - borrowings	544	1,078
Market Value Movement in Fair Value Swaps	307	0
Refinancing Costs	1,709	0
	<u>2,736</u>	<u>1,151</u>

**Accounting Policy**

Finance costs are expensed as incurred using the effective interest method. Following the refinancing of debt, Council has entered into interest rate swaps to protect it from adverse changes in interest rates over time. Council is recognising the movements in the swaps through the Statement of Profit and Loss and Other Comprehensive Income. Council has not elected to apply hedge accounting to the transactions as per AASB 9 Financial Instruments.

**DEVONPORT CITY COUNCIL**

Notes to the Financial Report  
For the year ended 30 June 2017

	2017 \$'000	2016 \$'000
<b>16 Other expenses</b>		
General expenses	65	60
Bad and doubtful debts	259	180
Councillors' remuneration	257	250
Grants and community benefits	461	348
	<u>1,042</u>	<u>838</u>

Audit fees paid or payable to conduct the external audit for 2016/17 total \$47,680 (2015/16: \$46,950)  
Councillors' remuneration represents allowances payable in accordance with Section 340A of the Local Government Act 1993 ; Regulation 42 of the Local Government (General) Regulations 2005 ; and Council's "Payment of Aldermen's Allowances, Expenses and Provision of Facilities Policy".

**17 Net loss on the disposal of assets**

Proceeds from sale	51	204
Written down value of assets disposed	<u>(748)</u>	<u>(763)</u>
	<u>(697)</u>	<u>(559)</u>

**Accounting Policy**

The gain or loss on sale of an asset is determined when control of the asset has irrevocably passed to the buyer.

**18 Donated Assets**

Tiagarra	<u>(360)</u>	<u>0</u>
----------	--------------	----------

Council signed a Deed of Transfer document on 28 September 2016, transferring the Tiagarra Aboriginal Centre to Six Rivers Aboriginal Corporation (SRAC). The transfer was completed for nil consideration and represented a donation of assets to SRAC.

**19 Capital works completed on assets not owned by Council**

Capital works on assets not owned by Council	<u>(20)</u>	<u>67</u>
--	-------------	-----------

During 2016/17 Council carried out constructions works on behalf of two sporting clubs: Stormwater works at the Devonport Cricket Club \$7,000 and the installation of a plinth at the Devonport Tennis Club totalling \$13,000

2015/16 construction work relates to the final handover of assets to the Department of State Growth in relation to the roundabout at Stony Rise Road. Council and the State Government agreed that \$67,000 of the assets identified will remain Council assets and not be transferred to the Department of State Growth.

**DEVONPORT CITY COUNCIL**Notes to the Financial Report  
For the year ended 30 June 2017

	2017 \$'000	2016 \$'000
--	----------------	----------------

**20 Derecognition of assets**

Derecognition of buildings	<u>(165)</u>	<u>(3,089)</u>
----------------------------	--------------	----------------

As part of the LIVING CITY Masterplan, Council has designated the southern CBD as the growth area for business services. During the 2016/17 year TasWater relocated their North West office to this area. Council agreed to purchase a number of properties to develop a car park to service this area. The buildings were demolished immediately following the purchase resulting in a loss on derecognition of \$165,000.

Council relocated offices from 44-48 Best Street to 17 Fenton Way on 14 June 2016. As the building was no longer in use at 30 June 2016 and demolition was planned in the coming weeks, Council derecognised the building at 30 June 2016, resulting in a loss on derecognition of \$3,020,586. As part of LIVING CITY Stage 2, demolition of the building at 13 Oldaker Street and 145A Rooke Street also commenced. The buildings were also derecognised at 30 June 2016 resulting in a loss on derecognition of \$38,761 and \$29,807 respectively.

**21 Cash and cash equivalents**

Cash at bank and on hand	3,730	3,428
Investments	<u>12,395</u>	<u>13,547</u>
	<u>16,125</u>	<u>16,975</u>

Council's cash and cash equivalents are subject to a number of internal and external restrictions that limit amounts available for discretionary or future use. These include:

- Grants received in advance (Note 7)	1,020	0
- Leave provisions (Note 31)	2,577	2,601
- Trust funds and deposits (Note 37)	<u>160</u>	<u>183</u>
Restricted Funds	<u>3,757</u>	<u>2,784</u>
Total unrestricted cash and cash equivalents	<u>12,368</u>	<u>14,191</u>

**Accounting Policy**

For the purposes of the Statement of Cash Flows, cash and cash equivalents include cash on hand, deposits at call, and other highly liquid investments with original maturities of three months or less, net of outstanding bank overdrafts.

**DEVONPORT CITY COUNCIL**Notes to the Financial Report  
For the year ended 30 June 2017

	2017 \$'000	2016 \$'000
<b>22 Receivables</b>		
<b>(i) Current receivables</b>		
Rates and utility charges	(119)	(3)
Infringement debtors	32	114
Sundry debtors	500	360
Planning & health debtors	9	10
Net GST receivable	400	239
Loans and advances	4	0
Accrued revenue	584	990
	<u>1,410</u>	<u>1,710</u>
<b>Total current receivables</b>		
<b>(ii) Non-current receivables</b>		
Loans and advances	31	0
	<u>31</u>	<u>0</u>
<b>Total non-current receivables</b>		

Receivables are recognised at their amortised cost less an allowance for impairment losses.

**Accounting Policy**

Receivables are carried at cost. A provision for impairment is recognised only when collection in full is no longer probable. Aged infringement debtors are forwarded to the Monetary Penalties Enforcement Service for collection on Council's behalf, and recorded as an expense at that time. Any amounts recovered by the Monetary Penalties Enforcement Service are recorded as income when received.

**23 Prepayments**

<b>Current</b>		
Prepayments	96	76
	<u>96</u>	<u>76</u>

**DEVONPORT CITY COUNCIL**

Notes to the Financial Report  
For the year ended 30 June 2017

**24 Investment in TasWater**

Opening Balance	85,664	84,231
Fair Value adjustments on Available-for-Sale Assets	<u>562</u>	<u>1,433</u>
Total investment in TasWater	<u>86,226</u>	<u>85,664</u>

Council has derived returns from TasWater as disclosed at Note 9.

**Accounting Policy**

Council's investment in TasWater is valued at its fair value at balance date. Fair value was determined by using Council's ownership interest against the water corporation's net asset value at balance date. At 30 June 2017, Council held a 5.44% ownership interest in TasWater which is based on schedule 2 of the Corporation's Constitution. Any unrealised gains and losses are recognised through the Statement of Profit or Loss and Other Comprehensive Income to a Fair Value Investment Reserve each year. (Refer note 32)

On 7 March 2017 the State Government announced its intention to take ownership of the Tasmanian Water and Sewerage Corporation Pty Ltd from July 2018. The State Government intends to introduce a suite of legislation into Parliament that will transfer all of Tasmanian Water and Sewerage Corporation Pty Ltd's assets, rights, obligations and liabilities, including employees under their current terms and conditions, to a newly created government business, which will commence operations by 1 July 2018. As at the date of these financial statements, there is no indication as to whether the legislation will be passed, no change has been made to the basis on which the investment Tasmanian Water and Sewerage Corporation Pty Ltd has been recognised for the year ended 30 June 2017.

**DEVONPORT CITY COUNCIL**Notes to the Financial Report  
For the year ended 30 June 2017

	2017 \$'000	2016 \$'000
<b>25 Investments in associates</b>		
Investments in associates accounted for by the equity method are as follows:		
Dulverton Regional Waste Management Authority	<u>5,515</u>	<u>4,739</u>
<b>Dulverton Regional Waste Management Authority</b>		
Dulverton Regional Waste Management Authority is a Joint Authority established under the Local Government Act 1993 (as amended). Further information is provided in Note 39 (i).		
Council's ownership interest in the Authority at 30 June 2017 was 43.45% (43.45% in 2016).		
<b>Reconciliation</b>		
Reconciliation of the carrying amount at the beginning and end of the current and previous period is set out below:		
Authority's profit/(loss) before tax	3,381	2,774
Add: Prior year adjustment	0	386
Less: Authority's tax expense	<u>(1,014)</u>	<u>(834)</u>
Authority's profit/(loss) after tax	<u>2,367</u>	<u>2,326</u>
Council's equity interest	43.45%	43.45%
Percentage share of profit after tax	<u>1,028</u>	<u>1,011</u>
Share of dividends paid by Authority	<u>(230)</u>	<u>(174)</u>
<b>Share of profit of Authority recognised in Income Statement</b>	<u><b>798</b></u>	<u><b>837</b></u>
<b>Movement in carrying value of investment</b>		
Carrying amount at beginning of period	4,739	3,849
Council's share of profit after tax	798	837
Share of asset revaluation	<u>(22)</u>	<u>53</u>
<b>Fair value at the period end</b>	<u><b>5,515</b></u>	<u><b>4,739</b></u>

The Authority's assets, liabilities and revenue for the relevant financial years were:

Total Assets	18,459	17,011
Total Liabilities	5,766	6,104
Revenue	10,606	9,124

The investment value in Dulverton Regional Waste Management Authority recognised in the 2017 financial year is based on draft financial results, as provided to Council for inclusion in its financial report. Any final adjustments will be recognised by Council in the 2018 financial year.

**Accounting Policy**

Council's investment in associates is accounted for by the equity method as Council has the ability to influence rather than control the operations of the entity. The investment is initially recorded at the cost of acquisition and adjusted thereafter for post-acquisition changes in Council's share of the net assets of the entity. Council's share of the financial result of the entity is recognised in the Statement of Profit or Loss and Other Comprehensive Income.



## DEVONPORT CITY COUNCIL

Notes to the Financial Report  
For the year ended 30 June 2017

	2017 Actual \$'000	Restated* Actual 2016 \$'000
<b>26 Property, plant and equipment</b>		
(a) (i) Land		
at fair value	<u>149,873</u>	<u>148,772</u>
Freehold land is comprised of the following :		
Parks, Reserves & General land	33,317	33,072
Other land (including under infrastructure)	<u>116,556</u>	<u>115,700</u>
	<u>149,873</u>	<u>148,772</u>
(ii) Parks and open space		
at fair value	23,806	21,824
Less : Accumulated depreciation on improvements	<u>9,186</u>	<u>8,210</u>
	<u>14,620</u>	<u>13,614</u>
(iii) Buildings		
at fair value	93,320	87,503
Less: Accumulated depreciation	<u>42,794</u>	<u>39,299</u>
	<u>50,526</u>	<u>48,204</u>
(iv) Plant		
at cost	7,408	6,899
Less: Accumulated depreciation	<u>4,543</u>	<u>4,057</u>
	<u>2,865</u>	<u>2,842</u>
(v) Furniture and fittings		
at cost	4,541	5,697
Less: Accumulated depreciation	<u>3,282</u>	<u>3,339</u>
	<u>1,259</u>	<u>2,358</u>
(vi) Total cultural and heritage assets		
at fair value	4,912	4,683
Less: Accumulated depreciation	<u>153</u>	<u>138</u>
	<u>4,759</u>	<u>4,545</u>
(vii) Total infrastructure assets		
at fair value	407,703	396,510
Less: Accumulated depreciation	<u>209,060</u>	<u>201,990</u>
	<u>198,643</u>	<u>194,520</u>
<b>Infrastructure assets comprise:</b>		
Roads	129,021	123,810
Stormwater	69,622	70,710
	<u>198,643</u>	<u>194,520</u>
<b>Total net value of non current assets</b>	<u>422,545</u>	<u>414,855</u>

Information relating to the determination of Fair Value for each relevant asset class is included at Note 44.

\*Refer to Note 4 for details of prior period restatement

**DEVONPORT CITY COUNCIL**

Notes to the Financial Report  
For the year ended 30 June 2017

**Accounting Policy****Acquisition and Recognition**

Acquisitions of assets are initially recorded at cost. Cost is determined as the fair value of the assets given as consideration plus costs incidental to the acquisition.

Assets acquired as part of the LIVING CITY project have been accounted for under AASB 116 *Property, Plant and Equipment* and not AASB 140 *Investment Properties*. AASB 140 allows not for profit organisations to account for assets purchased for strategic purposes under AASB 116.

Property, infrastructure, land and equipment received in the form of contributions, are recognised as assets and revenues at fair value by Council valuation where that value exceeds the recognition thresholds for the respective asset class. Fair value is the price that would be received to sell the asset in an orderly transaction between market participants at the measurement date.

The asset capitalisation threshold adopted by Council varies by class, as detailed below. Assets valued at less than the specified threshold are charged to the Statement of Profit or Loss and Other Comprehensive Income in the year of purchase (other than where they form part of a group of similar items which are material in total).

Where assets are constructed by Council, cost includes all materials used in construction, direct labour, and an appropriate share of directly attributable variable and fixed overheads.

In accordance with Council's policy, the threshold limits detailed below have applied when recognising assets within an applicable asset class and unless otherwise stated are consistent with the prior year:

	<u>Threshold</u>
Land	NA
Parks and Open Space	2,000
Buildings	5,000
Plant	1,000
Furniture and Fittings	1,000
Cultural and Heritage	NA
Infrastructure Assets	
- Roads	5,000
- Stormwater	2,000
- Other Infrastructure	2,000

**Revaluation**

Council has adopted the following valuation bases for its non-current assets:

Land	fair value
Parks and Open Space	fair value
Buildings	fair value
Plant	cost
Furniture and Fittings	cost
Cultural and Heritage	fair value
Roads	fair value
Stormwater	fair value
Other Infrastructure	fair value

Subsequent to the initial recognition of assets, non-current physical assets, other than plant, equipment and office furniture, are measured at their fair value in accordance with AASB 116 *Property, Plant & Equipment* and AASB 13 *Fair Value Measurement*. At balance date, Council reviewed the carrying value of the individual classes of assets measured at fair value to ensure that each asset class materially approximated its fair value. Where the carrying value materially differed from the fair value at balance date the class of asset was revalued.

**DEVONPORT CITY COUNCIL**

Notes to the Financial Report  
For the year ended 30 June 2017

**Recognition and measurement of assets**

In addition, Council undertakes a formal revaluation of land, buildings, and infrastructure assets on a regular basis to ensure valuations represent fair value. The valuation is performed either by experienced Council officers or independent experts.

Fair value valuations are determined in accordance with a valuation hierarchy. Changes to the valuation hierarchy will only occur if an external change in the restrictions or limitations of use on an asset result in changes to the permissible or practical highest and best use of the asset. Further details regarding the fair value hierarchy are disclosed at Note 42(g), Financial Instruments.

Where the assets are revalued, the revaluation increments are credited directly to the asset revaluation reserve except to the extent that an increment reverses a prior year decrement for that class of asset that had been recognised as an expense in which case the increment is recognised as revenue up to the amount of the expense. Revaluation decrements are recognised as an expense except where prior increments are included in the asset revaluation reserve for that class of asset in which case the decrement is taken to the reserve to the extent of the remaining increments. Within the same class of assets, revaluation increments and decrements within the year are offset.

**Land under roads**

Council recognises the value of land under roads it controls at fair value.

**DEVONPORT CITY COUNCIL**

Notes to the Financial Report  
For the year ended 30 June 2017

26 Property, plant and equipment (continued)

## Reconciliation of property, plant and equipment

	2017	Note Ref.	Land	Parks and Open Space	Buildings	Plant	Furniture and Fittings	Roads	Stormwater	Other Infrastructure	Cultural and Heritage	Total
			\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
<b>Asset values</b>												
Carrying Amount at Beginning of Reporting Period			148,772	21,824	87,503	6,899	5,697	273,512	122,998	0	4,683	671,888
Additions at Cost			1,101	1,007	816	652	115	4,724	1,060	0	3	9,478
Contributed assets at valuation			0	106	0	0	0	1,736	1,265	0	0	3,107
Assets at Initial Recognition			0	0	0	0	0	0	0	0	0	0
Disposals		17, 19	0	(75)	(1,000)	(143)	(325)	(2,209)	0	0	0	(3,752)
Revaluations in period			0	624	5,028	0	0	7,734	(2,812)	0	226	10,800
Internal transfers & Adjustments			0	320	973	0	(946)	(305)	0	0	0	42
Closing balance			149,873	23,806	93,320	7,408	4,541	285,192	122,511	0	4,912	691,563
<b>Accumulated depreciation</b>												
Opening balance			0	8,210	39,299	4,057	3,339	149,702	52,288	0	138	257,033
Depreciation provided in period		14	0	776	1,387	588	479	3,997	1,151	0	15	8,393
Written off on disposals		17, 19	0	(60)	(422)	(102)	(321)	(1,572)	0	0	0	(2,477)
Adjustment on asset revaluation			0	237	2,309	0	0	4,052	(550)	0	0	6,048
Internal transfers & Adjustments			0	23	221	0	(215)	(8)	0	0	0	21
Carrying Amount at End of Reporting Period			0	9,186	42,794	4,543	3,282	156,171	52,889	0	153	269,018
Total written down value 30 June 2017			149,873	14,620	50,526	2,865	1,259	129,021	69,622	0	4,759	422,545

## DEVONPORT CITY COUNCIL

Notes to the Financial Report  
For the year ended 30 June 2017

## 26 Property, plant and equipment (continued)

## Reconciliation of property, plant and equipment

Restated 2016*	Note Ref.	Land	Parks and Open Space	Buildings	Plant	Furniture and Fittings	Roads	Stormwater	Other Infrastructure	Cultural and Heritage	Total
		\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
<b>Asset values</b>											
Adjusted Opening balance at valuation		147,432	5,829	90,168	7,164	5,080	269,367	116,436	27,693	4,220	673,389
Additions at cost		938	117	600	328	122	1,744	930	283	2	5,064
Contributed assets at valuation		440	0	0	0	0	964	842	22	0	2,268
Donations		0	0	0	0	0	0	0	0	0	0
Disposals	17, 19	(38)	(32)	(8,740)	(593)	(194)	(2,283)	(254)	(388)	0	(12,522)
Revaluations in period		0	178	1,818	0	0	(4,410)	5,044	834	226	3,690
Internal transfers		0	15,732	3,657	0	689	8,130	0	(28,444)	235	(1)
Total asset value		148,772	21,824	87,503	6,899	5,697	273,512	122,998	0	4,683	671,888
<b>Accumulated depreciation</b>											
Adjusted Opening balance		0	2,073	41,560	3,902	2,562	146,665	49,179	9,280	27	255,248
Depreciation provided in period	14	0	185	1,269	626	529	3,906	1,072	1,066	13	8,666
Written off on disposals	17, 19	0	(24)	(5,640)	(471)	(156)	(1,946)	(111)	(322)	0	(8,670)
Adjustment on asset revaluation		0	67	824	0	0	(1,552)	2,148	302	0	1,789
Internal transfers		0	5,909	1,286	0	404	2,629	0	(10,326)	98	0
Carrying Amount at End of Reporting Period		0	8,210	39,299	4,057	3,339	149,702	52,288	0	138	257,033
Total written down value 30 June 2016		148,772	13,614	48,204	2,842	2,358	123,810	70,710	0	4,545	414,855

\* Refer to Note 4 for details of prior period restatement

**DEVONPORT CITY COUNCIL**Notes to the Financial Report  
For the year ended 30 June 2017

	2017 \$'000	2016 \$'000
<b>27 Capital work in progress - at cost</b>		
Parks and Open Space	560	1,505
Buildings	372	167
Living City Project	24,360	4,952
Plant	357	230
Furniture and Fittings	235	179
Roads	3,026	2,989
Stormwater	490	373
	<u>29,400</u>	<u>10,395</u>
<b>28 Payables</b>		
<b>Current</b>		
Trade creditors	400	421
Accruals	3,638	2,578
Trust funds	160	183
	<u>4,198</u>	<u>3,182</u>
<b>Non - Current</b>		
Sale proceeds in advance	13,000	0
	<u>13,000</u>	<u>0</u>
<b>29 Interest bearing liabilities</b>		
<b>Current</b>		
Borrowings - secured	<u>19,738</u>	<u>892</u>
<b>Non-current</b>		
Borrowings - secured	<u>19,615</u>	<u>19,615</u>
<b>Loan Movements</b>	<u>19,738</u>	<u>20,507</u>
Opening balance	20,507	21,492
Loans raised	0	0
Repayments	<u>(769)</u>	<u>(985)</u>
Book value at period end	<u>19,738</u>	<u>20,507</u>
<b>The maturity profile for Council's borrowings is:</b>		
Not later than one year	19,738	892
Later than one year and not later than five years	0	13,523
Later than five years	<u>0</u>	<u>6,092</u>
Total	<u>19,738</u>	<u>20,507</u>

Council's loans are secured by trust deed.

**Accounting Policy**

The borrowing capacity of Council is limited by the *Local Government Act 1993*. Interest bearing liabilities are initially recognised at fair value, net of transaction costs incurred. Subsequent to initial recognition these liabilities are measured at amortised cost. Any difference between the proceeds (net of transaction costs) and the redemption amount is recognised in the Statement of Profit or Loss and Comprehensive Income over the period of the liability using the effective interest method.

**Operating leases as lessee**

Leases in which a significant portion of the risks and rewards of ownership are not transferred to Council as lessee are classified as operating leases. Payments made under operating leases (net of any incentives received from the lessor) are charged to the income statement on a straight-line basis over the period of the lease.



## DEVONPORT CITY COUNCIL

Notes to the Financial Report  
For the year ended 30 June 2017

### 29 Interest bearing liabilities (continued)

Council leases several parcels of Crown land under lease agreements with the State Government. These leases, in general, do not reflect commercial arrangements, are long term and have minimal lease payments. Crown land is recognised as an asset in the Statement of Financial Position and carried at fair value when Council establishes that (i) it has control over the land and (ii) it will derive economic benefits from it.

30 Other Financial Liabilities	2017 \$'000	2016 \$'000
Derivative Financial Instruments	<u>307</u>	<u>0</u>

#### Accounting Policy

Council has entered into interest rate swaps to protect it from adverse changes in interest rates over time. Council is recognising the movements in the swaps through the Statement of Profit and Loss and Other Comprehensive Income. Council has not elected to apply hedge accounting to the transactions as per AASB 9 *Financial Instruments*. Details of the fair value of the swaps is included in Note 42.

### 31 Provisions

#### Current

<b>Employee entitlements:</b>		
Annual leave	1,006	1,023
Long service leave	<u>1,139</u>	<u>1,123</u>
<b>Non-current</b>	<b><u>2,145</u></b>	<b><u>2,146</u></b>
<b>Employee entitlements:</b>		
Long service leave	<u>432</u>	<u>455</u>
	<b><u>432</u></b>	<b><u>455</u></b>
<b>Total provisions</b>	<b><u>2,577</u></b>	<b><u>2,601</u></b>

Included in the above employee entitlements balances is an allowance for oncosts amounting to \$165,868 (\$167,054 for 2016)

As at 30 June 2017, Devonport City Council had 144 full time equivalent employees (146 for 2016)

#### Accounting Policy

##### Short term employee benefit obligations

Liabilities for wages and salaries, rostered days off, annual leave and long service leave expected to be wholly settled within 12 months after the end of the period in which the employees render the related service are recognised in respect of employees services up to the end of the reporting period and are measured at the amounts expected to be paid when the liabilities are settled, including appropriate oncosts such as workers compensation and payroll costs. The liabilities for annual leave and long service leave are recognised in the provision for employee benefits. All other short-term employee benefit obligations are presented as payables.

##### Other long term employee benefit obligations

The liability for long service leave and annual leave which is not expected to be wholly settled within 12 months after the end of the period in which the employees render the related service is recognised in the provision for employee benefits and measured as the present value of expected future payments to be made in respect of services provided by employees up to the end of the reporting period using the projected unit credit method. Consideration is given to expected future wage and salary levels, experience of employee departures and periods of service. Expected future payments are discounted using market yields at the end of the reporting period on national government bonds with terms to maturity and currency that match, as closely as possible, the estimated future cash outflows.

The obligations are presented as current liabilities in the Statement of Financial Position if the entity does not have an unconditional right to defer settlement for at least twelve months after the reporting date, regardless of when the actual settlement is expected to occur.

##### Sick leave

No accrual is made for sick leave as Council experience indicates that, on average, sick leave taken in each reporting period is less than the entitlement accruing in that period, and this experience is expected to recur in future reporting periods. Council does not make payment for untaken sick leave.

## DEVONPORT CITY COUNCIL

## Notes to the Financial Report

For the year ended 30 June 2017

32 Capital and capital reserves	2017 \$'000	Restated* 2016 \$'000
<b>(i) Asset revaluation reserve - Council</b>		
Movements in the asset revaluation reserve were as follows:		
Balance at the beginning of year	301,385	295,401
Correction of prior period error		4,083
Increment / (decrement) to capital non-current assets at end of period to reflect a change in current fair value:		
Land	0	0
Parks & Open Space	387	111
Buildings	2,719	994
Roads	3,682	(2,858)
Stormwater	(2,262)	2,896
Other Infrastructure	0	532
Cultural & Heritage (includes \$21K adj. from 2015/16)	247	226
	<u>4,773</u>	<u>1,901</u>
Balance at end of year	<u><b>306,158</b></u>	<u><b>301,385</b></u>
<b>(ii) Asset revaluation reserve - Associate</b>		
Movements in the Asset Revaluation Reserve - Associate were as follows:		
Balance at the beginning of year	1,468	1,415
Share of asset revaluation movement - Associate (Note 25)	<u>(22)</u>	<u>53</u>
Balance at end of year	<u><b>1,446</b></u>	<u><b>1,468</b></u>
<b>(iii) Accumulated surplus</b>		
Movements in the Accumulated surplus as follows:		
Balance at beginning of year	196,005	194,274
Correction of prior period error		(871)
Surplus / (Deficit)	8,088	2,602
Adjustment for roundings	<u>3</u>	<u>0</u>
Balance at end of year	<u><b>204,096</b></u>	<u><b>196,005</b></u>

\* Refer to Note 4 for details of prior period restatement

**Accounting Policy****Asset revaluation reserve**

The Asset Revaluation Reserve is comprised of adjustments relating to changes in value of items which arise primarily from changes in the purchasing power of money.

**Accumulated surplus**

This represents that part of the Council's net wealth which would not be required to meet immediate requirements or to meet specific future needs. The balance on this account at the end of each financial year shows the amount available to be offset against expenditure in the following year or, if a deficit, the additional amount of revenue needed to be raised in the following year.

## DEVONPORT CITY COUNCIL

Notes to the Financial Report  
For the year ended 30 June 2017

	2017 \$'000	2016 \$'000
<b>33 Other reserves</b>		
<b>(a) Reserves held for funding future capital expenditure:</b>		
Fair value investment reserve	9,829	9,266
	<u>9,829</u>	<u>9,266</u>
<b>(b) Movements in capital reserves are analysed as follows:</b>		
<b>Fair value investment reserve</b>		
Balance B/Fwd	9,266	7,833
Fair value adjustment on available for sale assets	563	1,433
	<u>9,829</u>	<u>9,266</u>

**Accounting Policy**

Other reserves represent wealth which has been accumulated within the Council to meet specific anticipated future needs. As at 30 June 2017 the only reserve held by Council is the Fair Value Investment Reserve which represents changes in the underlying value of Council's investment in TasWater.

**34 Superannuation**

Council makes superannuation contributions for a number of its employees to the Quadrant Defined Benefits Fund (the Fund). The Fund was a sub fund of the Quadrant Superannuation Scheme (the Scheme) up to 30 November 2015. At this date the Quadrant Superannuation Scheme merged (via a Successor Fund Transfer) into the Tasplan Super and the Quadrant Defined Benefits Fund became a sub fund of Tasplan Super (Tasplan) from that date. The Quadrant Defined Benefits Fund has been classified as a multi-employer sponsored plan. As the Fund's assets and liabilities are pooled and are not allocated by employer, the Actuary is unable to allocate benefit liabilities, assets and costs between employers. As provided under paragraph 34 of AASB 119 Employee Benefits, Council does not use defined benefit accounting for these contributions.

For the year ended 30 June 2017 the Council contributed 9.5% of employees gross income to the Fund. Assets accumulate in the fund to meet member benefits as they accrue, and if assets within the fund are insufficient to satisfy benefits payable, the Council is required to meet its share of the deficiency.

Rice Warner Pty Ltd undertook the last actuarial review of the Fund at 30 June 2014. The review disclosed that at that time the net market value of assets available for funding member benefits was \$46,310,000, the value of vested benefits was \$57,475,000, the surplus over vested benefits was \$8,835,000 and the value of total accrued benefits was \$58,093,000. These amounts relate to all members of the fund at the date of valuation and no asset or liability is recorded in the Quadrant Superannuation Scheme's financial statements for Council employees.

The financial assumptions used to calculate the Accrued Benefits for the Fund were:

Net Investment Return	7.0% p.a.
Salary Inflation	4.0% pa
Price Inflation	n/a

## DEVONPORT CITY COUNCIL

### Notes to the Financial Report For the year ended 30 June 2017

#### 34 Superannuation (continued)

The actuarial review concluded that:

1. The value of assets of the Fund was adequate to meet the liabilities of the Fund in respect of vested benefits as at 30 June 2014.
2. The value of assets of the Fund was adequate to meet the value of the liabilities of the Fund in respect of accrued benefits as at 30 June 2014.
3. Based on the assumptions used, and assuming the Employer contributes at the levels described below, the value of the assets is expected to continue to be adequate to meet the value of the liabilities of the Fund in respect of vested benefits at all times during the period up to 30 June 2017.

The Actuary recommended that in future the Council contribute 11% of salaries in 2014/15 and 9.5% of salaries thereafter.

The Actuary will continue to undertake a brief review of the financial position the Fund at the end of each financial year to confirm that the contribution rates remain appropriate. The next full triennial actuarial review of the Fund will have an effective date of 30 June 2017 and is expected to be completed late in 2017.

Council also contributes to other accumulation schemes on behalf of a number of employees, however the Council has no ongoing responsibility to make good any deficiencies that may occur in those schemes.

During the year Council made the required superannuation contributions for all eligible employees to an appropriate complying superannuation fund as required by the *Superannuation Guarantee (Administration) Act 1992*.

As required in terms of paragraph 148 of AASB 119 *Employee Benefits*, Council discloses the following details:

The 2014 actuarial review used the "aggregate" funding method. This is a standard actuarial funding method. The results from this method were tested by projecting future fund assets and liabilities for a range of future assumed investment returns. The funding method used is different from the method used at the previous actuarial review in 2011.

Under the aggregate funding method of financing the benefits, the stability of the Councils' contributions over time depends on how closely the Fund's actual experience matches the expected experience. If the actual experience differs from that expected, the Councils' contribution rate may need to be adjusted accordingly to ensure the Fund remains on course towards financing members' benefits.

In terms of Rule 27.4 of the Tasplan Trust Deed (Trust Deed), there is a risk that employers within the Fund may incur an additional liability when an Employer ceases to participate in the Fund at a time when the assets of the Fund are less than members' vested benefits. Each member of the Fund who is an employee of the Employer who is ceasing to Participate is required to be provided with a benefit at least equal to their vested benefit in terms of Rule 27.4 (b) (A). However there is no provision in the Trust Deed requiring an employer to make contributions other than its regular contributions up to the date of cessation of contributions. This issue can be resolved by the Trustee seeking an Actuarial Certificate in terms of Rule 26.5 identifying a deficit and the Trustee determining in terms of Rule 26.3(c) that the particular employer should make the payment required to make good any shortfall before the cessation of participation is approved.

The application of Fund assets on Tasplan being wound-up is set out in Rule 41.4. This Rule provides that expenses and taxation liabilities should have first call on the available assets. Additional assets will initially be applied for the benefit of the then remaining members and/or their Dependants in such manner as the Trustee considers equitable and appropriate in accordance with the Applicable Requirements (broadly, superannuation and taxation legislative requirements and other requirements as determined by the regulators).

The Trust Deed does not contemplate the Fund withdrawing from Tasplan. However it is likely that Rule 27.4 would be applied in this case (as detailed above).

The Fund is a defined benefit Fund.

The Quadrant Defined Benefits Fund has been classified as a multi-employer sponsored plan. As the Fund's assets and liabilities are pooled and are not allocated by employer, the Actuary is unable to allocate benefit liabilities, assets and costs between employers. Thus the Fund is not able to prepare standard AASB 119 defined benefit reporting.

**DEVONPORT CITY COUNCIL****Notes to the Financial Report  
For the year ended 30 June 2017****34 Superannuation (continued)**

During the reporting period the amount of contributions paid to defined benefits schemes was \$70,988 (\$72,552 2015/16), and the amount paid to accumulation schemes was \$1,042,779 (\$1,016,076 2015/6).

During the next reporting period the expected amount of contributions to be paid to defined benefits schemes is \$57,507, and the amount to be paid to accumulation schemes is \$1,111,860.

As reported at the beginning of this note, assets exceeded accrued benefits as at the date of the last actuarial review, 30 June 2014. Moderate investment returns, since that date, make it quite probable that this is still the position. The financial position of the Fund will be fully investigated at the actuarial review as at 30 June 2017.

An analysis of the assets and vested benefits of Funds participating in the Scheme, prepared by Rice Warner Pty Ltd as at 30 June 2014, showed that the Fund had assets of \$66.3 million and members' Vested Benefits were \$57.5 million. These amounts represented 8.4% and 7.5% respectively of the corresponding total amounts for the Scheme.

As at 30 June 2015 the fund had 164 members and total employer contributions and member contributions for the year ending 30 June 2015 were \$2,083,883 and \$325,833 respectively.

	2017 \$'000	2016 \$'000
Defined Benefits Fund	71	73
Accumulation Schemes	1,043	1,016
	<u>1,114</u>	<u>1,089</u>

The split between contributions to the Defined Benefits Fund and Accumulation Scheme for the 2016 comparative year has been adjusted by \$15,000 to correctly reflect the contributions.

**35 Commitments**

Expenditure contracted as at 30 June, but not recognised in the financial report as liabilities. This note is for information only.

Purchase commitments for material supplies & equipment	<u>53,211</u>	<u>1,633</u>
Commitments are payable as follows :		
Not later than 1 year	<u>53,211</u>	<u>1,633</u>

**Accounting Policy**

Commitments are not recognised in the Statement of Financial Position. Commitments are disclosed in this Note at their nominal value and inclusive of the GST payable. The 2017 total includes commitments to complete the construction of Stage 1 of the LIVING CITY project totally \$51,983,708 including GST.

**36 Contingent liabilities**

There are no known claims pending against Council which would exceed current insurance arrangements held at 30 June 2017.

**Accounting Policy**

Contingent assets and contingent liabilities are not recognised in the Statement of Financial Position, but are disclosed by way of a note and, if quantifiable, are measured at nominal value. Contingent assets and liabilities are presented inclusive of GST receivable or payable respectively.

**37 Trust funds**

Trust deposits	<u>160</u>	<u>183</u>
----------------	------------	------------

The Devonport City Council performs only a custodial role in respect of these monies, and because the monies cannot be used for Council purposes, they are not brought to account in these financial statements as income. Trust monies are invested with a financial institution in an appropriate interest-earning account. The deposits are bearing floating interest rates of 2.0% as at June 30 (2016 2.0%).

**Accounting Policy**

Amounts received as tender deposits and retention amounts controlled by Council are recognised as Trust funds until they are returned or forfeited.



## DEVONPORT CITY COUNCIL

Notes to the Financial Report  
For the year ended 30 June 2017

	2017 \$'000	2016 \$'000
<b>38 Reconciliation of cash flows from operating activities to surplus / (deficit)</b>		
Surplus / (deficit)	8,088	2,602
Depreciation and amortisation	8,393	8,666
Non-cash donations subsidies and contributions	(3,107)	(2,268)
Share of profit in associate	(798)	(837)
Net (gain) / loss on disposal of assets	697	492
Derecognition of assets	165	3,089
Donated assets	360	
Overhead recovery	(446)	(457)
Market value movement in fair value swaps	307	0
Investing activity		
Other investment income	(759)	(534)
Capital grants and contributions	(3,374)	(1,314)
Changes in operating assets and liabilities :	1,438	6,837
<i>(Increase) / decrease in receivables</i>	300	(594)
<i>(Increase) / decrease in prepayments</i>	(20)	17
<i>Increase / (decrease) in payables</i>	1,894	413
<i>Increase / (decrease) in employee provisions</i>	(24)	(2)
	2,150	(166)
<b>Net cash inflow from operating activities</b>	<b>11,676</b>	<b>9,273</b>

**39 Joint Authorities****(i) Dulverton Regional Waste Management Authority**

The Council is a partner in the Dulverton Regional Waste Management Joint Authority established under the *Local Government Act 1993* (as amended).

Other partners in the Dulverton Regional Waste Management Joint Authority are the Central Coast, Latrobe, and Kentish Councils.

The primary activity of the Authority is to operate a regional landfill site at Dulverton. As at 30 June 2017 the ownership share for Devonport was 43.45%.

Value of ownership share	<u>5,515</u>	<u>4,739</u>
--------------------------	--------------	--------------

**(ii) Cradle Coast Authority**

The Council is a subscribing member of the Cradle Coast Joint Authority together with Burnie City, Central Coast, Circular Head, Kentish Council, King Island, Latrobe, Waratah-Wynyard and West Coast Councils. No capital subscription is contemplated and operating costs will be provided out of current income by all subscribing Councils.

At the June 2014 Council meeting, Aldermen resolved to notify Cradle Coast Authority of its intention to withdraw from the Authority effective 30 June 2017. Following a decision by Council, the Authority has been notified that Council will continue as a member of the Authority until 30 June 2018 and will reassess its position at that time.



**DEVONPORT CITY COUNCIL**

Notes to the Financial Report  
For the year ended 30 June 2017

**40 Controlling Authority transactions**

	2017		2016	
	Income \$'000	Expenditure \$'000	Income \$'000	Expenditure \$'000
Maidstone Park Management Controlling Authority	11	10	10	9
<b>Total</b>	<b>11</b>	<b>10</b>	<b>10</b>	<b>9</b>

Council have created Strategic Special Committees and Special Interest Groups to advise on specific areas of interest. These Committees and Groups do not hold assets and liabilities in their own right, they operate in an advisory capacity only.

## DEVONPORT CITY COUNCIL

Notes to the Financial Report  
For the year ended 30 June 2017

### 41 Related party transactions

#### (i) Responsible Persons

Names of persons holding the position of a Responsible Person at the Council at any time during the year are:

<b>Aldermen</b>	S. Martin (Mayor)
	A. Rockliff (Deputy Mayor)
	C. Emmerton
	G. Goodwin
	A. Jarman
	L. Laycock
	J. Matthews
	T. Milne
	L. Perry
<b>General Manager</b>	P. West
	M. Atkins
	S. Crawford
	K. Peebles

#### (ii) Aldermen Remuneration

2017	Short term employee benefits			
	Allowances	Vehicles*	Other Benefits**	Total
	\$	\$	\$	\$
Mayor	73,369	6,581	3,620	83,570
Deputy Mayor	37,346		3,620	40,966
Aldermen	146,734		25,340	172,074
<b>Total</b>	<b>257,449</b>	<b>6,581</b>	<b>32,580</b>	<b>296,610</b>

\* relates to the taxable value of vehicle for the FBT year 1/4/2016 to 31/3/2017

\*\* relates to notional parking benefit of \$1,810 per permit per annum

#### (iii) Key Management Personnel Remuneration

2017	Number of employees	Short term employee benefits			Post employment benefits		
		Salary*	Vehicles**	Other Benefits***	Super-annuation^	Other long term benefits^^	Total
Remuneration Band		\$	\$	\$	\$	\$	\$
\$100,000 - \$120,000	1	\$ 95,113		\$ 2,091	\$ 11,700	\$ 2,722	\$ 111,626
\$160,000 - \$180,000	1	\$ 137,692	\$ 5,188	\$ 6,214	\$ 16,902	\$ 4,548	\$ 170,544
\$200,000 - \$220,000	1	\$ 171,846	\$ 7,679	\$ 6,139	\$ 21,088	\$ 4,300	\$ 211,052
\$280,000 - \$300,000	1	\$ 230,112	\$ 8,303	\$ 9,072	\$ 28,561	\$ 5,534	\$ 281,582
<b>Total</b>		<b>\$ 634,763</b>	<b>\$ 21,170</b>	<b>\$ 23,516</b>	<b>\$ 78,251</b>	<b>\$ 17,104</b>	<b>\$ 774,804</b>

\* Gross Salary includes all forms of consideration paid and payable for services rendered, compensated absences during the period and salary sacrifice amounts.

\*\* Benefit equates to the taxable value of the provision of a motor vehicle including personal use as per the fringe benefits tax calculation for the year 1/4/2016 to 31/3/2017, annual leave accrual.

^ Superannuation means the contribution to the superannuation fund of the individual.

^^ Other long term employee benefits includes long service leave accrual.

**DEVONPORT CITY COUNCIL****Notes to the Financial Report  
For the year ended 30 June 2017****41 Related party transactions (continued)****(iv) Remuneration Principles****Aldermen**

The Aldermen receive an allowance from Council in accordance with S340A of the Local Government Act 1993. Regulation 42(2) of the Local Government (General) Regulations 2005 specifies the amount payable to mayors, deputy mayors and aldermen.

**Executives**

Remuneration levels for key management personnel are set with regard to current market expectations considering the qualifications, skills and experience required for each role.

The employment terms and conditions of senior executives are contained in individual employment contracts and prescribe total remuneration, superannuation, annual and long service leave, vehicle and salary sacrifice provisions. In addition to their salaries, Council also contributes to post-employment superannuation plans on their behalf.

The performance of each senior executive, including the General Manager, is reviewed annually which encompasses a review of their remuneration package. The terms of employment of each senior executive, including the General Manager, contain a termination clause that requires the executive or Council to provide a minimum notice period prior to termination of the contract. Whilst not automatic, contracts can be extended.

**(v) Transactions with associates**

Council's interests in associates is detailed in note 25.

The following transactions occurred with Dulverton Regional Waste Management Authority (DRWMA). All transactions were subject to normal terms and conditions:

Commercial office space supplied by Council (subject to lease)	\$ 16,558
Dividend Received	\$ 782,000
Cost of transfer of waste to the regional facility maintained by DRWMA	\$ 2,363,087

At 30 June 2017 Council owed DRWMA \$173,049 for the provision of services at standard commercial terms.

**(vi) Transactions with related parties**

During the period Council entered into the following transactions with related parties:

Nature of the transaction	Amount	Outstanding balance at year end	Terms and conditions
Marketing*	\$ 60,000	0	As per agreement
Sign-Writing**	\$ 8,178	0	Standard terms and conditions

\* Council pays for marketing and promotion to a company which has a relative of a member of Councils KMP as a director.

\*\* Council pays for signage to a business controlled by a close relative of a KMP.

**DEVONPORT CITY COUNCIL**

Notes to the Financial Report  
For the year ended 30 June 2017

**41 Related party transactions (continued)****(vii) Transactions with related parties that have not been disclosed**

Most of the entities and people that are related parties of Council live and operate within the municipal area. Therefore, on a regular basis ordinary citizen transactions occur between Council and its related parties. Some examples include:

- payment of rates on a primary residence or commercial property
- dog registration
- use of Council's recreation facilities

Council has not included these types of transactions in its disclosure where they have been made on the same terms and conditions available to the general public.

## DEVONPORT CITY COUNCIL

Notes to the Financial Report  
For the year ended 30 June 2017

### 42 Financial instruments

#### (a) Accounting policy, terms and conditions

Recognised financial instruments	Note	Accounting Policy	Terms and conditions									
<b>Financial assets</b>												
<b>Cash and cash equivalents</b>	21	Cash on hand and at bank and short term deposit accounts are valued at face value.  Interest is recognised as it accrues.	Cash and deposits returned interest at rates between 1.00% and 3.10% (1.05% and 3.08% in 2015/2016). The weighted average interest rate at balance date was 2.87% (2.42% in 2015/2016).									
<b>Receivables</b>	22	Receivables are carried at face value. A provision for impairment is recognised when there is objective evidence that an impairment loss has occurred. Collectability of overdue accounts is assessed on an ongoing basis.	General debtors are unsecured. Credit terms are based on 30 days. Overdue payments are lodged with a collection agency as and when deemed necessary.									
<b>Financial liabilities</b>												
<b>Payables</b>	28	Liabilities are recognised for amounts to be paid in the future for goods and services provided to Council as at balance date whether or not invoices have been received.	General Creditors are unsecured, not subject to interest charges and are normally settled within relevant trading terms.									
<b>Interest bearing loans</b>	29	Loans are carried at their principal amounts, which represent the present value of future cash flows associated with servicing the debt. Interest is accrued over the period it becomes due and recognised as part of payables.	Borrowings are secured by way of mortgages over the general rates of the Council and the underlying value of the infrastructure for which the borrowings were obtained. The weighted average interest rate on borrowings is 2.71% (5.08% in 2015/2016).									
<b>Other financial liabilities</b>	30	Interest rate swaps are recognised at the mark to market or fair value amount as determined by a third party. The movement in fair value is recognised as part of finance costs.	The interest rate swaps represent fixed interest charges varying between 2.09% and 2.92% (0% in 2015/ 2016). Terms range between 3 years and 7 years.									
<b>Bank Overdraft</b>	21	Overdrafts are recognised at the principal amount. Interest is charged as an expense as it accrues.	The overdraft is subject to annual review. It is secured by a mortgage over Council's general rates and is repayable on demand. The average interest rate on available overdraft was 8.46% (8.59% in 2015/2016).									
			<table border="0"> <tr> <td></td> <td style="text-align: center;"><b>2017</b></td> <td style="text-align: center;"><b>2016</b></td> </tr> <tr> <td>Available Bank Overdraft Facility at year-end</td> <td style="text-align: right;">\$ 100,000</td> <td style="text-align: right;">\$ 100,000</td> </tr> <tr> <td>Utilised Bank Overdraft Facility at year-end</td> <td style="text-align: right;">\$ 0</td> <td style="text-align: right;">\$ 0</td> </tr> </table>		<b>2017</b>	<b>2016</b>	Available Bank Overdraft Facility at year-end	\$ 100,000	\$ 100,000	Utilised Bank Overdraft Facility at year-end	\$ 0	\$ 0
	<b>2017</b>	<b>2016</b>										
Available Bank Overdraft Facility at year-end	\$ 100,000	\$ 100,000										
Utilised Bank Overdraft Facility at year-end	\$ 0	\$ 0										
<b>Corporate credit cards</b>	28	Credit card balances are recognised at the principal amount. Interest is charged as an expense as it accrues.	The credit card facility is secured by a mortgage over Council's general rates. The balance is paid in full on a monthly basis.									
			<table border="0"> <tr> <td></td> <td style="text-align: center;"><b>2017</b></td> <td style="text-align: center;"><b>2016</b></td> </tr> <tr> <td>Available Credit Card Facility at year-end</td> <td style="text-align: right;">\$ 70,000</td> <td style="text-align: right;">\$ 70,000</td> </tr> <tr> <td>Utilised Credit Card Facility at year-end</td> <td style="text-align: right;">\$ 19,558</td> <td style="text-align: right;">\$ 29,942</td> </tr> </table>		<b>2017</b>	<b>2016</b>	Available Credit Card Facility at year-end	\$ 70,000	\$ 70,000	Utilised Credit Card Facility at year-end	\$ 19,558	\$ 29,942
	<b>2017</b>	<b>2016</b>										
Available Credit Card Facility at year-end	\$ 70,000	\$ 70,000										
Utilised Credit Card Facility at year-end	\$ 19,558	\$ 29,942										

## DEVONPORT CITY COUNCIL

Notes to the Financial Report  
For the year ended 30 June 201742 Financial instruments (continued)  
(b) Interest rate risk

The exposure to interest rate risk and the effective interest rates of financial assets and financial liabilities, both recognised and unrecognised, at balance date are as follows:

2017	Floating interest rate \$'000	Fixed Interest maturing in:			Non-interest bearing \$'000	Total \$'000
		1 year or less \$'000	Between 1 and 5 years \$'000	More than 5 years \$'000		
<b>Financial assets</b>						
Cash and cash equivalents	16,125	0	0	0	0	16,125
Receivables	0	4	20	11	791	826
Investment in Water Corporation	0	0		0	86,226	86,226
	16,125	4	20	11	87,017	103,177
<b>Financial liabilities</b>						
Payables	0	0	0	0	560	560
Interest bearing liabilities	0	19,738	0	0	0	19,738
	0	19,738	0	0	560	20,298
<b>Net financial assets / (liabilities)</b>	16,125	(19,734)	20	11	86,457	82,879

2016	Floating interest rate \$'000	Fixed Interest maturing in:			Non-interest bearing \$'000	Total \$'000
		1 year or less \$'000	Between 1 and 5 years \$'000	More than 5 years \$'000		
<b>Financial assets</b>						
Cash and cash equivalents	16,975	0	0	0	0	16,975
Receivables	0	0	0	0	719	719
Investment in Water Corporation	0	0	0	0	85,664	85,664
	16,975	0	0	0	86,383	103,358
<b>Financial liabilities</b>						
Payables	0	0	0	0	604	604
Interest bearing liabilities	0	892	13,523	6,092	0	20,507
	0	892	13,523	6,092	604	21,111
<b>Net financial assets / (liabilities)</b>	16,975	(892)	(13,523)	(6,092)	85,779	82,247

Following the refinancing of debt, Council has entered into interest rate swaps to protect it from adverse changes in interest rates over time. Council is recognising the movements in the swaps through the Statement of Profit and Loss and Other Comprehensive Income. Council has not elected to apply hedge accounting to the transactions as per AASB 9 Financial Instruments. Six swaps are in place at 30 June 2017, however only two have a current effective date at 30 June 2017:

Amount	Date (effective)	Term (Years)	Interest Rate	Line Fee & Margin
\$5,000,000	31/10/2016	5	2.09%	0.85%
\$5,500,000	31/10/2016	7	2.26%	0.85%
\$5,000,000	31/10/2017	7	2.41%	0.85%
\$10,000,000	2/01/2018	3	2.47%	0.85%
\$10,000,000	2/01/2018	5	2.73%	0.85%
\$10,000,000	2/01/2018	7	2.92%	0.85%

As at 30 June 2017 the fixed interest rate on the swaps exceeded the variable rate with the following impact on the market value of the total swaps:

Amount	Date (effective)	Term (Years)	Interest Rate	Impact of Swap
\$5,000,000	31/10/2016	5	2.09%	(24,229)
\$5,500,000	31/10/2016	7	2.26%	(55,563)
\$5,000,000	31/10/2017	7	2.41%	(50,177)
\$10,000,000	2/01/2018	3	2.47%	86,005
\$10,000,000	2/01/2018	5	2.73%	147,445
\$10,000,000	2/01/2018	7	2.92%	203,624
<b>Total</b>				<b>307,105</b>



## DEVONPORT CITY COUNCIL

Notes to the Financial Report  
For the year ended 30 June 2017

### 42 Financial instruments (continued)

#### (c) Net fair values

The aggregate net fair values of financial assets and financial liabilities at balance date are as follows:

Financial Instruments

	Total carrying amount as per Statement of Financial Position		Aggregate net fair value	
	2017 \$'000	2016 \$'000	2017 \$'000	2016 \$'000
<b>Financial assets</b>				
Cash and cash equivalents	16,125	16,975	16,125	16,975
Receivables	1,441	1,710	1,441	1,710
Investment in Water Corporation	86,226	85,664	86,226	85,664
<b>Total financial assets</b>	<b>103,792</b>	<b>104,349</b>	<b>103,792</b>	<b>104,349</b>
<b>Financial liabilities</b>				
Payables	4,197	3,182	4,197	3,182
Other Financial Liabilities	307	0	307	0
Interest-bearing loans and borrowings	19,738	20,507	19,738	22,857
<b>Total financial liabilities</b>	<b>24,242</b>	<b>23,689</b>	<b>24,242</b>	<b>26,039</b>

#### (d) Credit Risk

The maximum exposure to credit risk at balance date in relation to each class of recognised financial asset is represented by the carrying amount of those assets as indicated in the Statement of Financial Position.

#### (e) Risks and mitigation

The risks associated with Council's main financial instruments and the policies for minimising these risks are detailed below.

##### Market risk

Market risk is the risk that the fair value or future cash flows of Council's financial instruments will fluctuate because of changes in market prices. Council's exposures to market risk are primarily through interest rate risk with only insignificant exposure to other price risks and no exposure to foreign currency risk. Components of market risk to which Council are exposed are discussed below.

##### Interest rate risk

Interest rate risk refers to the risk that the value of a financial instrument or cash flows associated with the instrument will fluctuate due to changes in market interest rates. Interest rate risk arises from interest bearing financial assets and liabilities that are used. Non derivative interest bearing assets are predominantly short term liquid assets. Council's interest rate liability risk arises primarily from long term loans and borrowings at fixed rates which exposes it to fair value interest rate risk.

Council's loan borrowings are sourced from major Australian banks. Overdrafts are arranged with major Australian banks. Council manages interest rate risk on its net debt portfolio by:

- ensuring access to diverse sources of funding;
- reducing risks of refinancing by managing interest rate hedges in accordance with target maturity profiles; and
- setting prudential limits on interest repayments as a percentage of rate revenue.

Council manages the interest rate exposure on its debt portfolio by appropriate budgeting strategies and obtaining approval for borrowings from the Department of Treasury and Finance.

Maturity of interest rate swaps will be staggered to provide for interest rate variations and to also minimise interest rate risk.

Investment of surplus funds is made with approved financial institutions under the Local Government Act 1993 (as amended). Council manages interest rate risk by adopting an investment policy that ensures:

- conformity with State and Federal regulations and standards;
- capital protection;
- appropriate liquidity;
- diversification by credit rating, financial institution and investment product
- monitoring of return on investment
- benchmarking of returns and comparison with budget.

**DEVONPORT CITY COUNCIL**

Notes to the Financial Report  
For the year ended 30 June 2017

**42 Financial Instruments (continued)**  
**(e) Risks and mitigation (continued)**

**Credit risk**

Credit risk is the risk that a contracting entity will not complete its obligations under a financial instrument and cause Council to make a financial loss. Council have exposure to credit risk on some financial assets included in its Statement of Financial Position. To help manage this risk Council has:

- a policy for establishing credit limits for the entities we deal with;
- required collateral where appropriate; and
- only invest surplus funds with financial institutions which have a recognised credit rating specified in its investment policy.

Credit risk arises from Council's financial assets, which comprise cash and cash equivalents, and trade and other receivables. Council's exposure to credit risk arises from potential default of the counterparty, with a maximum exposure equal to the carrying amount of these instruments. Exposure at balance date is addressed in each applicable policy note.

Council generally trades with recognised, credit worthy third parties, and as such collateral is generally not requested, nor is it Council's policy to securitise its trade and other receivables.

It is Council's policy that some customers who wish to trade on credit terms are subject to credit verification procedures including an assessment of their credit rating, financial position, past experience and industry reputation. In addition, receivable balance are monitored on an ongoing basis with the result that Council's exposure to bad debts is not significant.

Council may also be subject to credit risk for transactions which are not included in the Statement of Financial Position, such as when Council provide a guarantee for another party. Details of contingent liabilities are disclosed in note 36.

**Ageing of Trade and Other Receivables**

At balance date other debtors representing financial assets were past due but not impaired. These amounts relate to a number of independent customers for whom there is no recent history of default. The ageing of the Council's trade & other receivables was:

	2017 \$'000	2016 \$'000
Current (less than 1 year)	1,261	1,555
Past due by over 1 year	60	75
Past due by over 2 years	27	14
Past due by over 3 years	11	6
Past due by over 4 years	51	60
Total Trade & Other Receivables	<u>1,410</u>	<u>1,710</u>

## DEVONPORT CITY COUNCIL

Notes to the Financial Report  
For the year ended 30 June 2017

### 42 Financial instruments (continued) (e) Risks and mitigation (continued)

#### Ageing of individually impaired Trade and Other Receivables

At balance date, there were no impaired debtor amounts identified (2015/16 \$0). No provision has been raised against debtors at year end (2015/16: \$0). All long outstanding past due amounts have been lodged with Council's debt collectors or are on payment arrangements.

#### Liquidity risk

Liquidity risk includes the risk that, as a result of Council's operational liquidity requirements:

- it will not have sufficient funds to settle a transaction on the date;
- it will be forced to sell financial assets at a value which is less than what they are worth; or
- it may be unable to settle or recover a financial asset at all.

To help reduce these risks Council:

- have a liquidity policy which targets a minimum and average level of cash and cash equivalents to be maintained;
- have readily accessible standby facilities and other funding arrangements in place;
- have a liquidity portfolio structure that requires surplus funds to be invested within various bands of liquid instruments;
- monitor budget to actual performance on a regular basis; and
- set limits on borrowings relating to the percentage of loans to rate revenue and percentage of loan principal repayments to rate revenue.

The Council's exposure to liquidity risk is deemed insignificant based on prior periods data and current assessment of risk.

#### (e) Risks and mitigation (continued)

The table below lists the contractual maturities for financial liabilities.

These amounts represent undiscounted gross payments including both principal and interest amounts.

2017		6 mths or less \$'000	6-12 months \$'000	1-2 years \$'000	2-5 years \$'000	>5 years \$'000	Contracted Cash Flow \$'000	Carrying Amount \$'000
Payables		4,197	0	0	0	0	4,197	4,197
Interest bearing liabilities		651	19,629	0	0	0	20,280	19,738
<b>Total financial liabilities</b>		<b>4,848</b>	<b>19,629</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>24,477</b>	<b>23,935</b>

2016		6 mths or less \$'000	6-12 months \$'000	1-2 years \$'000	2-5 years \$'000	>5 years \$'000	Contracted Cash Flow \$'000	Carrying Amount \$'000
Payables		3,182	0	0	0	0	3,182	3,182
Interest bearing liabilities		961	961	6,922	9,205	7,165	25,214	20,507
<b>Total financial liabilities</b>		<b>4,143</b>	<b>961</b>	<b>6,922</b>	<b>9,205</b>	<b>7,165</b>	<b>28,396</b>	<b>23,689</b>

## DEVONPORT CITY COUNCIL

Notes to the Financial Report  
For the year ended 30 June 2017

## 42 Financial instruments (continued)

## (f) Sensitivity disclosure analysis

Taking into account past performance, future expectations, economic forecasts, and management's knowledge and experience of the financial markets, the Council believes the following movements are 'reasonably possible' over the next 12 months (base rates are sourced from Reserve Bank of Australia):

- A parallel shift of + 1% and -1% in market interest rates (AUD) from year-end rates of 1.5%.

The table below discloses the impact on net operating result and equity for each category of financial instruments held by Council at year-end, if the above movements were to occur.

	2017	Interest Rate Risk				
		-1%		+1%		
		-100 basis points		+100 basis points		
	2017 \$'000	Profit \$'000	Equity \$'000	Profit \$'000	Equity \$'000	
<b>Financial assets:</b>						
Cash and cash equivalents	16,125	(161)	(161)	161	161	
Receivables	35	0	0	0	0	
<b>Financial liabilities:</b>						
Interest bearing liabilities	19,738	197	197	(197)	(197)	

	2016	Interest Rate Risk				
		-2%		+1%		
		-200 basis points		+100 basis points		
	2016 \$'000	Profit \$'000	Equity \$'000	Profit \$'000	Equity \$'000	
<b>Financial assets:</b>						
Cash and cash equivalents	16,975	(340)	(340)	170	170	
Receivables	0	0	0	0	0	
<b>Financial liabilities:</b>						
Interest bearing liabilities	20,507	410	410	(205)	(205)	

## DEVONPORT CITY COUNCIL

Notes to the Financial Report  
For the year ended 30 June 2017

## 42 Financial instruments (continued)

## (g) Fair Value Hierarchy

The table below analyses financial instruments carried at fair value by valuation method.

The different levels have been defined as follows:

- Level 1 quoted prices (unadjusted) in active markets for identical assets or liabilities
- Level 2 inputs other than quoted prices included within level one that are observable for the asset or liability, either directly (ie prices) or indirectly (ie derived from prices)
- Level 3 inputs for the asset or liability that are not based on observable market data

	Level 1	Level 3	Total
<b>30 June 2017</b>			
Available for sale financial assets	0	86,226	86,226
Derivative financial liabilities	307	0	307

	Level 1	Level 3	Total
<b>30 June 2016</b>			
Available for sale financial assets	0	85,664	85,664

There were no transfers between Level 1 and Level 2 during the period.

	2017 \$'000	2016 \$'000
<b>Reconciliation of Level 3 fair value movements:</b>		
<b>Opening Balance</b>	85,664	84,231
Fair Value adjustments on Available-for-Sale Assets	562	1,433
<b>Closing Balance</b>	<b>86,226</b>	<b>85,664</b>

## (h) Categories of Financial assets and Liabilities

Carrying amounts classified as:

<b>Financial assets</b>		
Cash and cash equivalents	16,125	16,975
Loans and receivables	1,441	1,710
Available for sale financial assets	86,226	85,664
<b>Total financial assets</b>	<b>103,792</b>	<b>104,349</b>
<b>Financial liabilities</b>		
Financial liabilities measured at amortised cost	23,935	23,689
<b>Total financial liabilities</b>	<b>23,935</b>	<b>23,689</b>
<b>Net Financial Assets / Liabilities</b>	<b>79,857</b>	<b>80,660</b>

## DEVONPORT CITY COUNCIL

Notes to the Financial Report  
For the year ended 30 June 2017

43 Management indicators	Benchmark	2017 \$'000	2016 \$'000	2015 \$'000	2014 \$'000
<b>(a) Underlying surplus or deficit</b>					
Recurrent income* less		39,773	39,331	38,629	37,188
recurrent expenditure**		38,548	36,308	36,295	36,102
Underlying surplus/(deficit)	0	<u>1,225</u>	<u>3,023</u>	<u>2,334</u>	<u>1,086</u>

\* Recurrent income excludes income received specifically for new or upgraded assets, physical resources received free of charge or other income of a capital nature. The total excludes the prepaid 2017/18 Financial Assistance Grant of \$1,020,000 received in June 2017 and \$98,507 Natural Disaster Recovery Relief income in relation to the flood event in 2016.

\*\* Recurrent expenditure includes loss on disposal of property, plant & equipment of \$697,000. The total excludes expenditure of \$191,842 in relation to the flood event in 2016.

Council has reported an underlying surplus for the 2017 year, which exceeds the benchmark of a breakeven result.

<b>(b) Underlying surplus ratio</b>					
<u>Underlying surplus or deficit</u>		1,225	3,023	2,334	1,086
Recurrent income		39,773	39,331	38,629	37,188
Underlying surplus ratio	0%	<b>3.08%</b>	<b>7.69%</b>	<b>6.04%</b>	<b>2.92%</b>

This ratio serves as an overall measure of financial operating effectiveness

The ratio reflects Council's goal to break-even and is reasonably consistent with the benchmark for the period reported.

<b>(c) Net financial liabilities</b>					
Liquid assets less		17,535	18,685	19,774	11,279
total liabilities*		26,819	26,290	26,632	25,438
Net financial liabilities	0	<u>(9,284)</u>	<u>(7,605)</u>	<u>(6,858)</u>	<u>(14,159)</u>

This measure shows whether Council's total liabilities can be met by its liquid assets. An excess of total liabilities over liquid assets means that, if all liabilities fell due at once, additional revenue would be needed.

\*Total liabilities has been adjusted for the \$13,000,000 proceeds on the sale of the LINC and Service Tasmania footprint in the multi-purpose building currently under construction.

Property purchases in relation to the LIVING CITY project have been funded by borrowings.

At 30 June 2017 the balance of these loans totalled \$10,869,597 (2016 \$11,346,395).

Council refinanced its debt on 29 July 2016, rolling 8 facilities into 1 with ANZ.



## DEVONPORT CITY COUNCIL

### Notes to the Financial Report For the year ended 30 June 2017

43 Management indicators (continued)	Benchmark	2017 \$'000	2016 \$'000	2015 \$'000	2014 \$'000
<b>(d) Net financial liabilities ratio</b>					
<u>Net financial liabilities</u>		(9,284)	(7,605)	(6,858)	(14,159)
Recurrent income*	0% -( 50%)	39,773	39,331	38,629	37,188
Net financial liabilities ratio %		<b>(23.34%)</b>	<b>(19.34%)</b>	<b>(17.75%)</b>	<b>(38.07%)</b>

This ratio indicates the net financial obligations of Council compared to its recurrent income.

The result over the reported period is within benchmark, and reflects the higher level of borrowings in recent years. As stated above, Council actively manage debt levels and repayment schedules through the Long Term Financial Plan.

#### **(e) Asset consumption ratio**

An asset consumption ratio has been calculated in relation to each asset class required to be included in the long term asset management plan of Council.

##### *Parks and open space*

<u>Depreciated replacement cost</u>		14,620	13,573	3,715	4,000
Gross replacement cost		23,806	21,779	5,784	5,892
Asset consumption ratio %	40-60%	<b>61%</b>	<b>62%</b>	<b>64%</b>	<b>68%</b>

##### *Buildings*

<u>Depreciated replacement cost</u>		50,526	48,204	48,608	44,804
Gross replacement cost		93,320	87,503	90,168	78,721
Asset consumption ratio %	40-60%	<b>54%</b>	<b>55%</b>	<b>54%</b>	<b>57%</b>

##### *Roads*

<u>Depreciated replacement cost</u>		129,021	123,630	122,522	120,692
Gross replacement cost		285,192	272,377	268,232	261,568
Asset consumption ratio %	40-60%	<b>45%</b>	<b>45%</b>	<b>46%</b>	<b>46%</b>

##### *Stormwater*

<u>Depreciated replacement cost</u>		69,622	67,720	64,267	63,439
Gross replacement cost		122,511	117,962	111,400	108,951
Asset consumption ratio %	40-60%	<b>57%</b>	<b>57%</b>	<b>58%</b>	<b>58%</b>

This ratio indicates the level of service potential available in Council's existing asset base.

Council have set a benchmark for this ratio of between 40% and 60% in the Long Term Financial Plan. The result for all categories is within this range, however a result closer to 60% suggests that Council has sufficient service capacity remaining in these asset classes.

## DEVONPORT CITY COUNCIL

### Notes to the Financial Report For the year ended 30 June 2017

43 Management indicators (continued)	Benchmark	2017 \$'000	2016 \$'000	2015 \$'000	2014 \$'000
(f) <b>Asset renewal funding ratio</b>					
An asset renewal funding ratio has been calculated in relation to each asset class required to be included in the strategic asset management plan of Council.					
<i>Parks and open space</i>					
<u>Projected capital funding outlays**</u>		3,677	2,967	4,224	4,315
Projected capital expenditure funding***		8,508	6,784	7,415	7,236
Asset renewal funding ratio %	<b>90-100%</b>	43%	44%	57%	60%
<i>Buildings</i>					
<u>Projected capital funding outlays**</u>		7,989	6,193	6,213	5,802
Projected capital expenditure funding***		4,700	4,230	4,700	4,700
Asset renewal funding ratio %	<b>90-100%</b>	170%	146%	132%	123%
<i>Roads</i>					
<u>Projected capital funding outlays**</u>		35,544	28,994	32,759	32,752
Projected capital expenditure funding***		34,351	29,662	31,771	35,332
Asset renewal funding ratio %	<b>90-100%</b>	103%	98%	103%	93%
<i>Stormwater</i>					
<u>Projected capital funding outlays**</u>		5,955	4,773	5,029	4,368
Projected capital expenditure funding***		235	110	110	71
Asset renewal funding ratio %	<b>90-100%</b>	2534%	4339%	4572%	6152%

Council are continuing to renew stormwater assets at a greater rate than required in the Asset Management Plans.

\*\* Projected capital funding outlays per the long term financial plan.

\*\*\* Value projected capital expenditure funding for an asset identified in Council's long term strategic asset management plan.

This ratio measures Council's capacity to fund future asset replacement requirements, by comparing the budgeted renewal expenditure to the projected capital expenditure requirements in the Asset Management Plans. This ratio should be considered over a longer period of time, at least 10 years to assess if Council is adequately funding the renewal of its assets. Council adopted a Financial Management Strategy in June 2017 which included a Long Term Financial Plan to 30 June 2027. That Plan included data that demonstrated Council has, on average over the 10 year life of the Plan, provided funding to renew assets in accordance with the Asset Management Plans.

The Asset Management Plans were prepared in 2011 and are currently being updated. Since 2011, Council staff have reviewed and extended the lives of Road and Stormwater assets. A progressive condition assessment for all asset classes is currently underway and this information will be reflected in the updated Asset Management Plans.

This ratio is not subject to audit.

## DEVONPORT CITY COUNCIL

### Notes to the Financial Report For the year ended 30 June 2017

43 Management indicators (continued)	Benchmark	2017 \$'000	2016 \$'000	2015 \$'000	2014 \$'000
<b>(g) Asset sustainability ratio</b>					
<u>Capex on replacement/renewal of existing assets</u>		5,581	5,035	3,699	7,283
Annual depreciation expense		8,393	8,666	8,702	8,910
Asset sustainability ratio %	<b>100%</b>	<b>66%</b>	<b>58%</b>	<b>43%</b>	<b>82%</b>

This ratio calculates the extent to which Council is maintaining operating capacity through renewal of the asset base.

Council has experienced a period of investment in new assets and this is reflected in the result for this indicator in the period reported. Council will continue to monitor its performance through the Long Term Financial Plan and manage assets in accordance with the Asset Management Plans.

	Capital renewal expenditure	Capital new expenditure	Total Capital Expenditure Cash Flow
By Asset Class:			
Land	0	0	0
Parks and Open Space	96	322	418
Buildings*	45	21,238	21,283
Plant	610	226	836
Furniture and Fittings	139	65	204
Roads	4,491	985	5,476
Stormwater	200	489	689
<b>Total</b>	<b>5,581</b>	<b>23,325</b>	<b>28,906</b>

\* The buildings category above includes \$20,719,349 expenditure in relation to Living City

## DEVONPORT CITY COUNCIL

### Notes to the Financial Report For the year ended 30 June 2017

#### 44 Fair Value Measurements

Council measures and recognises the following assets at fair value on a recurring basis:

- Investment in water corporation
- Property, infrastructure, plant and equipment
  - Land
  - Buildings
  - Roads, including footpaths and cycleways
  - Stormwater
  - Other infrastructure
  - Parks & open space
  - Cultural & heritage

Council does not measure any liabilities at fair value on a recurring basis.

#### (a) Fair Value Hierarchy

AASB 13 Fair Value Measurement requires all assets measured at fair value to be assigned to a level in the fair value hierarchy as follows:

Level 1	Unadjusted quoted prices in active market for identical assets or liabilities that the entity can access at the measurement date.
Level 2	Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly
Level 3	Unobservable inputs for the asset or liability.

The table below shows the assigned level for each asset and liability held at fair value by the Council.

The table presents the Council's assets measured and recognised at fair value at 30 June 2017.

The fair value of the assets are determined using valuation techniques which maximise the use of observable data, where it is available and minimise the use of entity specific estimates. If one or more of the significant inputs is not based on observable market data, the asset is included in level 3. This is the case for Council infrastructure assets, which are of a specialist nature for which there is no active market of similar or identical assets. These assets are valued using a combination of observable and unobservable inputs.

#### As at 30 June 2017

	Note	Level 1 \$'000	Level 2 \$'000	Level 3 \$'000	Total \$'000
<b>Recurring fair value measurements</b>					
Land	26	0	0	0	0
- LIVING CITY Land		0	7,739	0	7,739
- Other Land		0	142,134	0	142,134
Buildings	26	0	0	0	0
- LIVING CITY Buildings		0	7,141	0	7,141
- Other Buildings		0	23,756	19,629	43,385
Roads, including footpaths and cycleways	26	0	0	129,021	129,021
Stormwater	26	0	0	69,622	69,622
Other infrastructure	26	0	0	0	0
Parks & open space	26	0	0	14,620	14,620
Cultural and heritage	26	0	4,759	0	4,759
		0	185,529	232,892	418,421

## DEVONPORT CITY COUNCIL

### Notes to the Financial Report For the year ended 30 June 2017

#### 44 Fair Value Measurements (cont.)

As at 30 June 2016 Restated\*

	Note	Level 1 \$'000	Level 2 \$'000	Level 3 \$'000	Total \$'000
<b>Recurring fair value measurements</b>					
Land	26	0	0	0	0
- LIVING CITY Land		0	5,717	0	5,717
- Other Land		0	143,055	0	143,055
Buildings	26	0	0	0	0
- LIVING CITY Buildings		0	6,440	0	6,440
- Other Buildings		0	25,724	16,040	41,764
Roads, including footpaths and cycleways	26	0	0	123,810	123,810
Stormwater	26	0	0	70,710	70,710
Other infrastructure	26	0	0	0	0
Parks & open space	26	0	0	13,614	13,614
Cultural and heritage	26	0	4,545	0	4,545
		0	185,481	224,174	409,655

#### Transfers between levels of the hierarchy

Council's policy is to recognise transfers in and out of the fair value hierarchy levels at the end of the reporting period.

There have not been any transfers between levels at 30 June 2017.

\*Refer to Note 4 for details of prior period restatement

#### (b) Highest and best use

In accordance with AASB 13, all assets are valued at their highest and best use.

#### (c) Valuation techniques and significant inputs used to derive fair values

##### Investment in Water Corporation

Refer to Note 42 and Note 24 for details of valuation techniques used to derive fair values.

##### Land

Land fair values were determined by the office of the Valuer General during the year ended 30 June 2015. Level 2 valuation inputs were used to value land in freehold title as well as land used for special purposes, which is restricted in use under current planning provisions.

Sales prices of comparable land sites in close proximity are adjusted for differences in key attributes such as property size. The most significant input into this valuation approach is price per square metre.

##### Land under roads

Land under roads is calculated based on the applicable land area recorded by Council and the land values provided by the Valuer General in 2015. The most significant input into this valuation approach is price per square metre.

Land under roads has been categorised as either urban residential land or rural land in accordance with Council data. The relevant square metre rates have then been applied to the land area. The rates were supplied by the office of the Valuer General and have been discounted by 30% to reflect the nature of the land.



## DEVONPORT CITY COUNCIL

### Notes to the Financial Report For the year ended 30 June 2017

#### 44 Fair Value Measurements (cont.)

##### Buildings

Where there is a market for Council building assets, fair value has been determined by applying the statutory values assigned by the office of the Valuer General during the year ended 30 June 2015 and subsequent adjustment factors. Fair value has been derived from the sales prices of comparable properties after adjusting for differences in key attributes such as property size. The most significant input into this valuation approach is price per square metre. These buildings have been classified as level 2 in the Table above.

Where Council buildings are of a specialist nature (eg public amenities) and there is no active market for the assets, fair value has been determined on the basis of replacement with a new asset having similar service potential. The gross current values have been derived from reference to market data for recent projects and costing guides. Construction costs applicable to these assets have been indexed using appropriate independent construction indexes. These buildings have been classified as level 3 in the Table above.

In determining the level of accumulated depreciation, significant building assets have been disaggregated into components which exhibit useful lives. Allowance has been made for the typical asset life cycle and renewal treatments of each component.

While the unit rates based on square metres can be supported by market evidence (level 2), the estimates of useful life that are used to calculate accumulated depreciation comprise unobservable inputs (level 3). Where these other inputs are significant to the valuation the overall valuation has been classified as level 3.

##### Infrastructure assets

All Council infrastructure assets were valued using depreciated current replacement cost (DRC). This valuation comprises the asset's current replacement cost (CRC) less accumulated depreciation calculated on the basis of such costs to reflect the already consumed or expired future economic benefits of the asset. Council first determined the gross cost of replacing the full service potential of the asset and then adjusted this amount to take account of the expired service potential of the asset.

CRC was measured by reference to the lowest cost at which the gross future economic benefits of the asset could currently be obtained in the normal course of business. The resulting valuation reflects the cost of replacing the existing economic benefits based on an efficient set of modern equivalent assets to achieve the required level of service output.

The unit rates (labour and materials) and quantities applied to determine the CRC of an asset or asset component were based on a "Greenfield" assumption meaning that the CRC was determined as the full cost of replacement with a new asset including components that may not need to be replaced, such as earthworks.

The level of accumulated depreciation for infrastructure assets was determined based on the age of the asset and the useful life adopted by Council for the asset type. Depreciation is applied on a straight line basis. Estimated useful lives are disclosed in Note 14.

The calculation of DRC involves a number of inputs that require judgement and are therefore classed as unobservable. While these judgements are made by qualified and experienced staff, different judgements could result in a different valuation.

The methods for calculating CRC are described under individual asset categories below.

##### Roads, including footpaths & cycleways

A full valuation of road infrastructure was undertaken by Council staff effective 30 June 2016. Council categorises its road infrastructure into urban and rural roads and then further sub-categorises these into sealed and unsealed roads. Urban and rural roads are generally managed in segments from intersection to intersection. All road segments are then componentised into formation, pavement and seal (where applicable). Council assumes that environmental factors such as soil type, climate and topography are consistent across each segment. Council also assumes a segment is designed and constructed to the same standard and uses a consistent amount of labour and materials. Pavements constructed post 1993 have longer asset lives as they require more stringent quality assurance on material selection and pavement design.



## DEVONPORT CITY COUNCIL

### Notes to the Financial Report For the year ended 30 June 2017

#### 44 Fair Value Measurements (cont.)

CRC is based on the road area multiplied by a unit price; the unit price being an estimate of labour and material inputs, services costs, and overhead allocations. Council uses known pavement thickness for most assets and applies a 350mm default when unknown. For internal construction estimates, material and services prices are based on existing supplier contract rates or supplier price lists and labour wage rates are based on Council's Enterprise Agreement (EA). Where construction is outsourced, CRC is based on the average of completed similar projects over the last few years.

##### Stormwater

A full valuation of stormwater infrastructure was undertaken by Council staff effective 30 June 2017. Similar to roads, drainage assets are managed in segments; pits and pipes being the major components.

Consistent with roads, Council assumes that environmental factors such as soil type, climate and topography are consistent across each segment and that a segment is designed and constructed to the same standard and uses a consistent amount of labour and materials for each pipe depth.

CRC is based on the unit price for the component type. For pipes, the unit price is multiplied by the asset's length. The unit price for pipes is based on the construction material (including pipe diameter) as well as the depth the pipe is laid.

##### Other Infrastructure

A full valuation of other infrastructure was undertaken by Council staff effective 30 June 2016. Following revaluation, the asset class was reviewed and redistributed across existing asset classes. The reallocation amounts are shown in note 26 (Property, plant and equipment).

##### Parks & Open Space

A full valuation of parks & open space was undertaken by Council staff effective 30 June 2016. The asset class is reviewed between valuations and indexed as required.

##### Cultural & Heritage

The valuation of Council's art collection was determined by D. Bett, an independent art valuer, as at 4 November 2011. The art collection is indexed annually using the rates determined by the independent valuer.

#### (e) Changes in recurring level 3 fair value measurements

The changes in level 3 assets with recurring fair value measurements are detailed in Note 26. There have been no transfers between level 1, 2 or 3 measurements during the year.

#### (f) Valuation processes

Council's valuation policies and procedures are determined by the Asset Management Team which includes the City Engineer and Executive Manager Organisational Performance. Policies are then reviewed by the Senior Management Group before referral to the Executive Leadership Team. They are reviewed every 2 years or sooner to reflect changes in accounting treatment. Revaluation Guidelines are prepared each year and reviewed by the Asset Management Team. The Guidelines are referred to the Audit Panel for review and comment and ultimately to Council.

Council's current policies for the valuation of property, infrastructure, plant and equipment and investment in water corporation are set out in Note 24 and 26.

#### (g) Assets and liabilities which are not measured at fair value, but for which fair value is disclosed

Council has assets and liabilities which are not measured at fair value, but for which fair values are disclosed in other notes. (refer Note 42)

The carrying amounts of trade receivables and trade payables are assumed to approximate their fair values due to their short-term nature (level 2).

## DEVONPORT CITY COUNCIL

Financial Report for the year ended 30 June 2017

### Certification of the Financial Report

The financial report presents fairly the financial position of the Devonport City Council as at 30 June 2017, the results of its operations for the year then ended and the cash flows of the Council, in accordance with the *Local Government Act 1993* (as amended), Australian Accounting Standards (including interpretations) and other authoritative pronouncements issued by the Australian Accounting Standards Board.



Paul West  
**GENERAL MANAGER**

Dated: 20 September 2017.

## 5.5 DISABILITY/EQUAL ACCESS AND INCLUSION

File: 13086 D491448

### RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

Strategy 4.6.2 Provide quality public and environmental health services

### SUMMARY

To present discussion on the development and implementation of a Disability/Equal Access and Inclusion Plan.

### BACKGROUND

Over the last decade there has been a significant shift in both international and domestic policy on the inclusion of people living with a disability. This has seen widespread positive change in the way government, human service providers, carers and families and people living with a disability work together to reduce barriers to participation in all areas of civic life.

In 2011 all signatories of the Council of Australian Governments (COAG) agreed to implement the National Disability Strategy 2010-2020.

The Council of Australian Governments (COAG) National Disability Strategy 2010-2020 has six priority areas of policy action:

- **Inclusive and accessible communities** - the physical environment including public transport; parks, buildings and housing; digital information and communications technologies; civic life including social, sporting, recreational and cultural life
- **Rights protection, justice and legislation** - statutory protections such as anti-discrimination measures, complaints mechanisms, advocacy
- **Personal and community support** - jobs, business opportunities, financial independence, adequate income support for those not able to work, and housing
- **Economic Security** - inclusion and participation in the community, person-centred care and support provided by specialist disability services and mainstream services; informal care and support
- **Learning and skill** - early childhood education and care, schools, further education, vocational education; transitions from education to employment; life-long learning
- **Health and Wellbeing** - health services, health promotion and the interaction between health and disability systems; wellbeing and enjoyment of life

In 2012 the Tasmanian State Government adopted the Disability Framework for Action 2013-2017. The framework developed utilised the national strategy priority areas.

Whilst this has driven the development of disability access and inclusion plans across State Government departments, it has not translated into a strong policy agenda, framework for action and direction for local government.

From a local government perspective, the legislation provides councils with only minimal guidelines to ensure minimising barriers to equal access and participation.

From a Council context, State Government over the last few years has conducted disability access and inclusion policy position audits of Tasmanian local governments. The state government has sought to determine if local governments have disability access

and inclusion committees/advisory groups, disability access and inclusion policy and plans.

From a desktop audit of Tasmanian local government websites it can be determined that eleven (11) councils have developed disability/equal access inclusion plans and/or policy, of those eleven (11), five councils also have active Disability/Access Advisory groups or committees. As no strong framework has been set by the State, policies and plans vary in detail, context and insight. They are varying from basic policy rhetoric to enabling plans for access and inclusion.

### **STATUTORY REQUIREMENTS**

No Statutory Requirements relate to this report.

### **DISCUSSION**

#### **Defining Disability**

Anyone can have a disability. Living with impairment can occur at any time during a person's life such as at birth, as a result of an accident, chronic illness or due to aging. Simply put, living with a disability does not discriminate between anyone's race, gender, age or income bracket.

Disability is defined as either a 'physical', 'intellectual', 'mental' or 'sensory' impairment and may occur temporarily or over a long period of time.

A 'Social Model of Disability' is stressed in all key documents (including *Disability Discrimination Act 1992*), this means, that an individual's impairment alone should not exclude them from equal participation in society. Good policies and organisational practice will ensure that a level playing field is made equal for the equitable participation of people with disabilities.

People living with a disability are more likely to experience:

- Poor Health Outcomes
- Lower educational achievement
- Higher rates of poverty
- Less economically active
- Lower workforce participation

#### **Devonport**

The Australian Bureau of Statistics (ABS) *2016 Census of Population and Housing* identified that 1,984 Devonport residents had Core Activity Need for Assistance. The Core Activity Need for Assistance variable has been developed to measure the number of people with a profound or severe disability. The ABS defines the profound or severe disability population as:

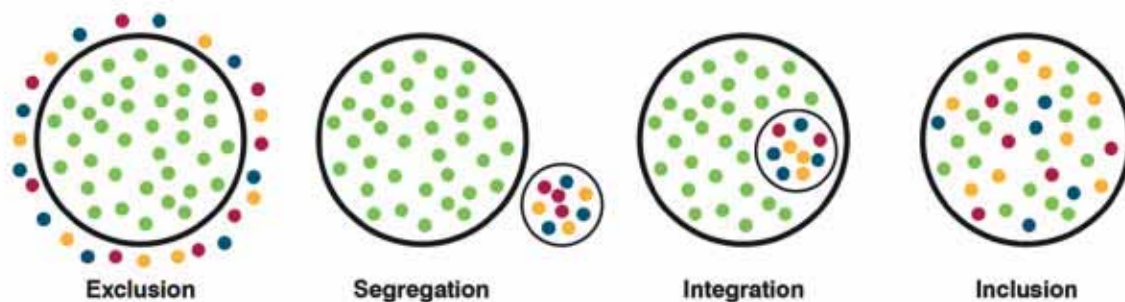
*'Those people needing help or assistance in one or more of the three core activity areas of self-care, mobility and communication, because of a long-term health condition (lasting six months or more), a disability (lasting six months or more), or old age'.*

The Australian Bureau of Statistics *2016 Census of Population and Housing* identified that 2,515 Devonport residents provide unpaid assistance to a person with a disability.

### What is Access and Inclusion?

Access and inclusion can be achieved when Council plays a leadership role in minimising the barriers to participation for people with disabilities. Having 'access' to something does not only mean access to physical infrastructure, but also to employment opportunities, including the ability to participate in other areas of community life (education, social activities etc). Some members of the community (indigenous, people with disability, non-english speaking background groups etc) will be disadvantaged and will not be able to participate in an equal level playing field. Therefore, all members of the Devonport community such as employers, educators, and organisations play a role in facilitating equal access to opportunities. The term 'inclusion' implies social inclusion – the ability to be included in different spheres of community life. This means that equal access to life opportunities leads to social inclusion and an engagement in community life. The lack of participation in life opportunities leads to disengagement and social exclusion from society.

Image One – Diagrammatic Representation of Inclusion



### Purpose of a Disability/Equal Access and Inclusion Plan

In the context of planning for mainstream services and infrastructure that local government is responsible for, a social model of disability should be utilised. Under the model, disability is understood as a product of the barriers that communities allow to remain in place. In the local government context, such barriers may be: – physical - such as inaccessible facilities, streetscapes, or parks and open spaces; or – social - such as a lack of information in accessible formats or systems that create barriers, often unintended, for people with disability to participate in community life; or – attitudinal - such as assumptions that people with disability cannot participate in certain activities or perform certain jobs.

The purpose of a disability access and inclusion plan is to provide Council with a roadmap/framework that guides its work and offers strategies that promote equal access and inclusion for all Devonport residents and visitors living with a disability.

A plan is Council's commitment to people with disabilities and is developed to ensure Council's actions or inactions do not lead to inadvertent discrimination of a vulnerable group across the city.

A plan should be about achieving universal access for all into mainstream services, employment and other areas of community life, rather than creating specialised or tailored programs for participation.

Ultimately a plan should provide a long term strategic direction to enable equal access and participation which requires cross functional collaborations both within and external to Council.

A contemporary local government Disability/Equal Access and Inclusion Plan framework could consider the following outcome areas or similar (as per the NSW Disability Access and Inclusion):

- **Access and Inclusion** – Government, business and the general community are aware of and demonstrate positive attitudes and actions to inclusion of people with a disability.
- **Liveable Communities** – All people including those with a disability are able to exercise their rights, live, learn, work and play, feel safe, raise a family and grow old, within their own community.
- **Employment** – People with a disability have the opportunities to gain, retain, contribute effectively and experience the positive self and social benefits of employment.
- **Systems and Processes** – People with a disability are able to access information, systems, processes and services, and supporting their right to exercise choice and control.

Alternately, Council could consider developing a Disability Access/Equal Access and Inclusion Plan which utilises the National Disability Strategy 2010-2020 priority outcome areas as listed above. The priority action areas however are more challenging to apply to a local government context.

Should a plan be developed, the engagement process may identify alternate priority areas, specific to the Devonport community.

It should be noted Council has already commenced and identified future actions to reducing barriers to participation.

#### **Council Achievements Towards Access and Inclusion**

- Accessibility audit on public toilets
- Upgrade of accessible public toilets at Pioneer Park and Coles Beach
- Change of parking conditions to enable easier use of access ramp at the rear of Hub Arcade
- Review and improvements to Best Street Bus Stop, seat painted in contrasting colour
- New ramps at pedestrian crossing, now constructed in terracotta colour
- Construction of pedestrian access ramps and pedestrian refuges to improve pedestrian access across high use roads
- Inclusion of tactile indicators on new pedestrian facilities as per AS1428



Image Two – Pedestrian Refuge



Image Three – Tactile Indicators



Image Four – Colour Contrast Seat



### **Planned Future Works and Initiatives Towards Access and Inclusion**

- Universal Access onto East Devonport beach
- Devonport Entertainment and Convention Centre Upgrade of seating
- Upgrade of Stewart Street Public Toilets to Accessible Public Toilets
- Development of 24 additional disability carparks within LIVING CITY precinct

### **Council Services and Provisions for People with a Disability**

- Carparks
- Provision of portable ramps at large scale outdoor Council events
- Provision of portable accessible toilets at large scale outdoor Council events
- Assistance for people with mobility issues to have rubbish bins collected and emptied

All current building infrastructure works are required to meet the Building Code of Australia and Australian Standard 1428 - Access and Mobility. Australian Standard 1428, informs design consideration as it specifies required path widths, grades, crossfalls, use of tactile indicators etc.

### **COMMUNITY ENGAGEMENT**

There was no community engagement undertaken as a result of this report.

### **FINANCIAL IMPLICATIONS**

There are several financial implications to be considered when developing a Disability/Equal Access and Inclusion Plan, these include:

- Establishment and administration of advisory or special interest group.
- Development of the Disability/Equal Access and Inclusion Plan (including stakeholder engagement costs).
- Implementation of Disability/Equal Access and Inclusion Plan from both a capital and operational perspective. This will require long term planning and budgeting of any remedial works required on Council assets.

Given the ethical and legislative obligation Council must ensure that practices do not create barriers to participation, financial costs alone should not be a determinant as to whether disability/equal access and inclusion planning occurs.

### **RISK IMPLICATIONS**

There is a risk that the State Government may implement the statutory or mandatory development of Disability Access and Inclusion Plans for Local Government. A change in State Government may see a change disability access and inclusion policy position. There is a risk of developing a plan that does not align with a legislated framework, rendering the plan redundant, disenfranchising stakeholder groups and costing Council significant resources.

There is a significant financial and reputational risk to Council if it does not develop Disability/Equal Access and Inclusion Plan (which identifies actions for improvement) and particularly access related issues are identified on Council assets, Council may be found in breach of the *Disability Discrimination Act 1992*. Such offences under the act can attract civil and/or criminal proceedings, dependent upon the nature of the offence.

**CONCLUSION**

There is great value to both Council and residents and visitors alike in developing a Disability/Equal Access and Inclusion Plan, however before proceeding Council must be aware of the impacts of both action and inaction on this matter.

**ATTACHMENTS**

Nil

**RECOMMENDATION**

That Council note the report and determine that a Disability/Equal Access and Inclusion Plan be developed for consideration.

Author:	Brooke de Jong	Endorsed By:	Shane Crawford
Position:	Community and Cultural Development Manager	Position:	Executive Manager Corporate, Community & Business Services

## 5.6 PARKING REVIEW

File: 31342 D460301

### RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

- Strategy 2.3.1 Provide and maintain roads, bridges, footpaths, bike paths and car parks to appropriate standards

### SUMMARY

To review actions as stated in the Parking Strategy and provide direction for future parking regulation measures. This report will also outline initial arrangements for the new multi-level CBD car park.

### BACKGROUND

Council's Parking Strategy, adopted in February 2016 outlines a number of key actions to be undertaken in 2017, namely:

- Review span of hours for paid parking
- Explore parking incentives and variable pricing structures
- In conjunction with relevant stakeholders, explore future alternatives other than free parking days that may provide greater benefit to retailers
- Consider future direction and provision of free parking days
- Reword by-law to ensure parking infringements are rounded to an even dollar amount
- Enhance promotion of Best Street car park
- Finalise the pay by phone trial and consider future options
- Develop a more detailed and formal asset replacement program
- Explore and introduce an automatic process of uploading information from handheld infringement devices to the main payment system
- Determine technology to be used within the multi-storey car park
- Consider Pricing structure of Multi-Storey Car Park
- Explore options for creation of additional parking space in Southern CBD
- Complete vacancy and parking utilisation surveys in both Council and competitor car parks on an annual basis
- Review campervan, caravan and trailer parking
- Consider reduced parking rates or parking permits for new residential development within the CBD to encourage inner city living
- Develop a detailed permit policy
- Develop an improved aged, disability, service pension permit process/concession voucher booklet scheme
- Create a permit process specifically for tradespeople
- Review reserved parking utilisation
- Encourage visitors to the CBD to use off-street car parks through improvements to their design and operation
- Ensure that an adequate provision of disabled parking bays are provided in convenient locations (Dec 2017)
- Review pricing for Disabled Parking bays (Dec 2017)
- Review loading Zones including time limits and specific truck only zones (Dec 2017)
- Review provision and location of Taxi Zones (Dec 2017)
- Educate stakeholders about the capital and operating costs of parking resources in addition to their environmental and social implications

**Report to Council meeting on 25 September 2017**

---

- Review of bus shelters in Devonport for compliance and prioritisation of improvements
- Improved website information
- Information for retailers
- Complete signage review

This report aims to address a number of the items in the above list. Some others have been completed, whilst the due date for some remains later in 2017.

With the construction of the multi-level CBD car park nearing completion, decisions need to be made regarding the operation of the facility.

Council currently owns and operates 9 off-street car parks with a total parking capacity of 1,027 spaces for use by the public. Council also operates 440 metered on-street parking spaces.

There are also a number of private car parks within the CBD area, including the Kmart/ Coles/Woolworths and Hill Street Grocers car parks that Council regulate.

**STATUTORY REQUIREMENTS**

Council operates in accordance with a Parking By-law made under Section 145 of the *Local Government Act 1993* for the purpose of regulating and controlling the use of car parks belonging to or controlled by the Council and section 100 of the *Local Government (Highways) Act 1982* for the purpose of prescribing compositions under that Section.

The Parking Strategy lists the following principles which relate to the long term goals in the Devonport Strategic Plan 2009-2030:

- A high degree of accessibility to and within the CBD for workers, shoppers, and visitors is required for the vitality of Devonport (Devonport Strategic Plan 2009-2030 Long Term Goal 3);
- Parking strategy cannot be divorced from other aspects of planning including land use, transport, social infrastructure (Devonport Strategic Plan 2009-2030 Long Term Goals 2, 4 and 5); and
- Demand management, rather than demand satisfaction, is the more sustainable approach to parking provision (Devonport Strategic Plan 2009-2030 Long Term Goal 1)

Furthermore, relevant to this report, the Parking Strategy lists amongst its objectives:

- Improved demand management in CBD car parks
- Maximise use of existing Pay as You Leave (PAYL) car park facility
- Review and utilise new technology
- Complete construction of the Multi-Storey Car Park
- Encourage long-term parking in off-street car parks

**DISCUSSION**

**Multi-level CBD car park**

There are a number of considerations that need to be taken into account when establishing the opening arrangements for the multi-level CBD car park. The items include, but are not limited to: price; time increments; discounts and incentives; early bird or maximum rates; hours of operation; impact on other car parks and meters; historical parking increases; utilisation rates; public perception and existing LINC parking.

Technology in the car park will influence possible arrangements. The likely capabilities of the technology installed in the car park includes two pay stations, card readers, bar code readers and nested areas. The top level will become a nested area for longer-term parking with a current capacity of 194 spaces, with some of these likely to be used for State and Council vehicles.

Council have workshopped the above considerations and recommend the following starting position for the multi-level CBD car park.

- First thirty minutes free – users of the car park will not incur any fee until they have been within the car park for greater than thirty minutes.
- Fee - \$1 per 30 minutes increased in 30-minute increments. As an example, if a user parks in the car park for 31 minutes, they will pay \$1 and the next \$1 will be incurred at 61 minutes.
- All day parking rate – A \$5 maximum rate for any vehicle parked on the top level of the car park in the nested area.
- The car park will be operational 24 hours per day with the above rates to apply Monday to Friday 8.30am until 6.00pm. A \$2 maximum flat fee will apply after 6.00pm and on weekends.
- Reserved spaces are not intended as part of the operation of the multi-level CBD car park.

**Off Street parking – Pricing**

There is an opportunity to greatly improve consistency and clarify the intended use of each of Council's off-street car parks. The optimum time to complete this change would be on a consistent date, in line with the opening of the new carpark. As such, it is recommended that times and pricing is made consistent across the car parks.

There is to be two distinct classifications for car parks – “shopper” and “worker” where shopper designated car parks are tailored towards short stays and greater movement of vehicles and the worker car parks more focussed on longer parking periods. The designation is not to exclude either type of user of the car park, simply that the pricing structure will align more closely with the preferred use.

Shopper Car Parks	Worker Car Parks
Best Street Car Park	Payne Avenue Car Park
Edward Street Car Park	Fenton Way Car Park
Steele/King Street Car Park	Wenvoe Street Car Park
Fourways Car Park	
Formby Road Car Park	

As part of this realignment, it is recommended that:

- All off-street car parks (excluding the multi-level CBD car park and Victoria Parade) are moved to \$1.50 per hour. For the majority of car parks this is a reduction from the \$1.60 rate currently in place. The Wenvoe Street Car Park currently has a \$0.90 hourly rate with a \$4.50 daily maximum.
- Introduce a maximum daily rate consistent with the Multi-Level CBD car park of \$5 in the designated longer stay car parks, being Payne Avenue, Fourways, Fenton Way and Wenvoe Street.



Report to Council meeting on 25 September 2017

- Victoria Parade \$0.60 per hour (maximum \$3.60) will remain unchanged until the finalisation of the existing lease.

The above changes are designed to encourage shoppers in car parks closest to the shopping locations of the Mall and LIVING CITY and may attract some workers from the outskirts of the CBD to use car parks.

As a result of the above changes, all permits will need review to ensure pricing remains relevant.

**On Street Parking - Meters**

It is proposed to introduce a multi-tiered pricing structure which applies a higher rate for “premium” spaces and a lower rate for meters in the fringe areas of the CBD. Essentially, pricing for the parking meters decreases as you get further from the CBD.

Meters are a premium parking option, therefore they should attract a higher price than car parks.

As part of this parking review, it is recommended that:

- Meters in the main CBD area attract a rate of \$2 per hour and meters in the outlying streets incur a fee of \$1.50 per hour or less as appropriate
- Consideration is given to extending parking limits (ie times) on meters in the outlying streets (ie parking may be permitted for two or three hours rather than the existing one hour maximum). An indicative map is displayed below as a guide showing green areas as possible premium parking and blue as second tier parking:



Existing meters attract \$1.80 per hour and have a maximum length stay of one hour, with the exception of Wenvoe and Macfie Streets, which have a two-hour limit.

**Span of hours:**

It is recommended that all off-street car parks and on-street meters charge for the same period, that being 8:30am – 6:00pm.

On Saturdays, paid parking will apply from 8.30am until 2:00pm. This is a reintroduction of paid parking in car parks on Saturdays. There are significant issues with CBD workers using the off-street car parks on Saturdays and not allowing sufficient spaces for shoppers and visitors. Retailers, through the Devonport Chamber of Commerce and Industry’s Retail Committee, have encouraged Council to consider implementing measures to address the congestion of spaces caused by workers on a Saturday. Paid parking rates on Saturday

will apply to designated "shopper" car parks with "worker" car parks being charged a \$2 flat fee, consistent with the multi-level CBD car park.

Sundays and public holidays will incur no charge in all car parks with the exception of the multi-level CBD car park.

### **Free parking days**

From 1 January 2011 (Min 356/10 refers), Council introduced free parking days for special events such as Devonport Jazz, Burnie Show, Easter Thursday, Christmas Parade and Launceston Show in Council owned car parks. Subsequent reports and evidence shows that these days are not achieving the desired aim of increasing the numbers of shoppers in the CBD. Conversely, they simply create additional problems through workers parking in the free spaces and create extra expenses for advertising. There continues to be confusion that free parking only relates to off-street carparks and not to parking meters or other parking restricted zones.

It is recommended that the existing free parking days are removed. Council is currently preparing a revised Retail Strategy. Consideration should be taken throughout the development of this document to explore other parking incentives and approaches that may attract increased patronage of retailers and car parks through quieter periods.

### **COMMUNITY ENGAGEMENT**

The Devonport Chamber of Commerce and Industry's Retail Committee have been consulted regarding the content of the report and provided in-principle support of the proposed changes. Following a meeting with the Retail Committee they advised *"The committee is in agreement with the parking strategy in principle, however we recommend that the parking in the Formby Road (CMax) car park, Best Street car park and the Edward Street car park not be a part of the \$2 Saturday parking; that parking in these car parks still pay per hour between 8:30am and 2pm on Saturdays. Easypark needs more awareness with advertising and promotion so the public can utilise more effectively and understand how to use."*

A number of workshops have been held with Aldermen to discuss the items within this report.

### **FINANCIAL IMPLICATIONS**

It is difficult to quantify the impact of the above changes. Council's adopted Financial Plan states that in year three of the operation of the multi-level CBD car park \$530,600 of income will be achieved. This equates to 2.25 hours paid per day per space. Of greater importance is the parking income across all car parks with this proposal prepared as a package rather than a focus on the financial performance of each specific car park. It is known that infringement revenue will decrease as a result of use of the new car park.

Off-street car park fees have been reduced and all-day rates will reduce income for Council. Conversely, reintroducing Saturday parking, removing free parking days and increasing span of hours to be consistent will have a positive effect on income. Despite an increase in operating hours, parking enforcement labour costs will be maintained at current levels.

Altering signage, advertising the changes and reprogramming machines will incur an operational cost, possibly in the vicinity of \$20,000 to \$40,000. Changes will be made progressively and spaces monitored and enforced in accordance with the signage.

### **RISK IMPLICATIONS**

Parking is an emotive topic. There is likely to be negative comment, regardless of the merits of any proposed change. Retailers will have the opportunity to provide further comment through the creating of a Retail Strategy, but changes to the technology offered as part of the new car park will allow proactive retailers the opportunity to develop parking incentives for their customers.

### **CONCLUSION**

The changes outlined in the report are many. In summary, in relation to the multi-level CBD car park, the report recommends that:

- The multi-level CBD car park operates 24/7
- An all-day \$5 parking rate applies to top level only
- First 30 minutes free
- Fees are \$1 per 30 minutes increased in 30-minute increments with a flat fee on weekends and after hours

Other changes to parking regulation recommended include:

- Off Street car parks are charged \$1.50 per hour, a reduction to most current rates
- Maximum daily rates of \$5 apply to designated worker car parks
- Operating hours of car parks and meters are made consistent and operate from 8:30am – 6:00pm Monday to Friday
- Designated shopper car parks attract paid parking rates on Saturday from 8.30am until 2pm with “worker” car parks being charged a \$2 flat fee
- A multi-tiered meter pricing structure is introduced
- Free parking days are removed

Further parking matters as outlined in the parking strategy will be the subject of future reports.

### **ATTACHMENTS**

Nil

### **RECOMMENDATION**

That in accordance with Section 205 of the *Local Government Act 1993* the Fees and Charges Schedule be amended to include:

1. The initial fee structure for the Multi level CBD car park, to take effect from the commencement of operation of the new car park, to be:
  - a) First thirty minutes free.
  - b) Fee - \$1 per 30 minutes increased in 30-minute increments.
  - c) A \$5 maximum rate for any vehicle parked on the top level of the car park in the nested area.
  - d) The car park will be operational 24 hours per day with rates as per b) and c) to apply Monday to Friday 8.30am until 6.00pm.
  - e) A \$2 maximum flat fee will apply after 6.00pm and on weekends.
2. Two distinct classifications for off street car parks – “shopper” and “worker” with Best, Edward, Steele/King, Fourways and Formby Road car parks being designated

shopper car parks and Payne Avenue, Fenton Way and Wenvoe Street being worker parking, with pricing to take effect from 1 January 2018:

- a) All off-street car parks (excluding the multi-level CBD car park and Victoria Parade) are moved to \$1.50 per hour.
  - b) A maximum daily rate of \$5 in the designated worker car parks, being Payne Avenue, Fenton Way and Wenvoe Street.
  - c) Paid parking rates on Saturday will apply to designated "shopper" car parks from 8.30am until 2pm with "worker" car parks being charged a \$2 flat fee.
3. A multi-tiered pricing structure for on-street meters, effective from 1 January 2018 which applies a higher rate for "premium" spaces and a lower rate for meters in the fringe areas of the CBD, where meters in the main CBD area attract a rate of \$2 per hour and meters in the outlying streets incur a fee of \$1.50 per hour or less as appropriate.
4. All off-street car parks and on-street meters charge for the same period, that being 8:30am – 6:00pm Monday to Friday with Saturdays treated as per 1 and 2 above.
5. Existing designated free parking days are removed with consideration of parking incentives to be undertaken as part of a Retail Strategy review.

Author:	Shane Crawford	Endorsed By:	Paul West
Position:	Executive Manager Corporate, Community & Business Services	Position:	General Manager

## 5.7 TENDER REPORT CT0205 TORQUAY ROAD RECONSTRUCTION

File: 33880 D490889

### RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

Strategy 2.3.1 Provide and maintain roads, bridges, footpaths, bike paths and car parks to appropriate standards

### SUMMARY

This report seeks Council's approval to award Contract CT0205 for the Torquay Road Reconstruction, to Kentish Construction and Engineering Company Pty Ltd (trading as Treloar Transport).

### BACKGROUND

This report considers tenders received for "Torquay Road Reconstruction Canning Drive East to Canning Drive West" listed within the 2017/18 capital expenditure budget.

The project involves the replacement of pavement, sections of kerb & channel and installation of subsoil drain. This section of works is between two previous sections of Torquay Road renewed in 2014/15 and 2015/16, from Canning Drive East to Canning Drive West.

The road is in poor condition with multiple patches and failures. Extensive maintenance work would be required to achieve even a short extension of the life of these assets.

### STATUTORY REQUIREMENTS

Council is required to comply with Section 333 of the *Local Government Act 1993* and its adopted Code for Tenders and Contracts when considering awarding tenders.

### DISCUSSION

In accordance with Council's Code of Tenders and Contracts, a Tender Planning and Evaluation Committee was formed to evaluate the tenders received.

Tenders were received from six companies. All tenders received were conforming tenders and are summarised in table 1.

**TABLE 1**

No.	Tender	Status	Tender Price (ex GST)
1	Kentish Construction and Engineering Company Pty Ltd (trading as Treloar Transport)	Conforming	\$270,897
2	Hardings Hotmix Pty Ltd	Conforming	\$299,999
3	Civilscape Contracting Tasmania Pty Ltd	Conforming	\$300,910
4	Pearce Civil Pty Ltd	Conforming	\$318,674
5	ATM Construction Pty Ltd	Conforming	\$324,820
6	Walters Construction Pty Ltd	Conforming	\$360,328

As highlighted in the above table, Kentish Construction & Engineering Company Pty Ltd tender of \$270,897 is the lowest priced. The Tender Planning and Evaluation Committee have considered the tenders against each of the selection criteria, these being:

---

 Report to Council meeting on 25 September 2017
 

---

- Relevant Experience
- Quality, Safety and Environmental Management
- Methodology
- Price

The evaluation by the committee indicates that Kentish Construction & Engineering Company Pty Ltd scored highest overall against the selection criteria and therefore offers Council the best value for money.

The Tender Planning and Evaluation Committee minutes are available for Aldermen to view if desired.

### COMMUNITY ENGAGEMENT

A public advertisement calling for tenders was placed in the Advocate Newspaper on 12 August 2017 and tenders were also advertised on Council's website.

### FINANCIAL IMPLICATIONS

The 2017/18 capital expenditure budget includes an allocation for the "Torquay Road Reconstruction Canning Drive East to Canning Drive West" project of \$400,000.

The breakdown of the budget for this project is summarised below in table 2.

**TABLE 2**

No.	Tender	Budget (ex GST)
1	Contract CT0205	\$270,897
2	Project management/administration	\$20,000
3	Construction contingency	\$40,635
	<b>TOTAL</b>	<b>\$331,532</b>

The contingency allowance for this project is 15% of the contract price. This is based on the contingency required on the previous two projects on Torquay Road.

### RISK IMPLICATIONS

To minimise risk, the tender administration processes related to this contract comply with Council's Code for Tenders and Contracts which was developed in compliance with Section 333 of the *Local Government Act 1993*.

### CONCLUSION

Taking into account the selection criteria assessment, the Tender Planning and Evaluation Committee has determined that Kentish Construction & Engineering Company Pty Ltd meets Council's requirements and is therefore most likely to offer "best value" in relation to Contract CT0205 for the Torquay Road Reconstruction.

### ATTACHMENTS

Nil



**RECOMMENDATION**

That Council, in relation to Contract CT0205 Torquay Road Reconstruction:

- a) award the contract to Kentish Construction & Engineering Company Pty Ltd for the tendered sum of \$270,897 (ex GST);
- b) note that design, project management and administration for the project are estimated to cost \$20,000 (ex GST); and
- c) note a construction contingency of \$40,635 (ex GST) has been included.

Author:	Shannon Eade	Endorsed By:	Matthew Atkins
Position:	Project Management Officer	Position:	Deputy General Manager

## 6.0 INFORMATION

### 6.1 WORKSHOPS AND BRIEFING SESSIONS HELD SINCE THE LAST COUNCIL MEETING

Council is required by Regulation 8(2)(c) of the *Local Government (Meeting Procedures) Regulations 2015* to include in the Agenda the date and purpose of any Council Workshop held since the last meeting.

Date	Description	Purpose
04/09/2017	Planning Local Provisions	Presentation on the process for development of the local provisions associated with the new State-wide Planning Scheme.
	Cradle Coast Authority	Representatives of the Cradle Coast Authority attended to update Aldermen on CCA activities.
	Industry Group Prospectus	Representatives of the DCCI Industry Group attended to discuss with Aldermen the proposed development of an Industry Prospectus.
	FOGO (Food Organics and Garden Organics)	An initiative of the Cradle Coast Waste Management Group; an outline of the investigations undertaken on the prospect of a regional FOGO collection service.
	Bluff Cemetery	A local resident has raised concerns with Council regarding recognition of those buried at the Bluff Cemetery.
	LIVING CITY Works Schedule	An update on the works schedule associated with Stage 1 of LIVING CITY.
	Masters Games	An update on preparation for the Masters Games to be held in the region from 21-28 October.
	Former Maternity Hospital Site	Discussion regarding demolition tenders for the former Maternity Hospital.
	Election Priorities	With a State election likely in the near future discussion around funding priorities.

## RECOMMENDATION

That the report advising of Workshop/Briefing Sessions held since the last Council meeting be received and the information noted.

Author:	Robyn Woolsey	Endorsed By:	Paul West
Position:	Administration Officer	Position:	General Manager

## 6.2 MAYOR'S MONTHLY REPORT

File: 22947 D454206

### RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

- Strategy 5.3.2 Provide appropriate support to elected members to enable them to discharge their functions

### SUMMARY

This report details meetings and functions attended by the Mayor.

### BACKGROUND

This report is provided by the Mayor to provide a list of meetings and functions attended by him for the month of August 2017.

### STATUTORY REQUIREMENTS

There are no statutory requirements which relate to this report.

### DISCUSSION

In his capacity as Mayor, Alderman Steve Martin attended the following meetings and functions during the month August 2017:

- Radio 7AD interviews
- City of Devonport Scouts Group Scarf Day
- Koinz 4 Kids High Tea – Gateway
- Resident meetings
- Devonport Food & Wine Festival Committee meeting
- Deputy Mayor Annette Rockliff
- Grant Hinchcliffe CEO Tasmanian Independent Retailers – Launceston
- Building Families Special Interest Group Committee meeting
- Michael Campbell – Maidstone Park Controlling Authority
- Devonport LINC "Living Room"
- Our Lady of Lourdes General Assembly Guest Speaker
- Devonport Basketball Council Annual Dinner
- Sea Walk Forum – St. Brendan Shaw College
- Ladies Probus Club – Guest Speaker – LIVING CITY
- ANZ Bank – Allana Dick
- DCCI Industry Group meeting at Mersey Link
- Devonport Camera Club
- Devonport Primary School
- Probus Club of Mersey, Guest Speaker LIVING CITY - Latrobe
- Brian Weber, C3 Church
- Splash Aquatic Centre
- Harmony Day Committee meeting
- Australian Masters Games meetings
- Valley Road – Terry White Chemmart Pharmacy launch
- Garry Smith, BMX bikes
- Nixon Street Primary School
- Tim Cox, Drysdale House
- Beacon Speed Career Dating – Reece High School
- HMAS Stuart Representatives

Report to Council meeting on 25 September 2017

---

- Dame Enid Lyons Charity Trust
- Active City Committee
- Steve Longmore, Hill Street Grocers
- Peter Bird, Principal Devonport High School
- Chat n Choose
- Media event – announcement Steele St. Maternity Hospital with Deputy Premier Jeremy Rockliff
- MC at National Celebration Dinner Book of the Year announcing Mem Fox recipient of Nan Chauncy Award – Hobart
- ABC Television interview - Hobart
- Football Federation of Tasmania Annual Dinner – Hobart
- Official Welcome National Indoor Bowls Bias Championships
- Melrose Hall Committee AGM
- Radio Sea FM interview
- Tasmania talks Brian Carlton interview
- LIVING CITY Workshop with P&I
- Officially opened National Indoor Bowls Bias Championships
- Health nutritionist Shellie Wakefield
- LIVING CITY Branding Forums with Ald Emmerton, Ald Jarman, Ald Laycock, Ald Matthews, Ald Milne & community representatives
- Australian Bureau of Agricultural and Resource Economics and Sciences Conference
- Devonport Christian School official opening new car park
- Cradle Coast Authority
  - Coastal Pathways Meeting
  - Representatives Meeting
- Our Lady of Lourdes “Danger Kids” Production
- Kevin Maynard TT Line
- Official Close & Presentations National Indoor Bowls Bias Championships
- Australian Masters Games Breakfast, Devonport Primary Schools
- Devonport City Soccer Club presentation to Council
- LGAT General Management Committee – Launceston
- East Devonport Primary School Grades 3 & 4 Council tours
- Advocate Newspaper interview with Nixon Street Primary School students – Australian Masters Games Opening Ceremony & DFWF
- Kim McVeity, B4 early Years Coalition
- Devonport Readers Cup, 8 Primary School visits
- Shane Broad MP
- Welcoming event – Junior Road Cycling National Championships

**ATTACHMENTS**

Nil

**RECOMMENDATION**

That the Mayor's monthly report be received and noted.

## 6.3 GENERAL MANAGER'S REPORT - SEPTEMBER 2017

File: 29092 D462046

### RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

- Strategy 5.8.2 Ensure access to Council information that meets user demands, is easy to understand, whilst complying with legislative requirements

### SUMMARY

This report provides a summary of the activities undertaken by the General Manager, 24 August to 20 September 2017. It also provides information on matters that may be of interest to Aldermen and the community.

### BACKGROUND

The report is provided on a regular monthly basis and addresses several management and strategic issues currently being undertaken by Council. The report also provides regular updates in relation to National, Regional and State based local government matters as well as State and Federal Government programs.

### STATUTORY REQUIREMENTS

Council is required to comply with the provisions of the *Local Government Act 1993* and other legislation. The General Manager is appointed by the Council in accordance with the provisions of the Act.

### DISCUSSION

#### 1. COUNCIL MANAGEMENT

- 1.1. Attended and participated in several internal staff and management meetings.
- 1.2. Attended Workshops, Section 23 Committee and Council Meetings as required.
- 1.3. Participated in a presentation by Council's Information Technology provider relating to advancements in cloud computing.
- 1.4. With a number of staff participated in an 'in-house' LEAN training session. LEAN is about identifying and implementing improved business processes to reduce waste and re-work.

#### 2. LIVING CITY

- 2.1. Participated in a LIVING CITY Working Group meeting. This is a regular meeting where Council officers and representatives of P+i Group discuss progress and activities associated with the project.
- 2.2. Attended a briefing with the consultant appointed to assist Council with branding of the new LIVING CITY precinct but in particular the conference centre and integrated arts precinct. The outcome of the branding workshops held during the last week of August will be discussed with Aldermen at the scheduled 2 October Workshop.
- 2.3. Chaired a meeting of the LIVING CITY Steering Committee established to meet requirements outlined in the development agreement between Council and the State Government. The Steering Committee includes members representing LINC; Service Tasmania, Treasury and Department of State Growth.

The main purpose of the Steering Committee is to monitor progress on the development of the multi-purpose building and ensuring a coordinated response is provided to matters to be determined.

3. COMMUNITY ENGAGEMENT (RESIDENTS & COMMUNITY GROUPS)

- 3.1. Met with property owners to discuss a matter relating to building improvements proposed to encroach over a Council footpath.
- 3.2. Attended an on-site meeting with the Chairman and CEO of Meercroft Home for the Aged. The purpose of the meeting was to further discuss and understand a proposal by Meercroft for changes to traffic access and movements in North/Clements Streets.
- 3.3. Along with the Mayor and other Aldermen met with the President of the Devonport Soccer Club for an update on their activities and future plans.
- 3.4. Attended the launch of the 2017 Devonport Food & Wine Festival at Home Hill.
- 3.5. Met with a local resident regarding the opportunity for a business acquisition in Devonport.
- 3.6. Met with a developer interested in securing property in Devonport for development purposes.

4. NATIONAL, REGIONAL AND STATE BASED LOCAL GOVERNMENT

- 4.1. Attended a meeting coordinated by the Cradle Coast Authority to discuss the proposal for a coastal pathway stretching from Latrobe to Wynyard. The purpose of the meeting was to discuss the way the development of a pathway can be pursued particularly following the recent announcement for the creation of the Cooee to Wynyard section on the former railway line.
- 4.2. As an appointed Council representative, together with the Mayor attended the Cradle Coast Authority Representatives Meeting. Matters considered on the agenda included:
  - Quarterly Report & Financial Statements
  - Cradle Coast Authority Rule Amendments
  - Meeting Minutes
  - Cruise Ships
  - Economic & Community Data Profile Service
  - Strategic Corporate Plan
  - Shared Services
  - Waste Management Governance
  - Cradle Mountain Master Plan
  - Coast Pathway
- 4.3. As a member of the Shared Services Steering Group attended a meeting to finalise feedback to the consultants engaged to undertake the regional shared services study. It is expected that the Shared Services Report will be made available to all Cradle Coast Councils in the near future.

For information purposes only - Under clause 4.2 of the Memorandum of Understanding between the State Government and the Cradle Coast Council it was agreed *“that discussions on the development of the feasibility study are confidential and it is agreed that any public release of information during the development and finalisation of the feasibility study will require authorisation from the Minister for Local Government and the Project Steering Group*



*appointed by the councils' to manage and coordinate the shared services study.*

*The parties agree that there will be a joint media release between the Minister and the Mayors of the Cradle Coast Councils when the feasibility study is completed and released".*

5. STATE AND FEDERAL GOVERNMENT PROGRAMS

- 5.1. At Council's meeting on 20 October 2014, it determined "That the Council make representation to the State Government for positioning the base for the Police Department's second all weather sea going patrol vessel at Devonport". A formal response from Minister Rene Hidding has now been received and is attached for information.
- 5.2. With the Mayor met with the Hydro Project Manager appointed to investigate future development opportunities for Tasmania to make a greater contribution to the national energy market. The outline provided indicates that the Mersey/Forth area are potentially integral to the further development of the pumped hydro storage opportunities.

**COMMUNITY ENGAGEMENT**

The information included above details any issues relating to community engagement.

**FINANCIAL IMPLICATIONS**

Any financial or budgetary implications related to matters discussed in this report will be separately reported to Council.

There is not expected to be any impact on the Councils' operating budget as a result of this recommendation.

**RISK IMPLICATIONS**

Any specific risk implications will be outlined in the commentary above. Any specific issue that may result is any form of risk to Council is likely to be subject of a separate report to Council.

**CONCLUSION**

This report is provided for information purposes only and to allow Council to be updated on matters of interest.

**ATTACHMENTS**

1. Reply Letter From Minister For Infrastructure Minister For Police, Fire And Emergency Management
2. Current and Previous Minute Resolutions Update - September 2017
3. CONFIDENTIAL - Current and Previous Minute Resolutions Update - Confidential September 2017

**RECOMMENDATION**

That the report of the General Manager be received and noted.

Author:	Paul West
Position:	General Manager

03/08/2017 D485279

**Minister for Infrastructure  
Minister for Police, Fire and Emergency Management**Level 1, Franklin Square Office, Hobart TAS 7000  
Ph: (03) 6165 7686

1 AUG 2017

Alderman Steve Martin  
Mayor  
Devonport City Council  
PO Box 604  
DEVONPORT TAS 7310A handwritten signature in black ink, appearing to read "Steve".  
Dear Mayor

Thank you for your correspondence of 3 July 2017.

I have referred your letter of offer to the Commissioner of Police who is responsible for all police vessels operated by Tasmania Police across the State. I have been advised of the following:

Tasmania Police have a number of trailer-able vessels strategically based around the state with appropriately trained personnel to operate the vessels. One of these vessels is usually located at Devonport. The larger vessels, namely the PV Van Diemen and the PV Vigilant, are operated out of Marine and Rescue Services which is located in Hobart. The PV Cape Wickham too will be operated out of Hobart. The Skippers and crews of these vessels are all attached to that office.

Tasmania Police currently have berthing facilities at Victoria Dock, Hobart and the Motor Yacht Club of Tasmania, Lindisfane. An additional berth is maintained at Beauty Point which enables one of the larger vessels to be berthed there, from time to time, when not in Hobart. The berth at Beauty Point has been operated by Tasmania Police for a number of years.

Significant funding has been expended in maintaining the existing berthing arrangements which are deemed by Tasmania Police to suit their current requirements, particularly from operational and logistical perspectives. Upgrades, such as electrical installations, have been put in place for berthing of the PV Cape Wickham, signifying investment in those facilities.

In totality, it is not considered operationally expedient to alter the current arrangements for berthing of the larger vessels into the foreseeable future. It is envisaged that the PV Van Diemen and the PV Cape Wickham will visit Devonport into the future as part of the general patrol regime undertaken by Tasmania Police, Marine and Rescue Services.

Thank you for your interest in this matter.

Yours sincerely

A large, stylized handwritten signature in black ink, appearing to read "Rene Hidding".  
Hon M.T. (Rene) Hidding MP  
Minister for Police, Fire and Emergency Management

## Current and Previous Minute Resolutions Update

OPEN SESSION Current Resolutions	
<b>Resolution Title:</b>	<b>Support for Helipad – Mersey Community Hospital – Notice of Motion – Ald G F Goodwin (D486687)</b>
<b>Date:</b>	28 August 2017
<b>Minute No.:</b>	149/17
<b>Status:</b>	Completed
<b>Responsible Officer:</b>	General Manager
<b>Officers Comments:</b>	Letter sent to Minister Ferguson 30 August 2017
<b>Resolution Title:</b>	<b>AM2017.01 Rezoning from General Residential to Commercial and PA2017.0062 Transport Depot and Distribution &amp; Storage – 26 North Caroline Street East Devonport (D485987)</b>
<b>Date:</b>	28 August 2017
<b>Minute No.:</b>	150/17
<b>Status:</b>	In progress
<b>Responsible Officer:</b>	Deputy General Manager
<b>Officers Comments:</b>	Statutory advertising period underway.
<b>Resolution Title:</b>	<b>AM2017.02 &amp; PA2017.0101 Rezoning from Port and Marine Zone to Local Business Zone to Allow the Development of a Retail Complex – 2-12 Murray Street, East Devonport (D487893)</b>
<b>Date:</b>	28 August 2017
<b>Minute No.:</b>	151/17
<b>Status:</b>	In progress
<b>Responsible Officer:</b>	Deputy General Manager
<b>Officers Comments:</b>	Statutory advertising period underway. Due to advice of TPC, advertising period extended to 18/10/2017.
<b>Resolution Title:</b>	<b>Tender Report contract CT0175 Victoria Parade Carpark Reconstruction (D484744)</b>
<b>Date:</b>	28 August 2017
<b>Minute No.:</b>	152/17
<b>Status:</b>	Completed
<b>Responsible Officer:</b>	Deputy General Manager
<b>Officers Comments:</b>	Contract awarded.

<b>Resolution Title:</b>	<b>Tender Report – Contract CB0080 Devonport Entertainment and Convention Centre/Art Gallery Integration Project (D486391)</b>
<b>Date:</b>	28 August 2017
<b>Minute No.:</b>	153/17
<b>Status:</b>	Completed
<b>Responsible Officer:</b>	Deputy General Manager
<b>Officers Comments:</b>	Contract awarded.
<b>Resolution Title:</b>	<b>Crown Land Transactions for LIVING CITY (D486467)</b>
<b>Date:</b>	28 August 2017
<b>Minute No.:</b>	154/17
<b>Status:</b>	Completed
<b>Responsible Officer:</b>	Deputy General Manager
<b>Officers Comments:</b>	Documentation executed.
<b>Resolution Title:</b>	<b>Devonport Men's Shed Inc – Partnership Agreement</b>
<b>Date:</b>	28 August 2017
<b>Minute No.:</b>	155/17
<b>Status:</b>	Completed
<b>Responsible Officer:</b>	Executive Manager Corporate, Community & Business
<b>Officers Comments:</b>	Agreement signed by both Council and the Devonport Men's Shed.
<b>Resolution Title:</b>	<b>TasWater – State Government Takeover</b>
<b>Date:</b>	28 August 2017
<b>Minute No.:</b>	156/17
<b>Status:</b>	Completed
<b>Responsible Officer:</b>	General Manager
<b>Officers Comments:</b>	LGAT advised of Council's decision.
<b>Resolution Title:</b>	<b>80-82 River Road, East Devonport – Objections to Disposal (D485176)</b>
<b>Date:</b>	28 August 2017
<b>Minute No.:</b>	157/17
<b>Status:</b>	Completed
<b>Responsible Officer:</b>	General Manager
<b>Officers Comments:</b>	Letters sent to objectors advising of Council's decision 31 August 2017.

<b>Resolution Title:</b>	<b>Proposed Sale of Land – 24-26 Triton Road, East Devonport (D485382)</b>
<b>Date:</b>	28 August 2017
<b>Minute No.:</b>	158/17
<b>Status:</b>	In progress
<b>Responsible Officer:</b>	General Manager
<b>Officers Comments:</b>	Valuation requested, EOI prepared for real estate agent services.
<b>Resolution Title:</b>	<b>Public Question Time Policy (D486805)</b>
<b>Date:</b>	28 August 2017
<b>Minute No.:</b>	159/17
<b>Status:</b>	Completed
<b>Responsible Officer:</b>	General Manager
<b>Officers Comments:</b>	Policy on website, changes made to Council agendas.
<b>Resolution Title:</b>	<b>Annual General Meeting (D487267)</b>
<b>Date:</b>	28 August 2017
<b>Minute No.:</b>	160/17
<b>Status:</b>	Completed
<b>Responsible Officer:</b>	General Manager
<b>Officers Comments:</b>	Date noted for 30 October 2017
<b>Resolution Title:</b>	<b>Tender Report Contract CT0189 Buster Road Renewal (IWC 27/17)</b>
<b>Date:</b>	28 August 2017
<b>Minute No.:</b>	166/17
<b>Status:</b>	Completed
<b>Responsible Officer:</b>	Deputy General Manager
<b>Officers Comments:</b>	Contract awarded.
<b>Resolution Title:</b>	<b>Cradle Coast Waste Management Group Strategic Plan 2017-2022 (IWC 30/17)</b>
<b>Date:</b>	28 August 2017
<b>Minute No.:</b>	166/17
<b>Status:</b>	Completed
<b>Responsible Officer:</b>	Deputy General Manager
<b>Officers Comments:</b>	CCWMG advised of Council's decision.

Previous Resolutions Still Being Actioned	
<b>Resolution Title:</b>	<b>Multi-Purpose and Arts Centre – Branding (D479354)</b>
<b>Date:</b>	24 July 2017
<b>Minute No.:</b>	122/17
<b>Status:</b>	In Progress
<b>Responsible Officer:</b>	Executive Manager Corporate, Community & Business Services
<b>Officers Comments:</b>	Design Eye Creative appointed. Focus Groups held. Draft to be workshopped with Council on 2/10/2017
<b>Resolution Title:</b>	<b>Sports Carnivals Association of Tasmania – Application for Funding (GFC 04/17 – 17 July 2017)</b>
<b>Date:</b>	24 July 2017
<b>Minute No.:</b>	131/17
<b>Status:</b>	Completed
<b>Responsible Officer:</b>	Executive Manager Corporate, Community & Business Services
<b>Officers Comments:</b>	Confirmed funding \$5K + \$5K towards the criterium event.
<b>Resolution Title:</b>	<b>Extra Disability Parking Bay in CMax Carpark – Ald A J Jarman (D476646)</b>
<b>Date:</b>	26 June 2017
<b>Minute No.:</b>	94/17
<b>Status:</b>	In progress
<b>Responsible Officer:</b>	Executive Manager Corporate Community & Business
<b>Officers Comments:</b>	A report to be tabled at the October Infrastructure, Works & Development Section 23 Committee which will include broader discussion regarding disability parking.
<b>Resolution Title:</b>	<b>Waste Management Review (IWC 23/17 – 13 June 2017)</b>
<b>Date:</b>	26 June 2017
<b>Minute No.:</b>	107/17
<b>Status:</b>	In progress
<b>Responsible Officer:</b>	Infrastructure & Works Manager
<b>Officers Comments:</b>	Work has commenced to roll-out the changes to the Commercial Collection Service.
<b>Resolution Title:</b>	<b>Harbourmaster's Café – Erection of Commercial Umbrellas</b>
<b>Date:</b>	27 February 2017
<b>Minute No.:</b>	20/17
<b>Status:</b>	In progress
<b>Responsible Officer:</b>	General Manager
<b>Officers Comments:</b>	All documentation lodged by the proponent and provided to Crown Land Services for approval.



<b>Resolution Title:</b>	<b>Feasibility Study – development mobile phone app (Community Services Committee – 12 December 2016)</b>
<b>Date:</b>	19 December 2016
<b>Minute No.:</b>	238/16
<b>Status:</b>	In progress
<b>Responsible Officer:</b>	Executive Manager Corporate Community & Business Services
<b>Officers Comments:</b>	Development of a Devonport Information Mobile application is an action of the Digital Strategy, with a medium priority to be completed in 3-5 years only if external funds can be sourced.
<b>Resolution Title:</b>	<b>Funding &amp; Assistance – Home Hill – NOM – Ald Laycock</b>
<b>Date:</b>	26 September 2016
<b>Minute No.:</b>	170/16
<b>Status:</b>	In progress
<b>Responsible Officer:</b>	Executive Manager Corporate Community & Business Services
<b>Officers Comments:</b>	Meeting with National Trust General Manager Matthew Smithies 8 September 2017. National Trust to commence review and develop business plan. Landscape Management plan development commenced.
<b>Resolution Title:</b>	<b>Pay by Phone Parking Technology – Review (Governance &amp; Finance committee – 19 September 2016)</b>
<b>Date:</b>	26 September 2016
<b>Minute No.:</b>	181/16
<b>Status:</b>	In progress
<b>Responsible Officer:</b>	Executive Manager Corporate Community & Business Services
<b>Officers Comments:</b>	Documentation prepared for release at appropriate time.

## **6.4 UNCONFIRMED MINUTES - CRADLE COAST AUTHORITY - REPRESENTATIVES MEETING - 24 AUGUST 2017**

File: 31710 D492042

### **RELEVANCE TO COUNCIL'S PLANS & POLICIES**

Council's Strategic Plan 2009-2030:

Strategy 5.1.4 Develop and maintain partnerships and advocate for improved service provision, funding and infrastructure

### **SUMMARY**

To provide Council with the unconfirmed minutes of the Cradle Coast Authority Representative's meeting which was held on 24 August 2017.

### **BACKGROUND**

As a member of the Cradle Coast Authority, Council is provided with a copy of the minutes.

### **STATUTORY REQUIREMENTS**

There are no statutory requirements which relate to this report. Under the Authority's Rules, minutes of Representatives meetings and the Annual General meeting can be considered by Council in open session.

### **DISCUSSION**

The unconfirmed minutes of the Cradle Coast Authority Representatives meeting which was held on 24 August 2017 are attached for consideration.

From the minutes, it is noted that:

- The Representatives considered proposed Rule amendments. They resolved that the Working Group would further review proposed changes and authorised the Chief Representative to consult out of session and formally provide the Rules for endorsement of Participating Councils at the appropriate time.
- It was determined by special resolution to increase the number of Board directors from 7 to 8.

### **COMMUNITY ENGAGEMENT**

There was no community engagement as a result of this report

### **FINANCIAL IMPLICATIONS**

There are no financial implications as a result of this report.

### **RISK IMPLICATIONS**

There are no risk implications as a result of this report.

### **CONCLUSION**

The unconfirmed minutes of the Cradle Coast Authority Representatives meeting which was held on 24 August 2017 are presented.

**ATTACHMENTS**

1. Unconfirmed Minutes - Cradle Coast Authority - Representatives Meeting - 24 August 2017

**RECOMMENDATION**

That the unconfirmed minutes of the Cradle Coast Authority Representatives meeting which was held on 24 August 2017 be received and noted.

Author:	Karen Hampton	Endorsed By:	Paul West
Position:	Governance Coordinator	Position:	General Manager

## REPRESENTATIVES MEETING

### 24 AUGUST 2017

---



## MEETING HIGHLIGHTS

### **New CCA Chairperson**

Mr Sid Sidebottom was welcomed to his first meeting of the Cradle Coast Representatives. Mr Sidebottom thanks the Representatives for the opportunity to work with the councils to make the region a better place for the current and future community. Mr Sidebottom believes that there are significant benefits that can be achieved by the Representatives and CCA working together in solidarity.

### **Cradle Coast Authority Corporate Plan**

The Cradle Coast Authority's 2017-2020 Corporate Plan was endorsed by Representatives. The Corporate Plan has been developed over the past three months following a two-day workshop with council representatives, industry and community leaders and the CCA. The Board used the information from the workshop to develop a corporate plan that identifies specific priorities, key result areas and related strategic actions it will address over the next three years. The Corporate Plan will be presented to the broader council community.

### **Australian Masters Games Update**

The General Manager Australian Masters Games (AMG), Mr Scott Wade, advised Representatives that the 5,000-participant target was on track with over 4,200 participants already registered. The cost of registration for Tasmanian's will be left at the discounted early bird rate to encourage greater local participation.

In a first for Australia, AMG volunteers will be able to receive formal accreditation by undertaking an online training program developed by UTas. This will have a legacy value for the region with volunteers gaining new and enhanced skills that will be able to be used for future events and activities in the region.

### **North West Coastal Pathway Project**

Representative's reaffirmed the North West Coastal Pathway as a project of regional significance noting its tourism, economic development and community health related benefits. It was agreed to engage an engineering consultant to address information gaps that were preventing the project from being development ready as a whole. The completion of this work will increase the project's attractiveness for Government co-investment.

## MEETING MINUTES

### REPRESENTATIVES MEETING

---



Date: 24 August 2017  
Time: 10:00am  
Location: Cradle Coast House, 1-3 Spring St, Burnie.

#### 1. WELCOME/APOLOGIES

---

##### 1.1. WELCOME/APOLOGIES/PROXIES

Chief Representative and meeting chair, Mayor Jan Bonde, opened the meeting at 10:01 am, welcoming attendees and noting apologies.

Mayor Bonde congratulated Mr Sid Sidebottom on his appointment as Cradle Coast Authority (CCA) Board Chairperson and invited any initial comment or observations.

Mr Sid Sidebottom spoke about his passion for the region and the potential benefits that can be achieved by the Representatives and CCA working together in solidarity.

Attendees and apologies are noted at Attachment 1.

#### 2. PRESENTATIONS

---

##### 2.1. AUSTRALIAN MASTERS GAMES

Mr Scott Wade, General Manager Australian Masters Games (GMAMG) joined the meeting at 10:07am.

The GMAMG advised that registration numbers are expected to reach the 5,000 participants target with 4,200 individual participants currently registered.

The GMAMG confirmed that registration costs for Tasmanians will not increase past the early bird period to encourage locals to participate.

The GMAMG advised that they are marketing to encourage business to allow employees to participate in the AMG as individuals or workplace teams.

CCA CEO advised that a key objective is encouraging communities to increase their physical activity levels. This is particularly important given the regions poor health statistics

There has been a focus on not only delivering a successful AMG but also to promote and market the region as well. A special mention was given to the Devonport City Council's Visitor Information Centre for their ongoing assistance with all of the accommodation needs.

GMAMG thanked the CCA for their ongoing support and recognised the CCA's Ms Chelsea Bell for developing the AMG's Festival of Events Calendar. The calendar highlights the many and various events developed with the councils, business and community.

CCA CEO spoke about the economic benefits from the AMG that will arise from visitors returning after the event because of a positive visitor experiences. Representatives were asked to encourage businesses to increase opening hours for participants to create a positive visitor experience that will deliver future economic benefits.

GMAMG briefed the Representatives on UTAS's online volunteer training program that has been developed. It is the first-time volunteers are required to complete an online training program prior to assisting with a sporting event and will create a legacy for the region in terms of better skills volunteers.

Mayor Walsh asked whether accommodation management was still an issue. GMAMG responded that 98% of registrant's accommodation data has been captured and confirmed 263 rooms are currently available in the region.

Mayor Thwaites enquired about opportunities for spectators. GMAMG advised that whilst spectators were not common at previous AMG, there would be no barriers to spectators at events.

Alderman Steve Kons asked how the region might retain the learnings from the organisation and management of the AMG. CEO spoke about developing a Sporting Events Strategy and the economic benefits that result from holding sporting events such as the AMG.

### 3. STANDING ITEMS

---

#### 3.1. DECLARATIONS

Nil

#### 3.2. CONFIRMATION OF MINUTES

*Minutes of 25 May 2017 Representatives Meeting were provided at Agenda Item 3.2.*

##### **Motion**

That Representatives ENDORSE the 25 May 2017 Representatives Meeting minutes.

Moved: Mayor Quilliam / Seconded: Mayor Walsh / CARRIED

#### 3.3. ACTIVITY REGISTER

A schedule of activities was presented at Agenda Item 3.3.

##### **Motion**

That the Representatives ACCEPT and NOTE the Activity Register.

Moved: Mayor Vickers / Seconded: Mayor Martin / CARRIED

#### 3.4. CORRESPONDENCE

*A briefing note was presented at Agenda Item 3.4*



Mayor Thwaites noted that it was previously agreed that correspondence would be included as an electronic link. CEO advised that the matter was in progress.

General Manager Monson requested further consideration of a request to defer payment of AMG costs until after the event such that costs could be allocated on actual participants numbers. It was noted that Representatives had agreed on the current approach that used best available information to determine the allocation of costs.

*Deputy Mayor Wilson left the meeting at 10:42am.*

*Deputy Mayor Wilson joined the meeting 10:44am.*

#### **Motion**

That the Representatives NOTE the Correspondence.

Moved: General Manager Wardlaw / Seconded: Mayor Thwaites / CARRIED

#### **4. CRADLE COAST AUTHORITY UPDATE**

---

##### **4.1. QUARTERLY REPORT & FINANCIAL STATEMENTS – APRIL TO JUNE 2017**

*The Quarterly Report and Financial Statements were presented at Agenda Item 4.1.*

*Mayor Dow left the meeting at 10:52am.*

*Mayor Dow joined the meeting 10:56am.*

#### **Motion**

That the Representatives ACCEPT and NOTE the Quarterly Report and April to June 2017 Financial Statements.

Moved: Mayor Vickers / Seconded: Mayor Quilliam / CARRIED

#### **5. FOR DECISION**

---

##### **5.1. CRADLE COAST AUTHORITY RULES**

*A briefing note was presented at Agenda Item 5.1. A paper and updated motion was circulated on behalf of the General Managers out-of-session regarding the matter.*

Representatives discussed the supplementary paper and agreed with the updated motion.

*Catherine Gale-Stanton left the meeting at 11:00am*

**Motion**

That the Representatives';

1. **Note** the proposed Rule amendments along with comments provided by the General Mangers;
2. **Request** the Working Group to further review the Rules and make the necessary changes;
3. **Authorise** the Chief Representative to consult with the Owner Representatives out of session with the final Rule amendments; and
4. **Authorise** the Chief Representative to formally provide Rules for endorsement of Participating Councils' prior to public exhibition and certification.

Moved: Mayor Martin / Seconded: General Manager Smart / CARRIED

**5.2. MEETING MINUTES**

*A briefing note was presented at Agenda Item 5.2.*

Mayors Dow and Freshney requested that what is determined as confidential needs to be confirmed at the end of each Representatives meeting.

*Mayor McFie left the meeting at 11:10am.*

*Mayor McFie joined the meeting 11:12am.*

**Motion**

That the Representatives APPROVE the Representatives Meeting minutes are not confidential but parts of meetings may be conducted as confidential.

Moved: Alderman Kons / Seconded: Mayor Vickers / CARRIED

**5.3. CRUISE SHIPS**

*A briefing note was presented at Agenda Item 5.3.*

General Manager Wardlaw discussed the regional economic benefits that exist because of Cruise ships docking in Burnie with many visitors exploring other parts of the region.

The Representatives had a lengthy discussion regarding the cruise ships, recognising further information is required.

*Ms Claire Smith left the meeting at 11:15am.*

*Ms Claire Smith joined the meeting at 11:20am.*

*General Manager Monson left the meeting at 11:20am.*

*General Manager Monson joined the meeting at 11:22am.*

**Motion**

1. That the next Representatives meeting include a briefing on the growth and opportunities presented by the Cruise Ship industry by representatives for Tasports, Tourism Tasmania and the Australian Cruise Association; and
2. Cradle Coast Authority investigate a funding model for regional support of cruise shipping.

Moved: General Manager Wardlaw / Seconded: Mayor Quilliam / CARRIED

*The meeting paused for a break at 11:29am.*

*The meeting resumed at 11:35am.*

**6. FOR DISCUSSION**

---

**6.1. ECONOMIC AND COMMUNITY DATA PROFILE SERVICE**

A briefing note was presented at Agenda Item 6.1.

Representatives discussed the benefit of pursuing a combined reduced cost for the Economic and Community Data Profile Service and LGA Level data, with some councils already spending up to \$10,000 on the service.

It was agreed to approach the State Government for partnership and/or support.

**Motion**

Representatives AGREE to explore a regional approach for economic and community profile subscription service.

Moved: Mayor Freshney / Seconded: Mayor Smart/ CARRIED

**6.2. CRADLE COAST AUTHORITY CORPORATE PLAN**

*A briefing note was presented at Agenda Item 6.2.*

Minor wording changes highlighted by General Manager West and Deputy Mayor Wilson which were noted by the CEO.

Representatives acknowledged the amount of work gone into the Corporate Plan and that CEO thanked Representatives who attended workshops and provided feedback.

**Motion**

That the Representative's ENDORSE the Cradle Coast Authority Corporate Plan for circulation to partner councils

Moved: Mayor Thwaites/ Seconded: Mayor Vickers / CARRIED

**6.3. SHARED SERVICES**

*A verbal discussion was held at Agenda Item 6.3.*

CEO advised that since the circulation of meeting papers, a final draft of the Shared Services Feasibility Study Report had been received and had been shared with the Representative's working group for review and consideration.

Mayor Dow confirmed the shared services committee were meeting shortly to consider the draft report.

#### **Motion**

That the Representatives ACCEPT the verbal update from the CEO Cradle Coast Authority.

#### **6.4. CRADLE COAST WASTE MANAGEMENT GOVERNANCE**

*A verbal discussion was held at Agenda Item 6.4.*

Mayor Thwaites undertook to provide a report at future Representatives Meeting in relation to his attendance at the Cradle Coast Waste Management Working Group meetings.

General Manager Ayton advised Representative's that the General Managers had agreed to a report to propose to their respective councils the establishment of a joint authority to be responsible for regional waste management.

#### **Motion**

That the Representatives RECEIVED the verbal update from the Sandra Ayton

#### **6.5. SPECIAL RESOLUTION**

*A briefing Note was presented at Agenda Item 6.5.*

CEO advised Representatives that the working group overseeing the review of the CCA Rules had agreed to a proposal to restore the number of Directors from 7 to 8 members.

Mayor Dow supported the need to increase the number mentioning that the Board sometimes found it difficult to reach quorum with some meetings concluding earlier as a result.

Deputy Mayor Wilson queried whether having 3 Local Government Representatives on the Board was causing the quorum issues. Mayor Dow responded it did not, other circumstances such as a recent vacancy had left the Board with lower than normal representation.

The Representatives agreed to increase the number of Board Directors from 7 to 8.

#### **RECOMMENDATION**

That Representatives **APPROVE** by special resolution that the Board consists of 8 Directors

Moved: Mayor Quilliam / Seconded: Mayor Vickers / CARRIED



#### 6.6. CENTRAL COAST COUNCIL TOURISM RAILWAY

A verbal discussion was held at Agenda Item 6.6. in relation to a resolution of Central Coast Council reported in the Advocate requesting the CCA to investigate rail tourism opportunities between Devonport and Wynyard.

CCA CEO tabled a letter received from Central Coast Council seeking support to undertake an investigation into the feasibility and practicability of a Tourism Train extending from Devonport to Wynyard.

CCA CEO advised that under the Rules, the matter needed to be considered by Representatives.

It was noted that representatives of the Don River Railway had advised that they were not supportive of the proposal and that they were developing a business case for Government in relation to a proposal to conduct a service between Don River and Burnie. They advised that the railway infrastructure between Burnie and Wynyard was not useable and would need to be fully replaced at a significant cost that would make any tourist train proposal unviable.

It was noted that the media attention arising from the proposal had potentially jeopardised the Government's investment commitment of over \$3M in the Coastal Pathway Project between Burnie and Wynyard.

In light of the advice, it was agreed that the CCA should not undertake any investigation and would liaise with the Don River Railway in relation to supporting its proposal

#### Action

CCA to respond to Central Coast Council advising the Representative's decision

#### Motion

That the Representatives AGREE not to investigate the proposal

Moved: Mayor Vickers / Seconded: Mayor Freshney / CARRIED

### 7. FOR NOTING

---

#### 7.1. CRADLE MOUNTAIN MASTER PLAN

A verbal discussion was had at Agenda Item 7.1

CCA CEO advised that a number of studies were being undertaken including an architectural review of the Dove Lake visitor facilities, worker accommodation, transportation services review and a community engagement plan.

It was noted that the visitor information centre development application had been approved by Kentish council with construction happening in the near future.

#### Motion

That the Representatives RECEIVED the verbal update.

### 8. ISSUES OF REGIONAL SIGNIFICANCE

---

- CCA CEO advised that at a meeting prior to the Representative's Meeting, Latrobe, Devonport, Central Coast, Burnie and Waratah Wynyard Councils had agreed to contribute to the cost of engaging a consultant to address a number information gaps that was preventing the project from being development ready as a whole.
- General Manager Monson raised itinerant worker accommodation as an issue of regional significance. Alderman Kons advised that market forces would address the matter and strongly urged against local government getting involved.

## 9. GENERAL BUSINESS

---

- Mayor Thwaites questioned whether the Tasting Trail signage is working as a marketing tool and asked how well the Tasting Trail was going.  
CEO responded that the Tasting trail was a membership based model independent of the CCA although the CCA provided some support services to it under an agreement in light of its significance to the regions tourism appeal.
- Representatives congratulated General Manager Stretton on his appointment as the new General Manager of Launceston City Council.  
General Manager Stretton contrition to regional cooperation and partnership were noted and it was acknowledged that his leadership would be a significant loss to the region.
- Mayor Bonde thanked Richard Ingram, Manager NRM for his work and time with the CCA.
- CEO advised the EOI for the CCTE Committee Members has been circulated and applications close on Friday 1 September.
- CEO discussed letter received from Hydro Tasmania asking for an opportunity to present to the Cradle Coast representative councils at the next representatives meeting.
- CEO suggested that the CCA write to the Leader of Government and Leader of Opposition inviting them to meet with the representatives and discuss issues of regional significance.

*Tony smart left the meeting at 12:35pm.*

*Tony Smart joined the meeting at 12:38pm.*

### Actions

CCA invite the Leader of Government and Leader of Opposition to discuss issues of regional significance with the Representatives

CCA respond to Hydro Tasmania inviting them to address the Representatives on the *Battery of the Nation* initiative at the next representatives meeting

## 10. MEETING CLOSE

---

Meeting closed at 12:46pm.

The next meeting will be held on 23 November at Cradle Coast House.



Confirmed:

\_\_\_\_\_  
Chief Representative

\_\_\_\_\_  
Date

Unconfirmed

**Attachment 1: Attendees, Observers and Apologies****Representatives**

Mr Andrew Wardlaw	General Manager, Burnie City Council
Alderman Jan Bonde	Mayor Central Coast Council (Chief Representative)
Ms Sandra Ayton	General Manager, Central Coast Council
Councillor Daryl Quilliam	Mayor, Circular Head Council
Alderman Steve Martin	Mayor, Devonport City Council
Councillor Don Thwaites	Mayor, Kentish Council
Councillor Tim Wilson	Deputy Mayor, Kentish Council
Mr Gerald Monson	General Manager Kentish and Latrobe Councils
Councillor Peter Freshney	Mayor, Latrobe Council (Deputy Chief Representative)
Councillor Robby Walsh	Mayor, Waratah-Wynyard Council
Councillor Phil Vickers	Mayor, West Coast Council
Alderman Steve Kons	Proxy for Alwyn Boyd, Burnie City Council
Councillor Jim Cooper	Deputy Mayor, King Island Council (via skype)
Mr Paul West	General Manager, Devonport City Council
Mr Tony Smart	General Manager, Circular Head Council

**Cradle Coast Authority**

Mr Sid Sidebottom	CCA Board Chair
Mayor Duncan McFie	Director (via Skype)
Mr Michael Stretton	Director
Mr Brett Smith	Chief Executive Officer
Ms Samantha Lawrence	Executive Assistant
Ms Claire Smith	Finance and Corporate Services Manager
Mr Richard Ingram	Manager, NRM
Ms Cat Gale-Stanton	Communications Officer

**Apologies**

Alderman Alwyn Boyd	Deputy Mayor, Burnie City Council
Mr Dirk Dowling	General Manager, West Coast Council
Mr David Laughher	General Manager, King Island Council
Councillor Mary Dunjam	Deputy Mayor, Waratah-Wynyard Council
Mr Rod Stendrup	Director, Cradle Coast Authority Board
Mr Malcolm Wells	Director, Cradle Coast Authority Board
Councillor Shane Pitt	Deputy Mayor, West Coast Council

## 7.0 SECTION 23 COMMITTEES

### 7.1 PLANNING AUTHORITY COMMITTEE MEETING - 18 SEPTEMBER 2017

File: 29133 D492999

#### RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

Strategy 5.3.2 Provide appropriate support to elected members to enable them to discharge their functions

#### SUMMARY

The purpose of this report is to receive the minutes and note the decisions made by the Planning Authority Committee meeting held on Monday, 18 September 2017.

#### ATTACHMENTS

1. Minutes - Planning Authority Committee - 18 September 2017

#### RECOMMENDATION

That the minutes of the Planning Authority Committee meeting held on Monday, 18 September 2017 be received and the decisions determined be noted.

- PAC 26/17 Planning Applications approved under Delegated Authority 7 August 2017 - 7 September 2017
- PAC 27/17 PA2017.0114 Residential (Outbuilding) - Assessment against Performance Criteria for Setbacks and Building Envelope - 17 Leary Avenue Stony Rise
- PAC 28/17 AM2017.02 & PA2017.0101 Rezoning from Port and Marine Zone to Local Business Zone to Allow the Development of a Retail Complex - 2-12 Murray Street, East Devonport

Author:	Robyn Woolsey	Endorsed By:	Paul West
Position:	Administration Officer	Position:	General Manager

**MINUTES OF A PLANNING AUTHORITY COMMITTEE MEETING OF THE DEVONPORT CITY COUNCIL HELD IN THE COUNCIL CHAMBERS ON MONDAY, 18 SEPTEMBER 2017 COMMENCING AT 5:15PM**

**PRESENT:** Ald S L Martin (Mayor) in the Chair  
 Ald G F Goodwin  
 Ald J F Matthews  
 Ald T M Milne  
 Ald L M Perry

**Aldermen in Attendance:**  
 Ald L M Laycock  
 Ald A L Rockliff

**Council Officers:**  
 General Manager, P West  
 Deputy General Manager, M Atkins  
 Senior Town Planner, C Milnes  
 Planner, A Mountney

**Audio Recording:**  
 All persons in attendance were advised that it is Council policy to record Council meetings, in accordance with Council's Audio Recording Policy. The audio recording of this meeting will be made available to the public on Council's website for a minimum period of six months.

**1.0 APOLOGIES**

The following apology was received for the meeting.

Ald C D Emmerton	Apology
------------------	---------

**2.0 DECLARATIONS OF INTEREST**

There were no Declarations of Interest.

**3.0 DELEGATED APPROVALS**

**3.1 PLANNING APPLICATIONS APPROVED UNDER DELEGATED AUTHORITY 7 AUGUST 2017 - 7 SEPTEMBER 2017 (D491366)**

**PAC 26/17 RESOLUTION**

MOVED: Ald Matthews  
 SECONDED: Ald Goodwin

That the list of delegated approvals be received.

	For	Against		For	Against
Ald Martin	✓		Ald Milne	✓	
Ald Goodwin	✓		Ald Perry	✓	
Ald Matthews	✓				

CARRIED UNANIMOUSLY

<b>4.0 DEVELOPMENT REPORTS</b>
--------------------------------

**4.1 PA2017.0114 RESIDENTIAL (OUTBUILDING) - ASSESSMENT AGAINST PERFORMANCE CRITERIA FOR SETBACKS AND BUILDING ENVELOPE - 17 LEARY AVENUE STONY RISE (D491484)**

**PAC 27/17 RESOLUTION**

MOVED: Ald Goodwin

SECONDED: Ald Perry

That the Planning Authority, pursuant to the provisions of the *Devonport Interim Planning Scheme 2013* and Section 57 of the *Land Use Planning and Approvals Act 1993*, approve application PA2017.0114 and grant a Permit to use and retrospectively develop land identified as 17 Leary Avenue, Stony Rise for the following purposes:

- Residential (outbuilding) - assessment against performance criteria for setbacks and building envelope

Subject to the following conditions:

- The use and development is to proceed generally in accordance with the submitted plans referenced as Eloise Forth, 17 Leary Avenue dated 11 August 2017 copies of which are attached and endorsed as documents forming part of this Planning Permit.
- The developer is to take all reasonable steps during construction to minimise off site environmental effects occurring that might result in a nuisance. This includes air, noise and water pollution and doesn't allow for burning of any waste materials.
- The developer is to utilise the existing stormwater service connection and driveway and kerb crossover for the purposes of this development.

Note: The following is provided for information purposes.

- A This is not a building or plumbing permit. Prior to commencing any building or plumbing work the developer is to obtain the necessary building & plumbing approvals & provide the required notifications in accordance with the Building Act 2016.
- B In regard to condition 2 this includes ensuring that noise emitted from portable apparatus and hours of operation of those devices are within the scope indicated by the Environmental Management and Pollution Control (Noise) Regulations 2016.
- C In regard to condition 3 the applicant should contact Council's Engineering Department with any enquiries.
- D The permitted development is to be used only for activities associated with the General residential zoning of the land.

	<b>For</b>	<b>Against</b>		<b>For</b>	<b>Against</b>
Ald Martin	✓		Ald Milne	✓	
Ald Goodwin	✓		Ald Perry	✓	
Ald Matthews	✓				

CARRIED UNANIMOUSLY

**4.2 AM2017.02 & PA2017.0101 REZONING FROM PORT AND MARINE ZONE TO LOCAL BUSINESS ZONE TO ALLOW THE DEVELOPMENT OF A RETAIL COMPLEX - 2-12 MURRAY STREET, EAST DEVONPORT (D492437)**

**PAC 28/17 RESOLUTION**

MOVED: Ald Goodwin

SECONDED: Ald Matthews

That the Planning Authority under Section 43A of the *Land Use Planning and Approvals Act 1993*:

- A. Agree to certify amendment AM2017.02 under Section 35 to rezone land from Port and Marine to Local Business as meeting the requirements specified in Section 32; and
- B. Determine that permit application PA2017.0101 meets the requirements under Section 43C for the development of a Retail Complex and consolidation of land identified as 2 – 12 Murray Street, East Devonport subject to the following conditions:
  1. Unless requiring modification by subsequent conditions on this permit the use and development is to proceed and be undertaken generally in accordance with the submitted plans referenced as Project No 13.159 issue dated 22 August 2017 by 6ty Pty Ltd and the Traffic Impact Assessment by Midson Traffic Pty Ltd dated May 2017, copies of which are attached and endorsed as documents forming part of this Planning Permit.
  2. The developer is to comply with the conditions contained in the Submission to Planning Authority Notice which TasWater has required to be included in the planning permit, pursuant to section 56P(1) of the Water and Sewerage Industry Act 2008.
  3. The developer is to take all reasonable steps during demolition and construction to prevent environmental effects occurring that might result in a nuisance. This includes no immediate off-site storage of associated building equipment and materials on public land and the pollutant effects of noise and water as well as air pollution from the result of any burning of waste.
  4. The development will be required to limit stormwater discharge to that equivalent to 50% of the development site being impervious. Calculations and design drawings will need to be provided and approved to satisfy this before work commences. The on-site detention design can include surface storage in the carpark area.
  5. The developer is to install a single stormwater service connection only servicing the proposed development. Any redundant stormwater service connections are to be located and capped off in accordance with the industry standard.
  6. The development is to be located clear of the existing 'Gateway' tree, surround and road markings in Murray Street. In this regard the proposed entrance should be located slightly to the west.
  7. The developer is to provide details on their plans of the suitable treatments for the relocation and reinstatement of the existing



streetscape features including exposed aggregate concrete, street trees, surrounds, street light standards, stamped concrete footpath panels and road markings along the Murray Street frontage.

8. The developer is to design a suitable pit grate and surround to replace the existing stormwater side entry pit at the heavy vehicle entrance off Norton Way.

Note: The following is provided for information purposes.

The development is to comply with the requirements of the current National Construction Code. The developer is to obtain and provide the necessary building and plumbing approvals and notifications in accordance with the *Building Act 2016* prior to commencing building or plumbing work.

The developer is to obtain approval from Council's Environmental Health Department before any works commence on the food preparation/handling areas. As part of this a building surveyor is to submit a Form 42 and associated paperwork, details of the nature of the foods intended to be prepared, types of manufacturing and preparation intended to be undertaken on the premises, and any relevant drawings, specifications and documents that relate to that work.

There are no disabled parking spaces indicated in the proposed parking layout. This will need to be included.

It is not clear that the proposed heavy vehicle/RV exit onto Norton Way is wide enough for the required left-hand turn for the intended vehicle sizes. Consideration should be given to widening or aligning the access to suit the required turning paths.

The one-way connection between Murray Street and Norton Way is not on a road reserve and cannot be relied on.

The proposed Light/Heavy vehicle exit onto Murray Street appears to adversely impact the existing traffic management treatment enabling access into the Ferry terminal. The submitted TIA does not address this feature and it should be noted due to the existing use of this facility this traffic management feature is not relocatable without consent between the Road Authority and TasPorts.

	For	Against		For	Against
Ald Martin	✓		Ald Milne	✓	
Ald Goodwin	✓		Ald Perry	✓	
Ald Matthews	✓				

CARRIED UNANIMOUSLY

**5.0 CLOSURE**

**With no further business on the agenda the Chairman declared the meeting closed at 5:29pm.**

## 7.2 GOVERNANCE, FINANCE & COMMUNITY SERVICE COMMITTEE MEETING - 18 SEPTEMBER 2017

File: 33784 D493001

### RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

Strategy 5.3.2 Provide appropriate support to elected members to enable them to discharge their functions

### SUMMARY

The purpose of this report is to receive the minutes and endorse the recommendations provided to Council by the Governance, Finance & Community Service Committee meeting held on Monday, 18 September 2017.

### ATTACHMENTS

1. Minutes - GFC - 18 September 2017

### RECOMMENDATION

That the minutes of the Governance, Finance & Community Service Committee meeting held on Monday, 18 September 2017 be received and the recommendations contained therein be adopted.

- GFC 11/17 Public Interest Disclosures Act 2002 - Procedures Manual
- GFC 12/17 Annual Plan Progress Report - July-August 2017
- GFC 13/17 Elected Members' Expenditure Report - July-August 2017
- GFC 14/17 Finance Report for August 2017
- GFC 15/17 Devonport Jazz 2017
- GFC 16/17 Devonport Destination Action Plan
- GFC 17/17 Governance & Finance Report
- GFC 18/17 Community Services Report - September 2017
- GFC 19/17 Minutes of Council's Special Interest Groups and Advisory boards
- GFC 20/17 Unconfirmed Minutes - Shared Audit Panel - 7 August 2017

Author:	Robyn Woolsey	Endorsed By:	Paul West
Position:	Administration Officer	Position:	General Manager

Page 1 of 7

**MINUTES OF A GOVERNANCE, FINANCE & COMMUNITY SERVICE COMMITTEE MEETING OF  
THE DEVONPORT CITY COUNCIL HELD IN THE COUNCIL CHAMBERS  
ON MONDAY, 18 SEPTEMBER 2017 COMMENCING AT 5:30PM**

**PRESENT:** Ald A L Rockliff (Chairman)  
Ald G F Goodwin  
Ald S L Martin  
Ald T M Milne

**Aldermen in Attendance:**  
Ald L M Laycock  
Ald J F Matthews  
Ald L M Perry

**Council Officers:**  
General Manager, P West  
Executive Manager Corporate, Community & Business, S Crawford  
Executive Manager Organisational Performance, K Peebles  
Governance Coordinator, K Hampton  
Cultural & Community Development Manager, B de Jong  
Convention & Arts Centre Manager, G Dobson

**Audio Recording:**  
All persons in attendance were advised that it is Council policy to record Council meetings, in accordance with Council's Audio Recording Policy. The audio recording of this meeting will be made available to the public on Council's website for a minimum period of six months.

**1.0 APOLOGIES**

The following apologies were received for the meeting.

Ald C D Emmerton	Apology
Ald A J Jarman	Apology

**2.0 DECLARATIONS OF INTEREST**

There were no Declarations of Interest.

**3.0 PROCEDURAL**

**3.1 PUBLIC QUESTION TIME**

**DOUGLAS JANNEY – 23 WATKINSON STREET, DEVONPORT**

**Item 4.2 P46**

Of the circular charts 3 and more than 25% and one is 23.43% off track.

The "2017/2018 AP Actions – Organizations" has 5 items 4 of which start at a future time. Item 1.4.2.1 p49 is 25% complete and as well it is 25% off track.

**Q1** Why are 4 of the activities represented by the circular charts so far off track?

**Q2** In arriving at the circular charts with their summaries from the spreadsheets on pages 48 to 70 what does the on/off track % represent.

Page 2 of 7

The time line?

Hours expended vs Total hours?

Some other measure?

**Response**

The Chairperson advised that the question was taken on notice and a response will be provided in writing.

**3.2 QUESTIONS FROM ALDERMEN**

Nil

**3.3 NOTICES OF MOTION**

Nil

**4.0 GOVERNANCE REPORTS****4.1 PUBLIC INTEREST DISCLOSURES ACT 2002 - PROCEDURES MANUAL (D477498)****GFC 11/17 RESOLUTION**

MOVED: Ald Martin  
SECONDED: Ald Goodwin

That it be recommended to Council that it adopt the attached *Public Interest Disclosures Act 2002 Procedures Manual* dated July 2017 with immediate effect.

	For	Against		For	Against
Ald Rockliff	✓		Ald Martin	✓	
Ald Goodwin	✓		Ald Milne	✓	

CARRIED UNANIMOUSLY

**4.2 ANNUAL PLAN PROGRESS REPORT - JULY-AUGUST 2017 (D488295)****GFC 12/17 RESOLUTION**

MOVED: Ald Milne  
SECONDED: Ald Martin

That it be recommended to Council that the 2017/18 Annual Plan Progress Report for the period ended 31 August 2017 be received and noted.

	For	Against		For	Against
Ald Rockliff	✓		Ald Martin	✓	
Ald Goodwin	✓		Ald Milne	✓	

CARRIED UNANIMOUSLY

**4.3 ELECTED MEMBERS' EXPENDITURE REPORT - JULY-AUGUST 2017 (D490807)****GFC 13/17 RESOLUTION**

MOVED: Ald Martin  
SECONDED: Ald Milne

That it be recommended to Council that the report advising of Aldermen expenses be received and noted.

Page 3 of 7

	For	Against		For	Against
Ald Rockliff	✓		Ald Martin	✓	
Ald Goodwin	✓		Ald Milne	✓	

CARRIED UNANIMOUSLY

## 5.0 FINANCE REPORTS

### 5.1 FINANCE REPORT FOR AUGUST 2017 (D491528)

#### GFC 14/17 RESOLUTION

MOVED: Ald Goodwin

SECONDED: Ald Martin

That it be recommended to Council that:

- (a) the Finance Report for August 2017 be received and noted; and
- (b) in accordance with Section 82(4) of the Local Government Act 1993, Council by absolute majority amend the 2017/18 budget to reduce each of the Service Charge – Waste Management revenue and Waste Management Remission expense by \$410,833.

	For	Against		For	Against
Ald Rockliff	✓		Ald Martin	✓	
Ald Goodwin	✓		Ald Milne	✓	

CARRIED UNANIMOUSLY

## 6.0 COMMUNITY SERVICES REPORTS

### 6.1 DEVONPORT JAZZ 2017 (D476960)

#### GFC 15/17 RESOLUTION

MOVED: Ald Goodwin

SECONDED: Ald Martin

That it be recommended to Council that the report relating to Devonport Jazz be received and that Council:

1. note the feedback received on the event was generally positive, and;
2. note that the 2017 event ran at a net cost of \$56,619 (excluding Marketing and Events staff costs).

	For	Against		For	Against
Ald Rockliff	✓		Ald Martin	✓	
Ald Goodwin	✓		Ald Milne	✓	

CARRIED UNANIMOUSLY

### 6.2 DEVONPORT DESTINATION ACTION PLAN (D491175)

#### GFC 16/17 RESOLUTION

MOVED: Ald Goodwin

SECONDED: Ald Milne

That it be recommended to Council that the Devonport Destination Action Plan be received and noted.

Page 4 of 7

	For	Against		For	Against
Ald Rockliff	✓		Ald Martin	✓	
Ald Goodwin	✓		Ald Milne	✓	

CARRIED UNANIMOUSLY

<b>7.0 INFORMATION REPORTS</b>
--------------------------------

**7.1 GOVERNANCE & FINANCE REPORT (D488238)****GFC 17/17 RESOLUTION**

MOVED: Ald Martin  
 SECONDED: Ald Goodwin

That it be recommended to Council that the Governance and Finance report be received and noted.

	For	Against		For	Against
Ald Rockliff	✓		Ald Martin	✓	
Ald Goodwin	✓		Ald Milne	✓	

CARRIED UNANIMOUSLY

**7.2 COMMUNITY SERVICES REPORT - SEPTEMBER 2017 (D488239)****GFC 18/17 RESOLUTION**

MOVED: Ald Martin  
 SECONDED: Ald Milne

That it be recommended to Council that the Community Services report be received and noted.

	For	Against		For	Against
Ald Rockliff	✓		Ald Martin	✓	
Ald Goodwin	✓		Ald Milne	✓	

CARRIED UNANIMOUSLY

**7.3 MINUTES OF COUNCIL'S SPECIAL INTEREST GROUPS AND ADVISORY BOARDS (D489356)****GFC 19/17 RESOLUTION**

MOVED: Ald Martin  
 SECONDED: Ald Goodwin

That it be recommended to Council that the minutes of the Active City, Devonport Maritime & Heritage, East Devonport & Devonport Food & Wine Festival committees be received and noted.

	For	Against		For	Against
Ald Rockliff	✓		Ald Martin	✓	
Ald Goodwin	✓		Ald Milne	✓	

CARRIED UNANIMOUSLY



Page 5 of 7

**7.4 UNCONFIRMED MINUTES - SHARED AUDIT PANEL - 7 AUGUST 2017 (D478542)****GFC 20/17 RESOLUTION**

MOVED: Ald Goodwin

SECONDED: Ald Martin

That it be recommended to Council that the unconfirmed minutes of the Audit Panel meeting held on 7 August 2017 be received and noted.

	For	Against		For	Against
Ald Rockliff	✓		Ald Martin	✓	
Ald Goodwin	✓		Ald Milne	✓	

CARRIED UNANIMOUSLY

**8.0 CLOSED SESSION****GFC 21/17 RESOLUTION**

MOVED: Ald Martin

SECONDED: Ald Milne

That in accordance with Regulation 15 of the *Local Government (Meeting Procedures) Regulations 2015* the following items be dealt with in Closed Session:

Item No	Matter	Local Government (Meeting Procedures) Regulations 2015 Reference
8.1	Rates Owing – Landslip Property	15(2)(j)

	For	Against		For	Against
Ald Rockliff	✓		Ald Martin	✓	
Ald Goodwin	✓		Ald Milne	✓	

CARRIED UNANIMOUSLY

The Chairman adjourned the meeting at 5:56pm to reconvene in Closed Session at 5:56pm.

The Committee moved out Closed Session at 6:00pm.

**CLOSURE**

There being no further business on the agenda the meeting was declared closed at 6:01pm.

**8.0 CLOSED SESSION****RECOMMENDATION**

That in accordance with Regulation 15 of the *Local Government (Meeting Procedures) Regulations 2015*, the following be dealt with in Closed Session.

<b>Item No</b>	<b>Matter</b>	<b>Local Government (Meeting Procedures) Regulations 2015 Reference</b>
8.1	Application for Leave of Absence	15(2)(h)
8.2	Unconfirmed Minutes - Joint Authorities	15(2)(g)
8.3	Closed Session - Governance, Finance & Community Service Committee Meeting - 18 September 2017	15(2)(f)
8.4	Local Government Association of Tasmania - Election of Proxy Member - General Management Committee	15(2)(g)
8.5	Masters Games	15(2)(b)
8.6	Mersey Bluff Caravan Park Lease	15(2)(b)

---

**OUT OF CLOSED SESSION****RECOMMENDATION**

That Council:

- (a) having met and dealt with its business formally move out of Closed Session; and
- (b) resolves to report that it has determined the following:

<b>Item No</b>	<b>Matter</b>	<b>Outcome</b>
8.1	Application for Leave of Absence	Noted
8.2	Unconfirmed Minutes - Joint Authorities	Noted
8.3	Closed Session - Governance, Finance & Community Service Committee Meeting - 18 September 2017	Noted
8.4	Local Government Association of Tasmania - Election of Proxy Member - General Management Committee	
8.5	Masters Games	
8.6	Mersey Bluff Caravan Park Lease	

**9.0 CLOSURE**

There being no further business the Mayor declared the meeting closed at      pm.

---