

GEORGES RIVER GRAMMAR SCHOOL

TRAFFIC REPORT FOR  
PROPOSED INFANTS/PRIMARY  
CLASSROOMS AND CHILD CARE  
CENTRE, 3A-5 HAIG AVENUE,  
GEORGES HALL

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## I. INTRODUCTION

- I.1 Colston Budd Rogers and Kafes Pty Ltd has been commissioned by Georges River Grammar School to prepare a traffic report for the proposed infants and primary classrooms and child care centre at 3A-5 Haig Avenue, Georges Hall. The site has frontage to Haig Avenue and adjoins the school which is east of the site. The site of the proposed development is shown in Figure I.
- I.2 The site is currently vacant. It is proposed to provide 13 infants and primary classrooms on the site, to cater for some 330 students. A 40 place child care centre is also proposed. Vehicular access would be provided from Haig Avenue.
- I.3 This report assesses the traffic and parking implications of the proposed development through the following chapters:
- Chapter 2 - describing existing conditions; and
  - Chapter 3 - assessing the traffic and parking implications of the proposed development.

## 2. EXISTING CONDITIONS

### Site Location and Road Network

- 2.1 The site is on the southern side of Haig Avenue at Georges Hall, as shown in Figure 1. It adjoins the existing school which is east of the site and is currently vacant. North and east of the school there are commercial and retail uses in the Georges Hall commercial precinct. Bankstown Airport is south of the school. Other surrounding land use is generally residential.
- 2.2 Haig Avenue forms part of a route connecting Bankstown in the east with Henry Lawson Drive in the west. In the vicinity of the site it provides for one traffic lane and one parking lane in each direction, clear of intersections. It provides a 50 kilometre per hour speed limit with school zone restrictions around school start and finish times. There is also a bus zone adjacent the site which operates around school start and finish times. Haig Avenue includes traffic calming measures and time restricted parking through the commercial area. There is a pedestrian crossing on Haig Avenue east of the site.
- 2.3 East of the site, Haig Avenue intersects Georges Crescent at a four-way intersection controlled by a roundabout. South of Haig Avenue, Georges Crescent is a dead end at the school. It provides for set-down and pick-up of students. It also provides access to the rear of properties fronting Haig Avenue. North of Haig Avenue, Georges Crescent forms part of a bus route and provides access to residential areas. It provides for one traffic lane and one parking lane in each direction, clear of intersections.
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- 2.4 The majority of set-down and pick-up operations at the school occur south of the school, from a car park used by the school for this purpose as well as employee parking. As noted above, set-down and pick up also occurs from Georges Crescent.

### Traffic Flows

- 2.5 Traffic generated by the proposed school classrooms will have its greatest effects during weekday morning and afternoon periods, around school start and finish times. In order to gauge traffic conditions, counts were undertaken at these times at the intersection of Haig Avenue with Georges Crescent.
- 2.6 The results of the surveys are shown in Figures 2 and 3, and summarized in Table 2.1.

<b>Table 2.1: Existing two-way (sum of both directions) peak hour traffic flows</b>			
<b>Road</b>	<b>Location</b>	<b>Weekday morning</b>	<b>Weekday afternoon</b>
Birdwood Road	East of Georges Crescent	855	793
Haig Avenue	West of Georges Crescent	645	661
Georges Crescent	North of Haig Avenue	731	843
	South of Haig Avenue	609	385

- 2.7 Table 2.1 shows that Birdwood Road, Haig Avenue and Georges Crescent (north of Haig Avenue) carried some 650 to 850 vehicles per hour two-way during the surveyed peak hours. South of Haig Avenue, Georges Crescent carried lower flows of some 400 to 600 vehicles per hour two-way.

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### Intersection Operations

- 2.8 The capacity of the road network is largely determined by the capacity of its intersections to cater for traffic flows. The intersection of Haig Avenue with Georges Crescent has been analysed using the SIDRA program for the traffic flows shown in Figures 2 and 3.
- 2.9 SIDRA simulates the operations of intersections to provide a number of performance measures. The most useful measure provided is average delay per vehicle expressed in seconds per vehicle.
- 2.10 Based on average delay per vehicle, SIDRA estimates the following levels of service (LOS):
- For traffic signals, the average delay per vehicle in seconds is calculated as delay/(all vehicles), for roundabouts the average delay per vehicle in seconds is selected for the movement with the highest average delay per vehicle, equivalent to the following LOS:
- |          |   |     |                                                                                                |
|----------|---|-----|------------------------------------------------------------------------------------------------|
| 0 to 14  | = | "A" | Good                                                                                           |
| 15 to 28 | = | "B" | Good with minimal delays and spare capacity                                                    |
| 29 to 42 | = | "C" | Satisfactory with spare capacity                                                               |
| 43 to 56 | = | "D" | Satisfactory but operating near capacity                                                       |
| 57 to 70 | = | "E" | At capacity and incidents will cause excessive delays. Roundabouts require other control mode. |
| >70      | = | "F" | Unsatisfactory and requires additional capacity                                                |
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- For give way and stop signs, the average delay per vehicle in seconds is selected from the movement with the highest average delay per vehicle, equivalent to following LOS:

0 to 14	=	"A"	Good
15 to 28	=	"B"	Acceptable delays and spare capacity
29 to 42	=	"C"	Satisfactory but accident study required
43 to 56	=	"D"	Near capacity and accident study required
57 to 70	=	"E"	At capacity and requires other control mode
>70	=	"F"	Unsatisfactory and requires other control mode

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

2.12 The analysis found that the roundabout at the intersection of Haig Avenue and Georges Crescent operates with average delays for all movements of less than 15 seconds per vehicle during weekday morning and afternoon peak periods. This represents level of service A/B, a good level of service.

Public and Active Transport

- 2.13 Local bus services are provided by Transit Systems NSW. Buses operate along Haig Avenue/Birdwood Road and Georges Crescent, close to the site. Route 905 connects Bankstown with Fairfield. Route 911 connects Auburn with Bankstown via Georges Hall.
- 2.14 A number of services operated by Transit Systems and U-go Mobility also connect to the school directly, from areas including Holsworthy, Sandy Point, Picnic Point, Chipping Norton, East Hills, Panania, Revesby, Moorebank, Liverpool, Wattle Grove, Fairfield, Cabramatta, Sefton, Chester Hill and Bankstown.
- 2.15 The school also operates its own buses which connect to Picnic Point, Padstow Heights, Alfords Point, Menai, Peakhurst, Peakhurst Heights, Lugarno, Riverwood, Beverly Hills, Narwee, Oatley, Sandy Point, Pleasure Point, Voyager Point, Hammondville, Wattle Grove, Moorebank, Georges Fair, Cabramatta, Lansvale, Fairfield, Guildford, Sefton and Bass Hill.
- 2.16 The school is therefore well served by buses.
- 2.17 As previously noted, there is a pedestrian crossing on Haig Avenue at Georges Crescent, which connects the school from areas to the north.



### 3. IMPLICATIONS OF PROPOSED DEVELOPMENT

3.1 It is proposed to provide 13 infants and primary classrooms on the site, to cater for some 330 students. A 40 place child care centre is also proposed. Vehicular access would be provided from Haig Avenue.

3.2 This chapter assesses the traffic and parking implications of the proposed development through the following sections:

- ❑ public and active transport;
- ❑ parking provision;
- ❑ access, servicing and internal layout;
- ❑ traffic generation and effects; and
- ❑ summary.

#### Public and Active Transport

3.3 As discussed in Chapter 2, numerous public, contract and school buses serve the school. There are buses which operate in the set-down/pick-up area south of the school and a bus stop in Haig Avenue adjacent to the site.

3.4 These areas will continue to be utilized by buses serving the proposed new classrooms. The proposed development is therefore consistent with government objectives and the planning principles of:

- (a) improving accessibility to employment and services by walking, cycling, and public transport;

- (b) improving the choice of transport and reducing dependence solely on cars for travel purposes;
- (c) moderating growth in the demand for travel and the distances travelled, especially by car; and
- (d) supporting the efficient and viable operation of public transport services.

#### Parking Provision

- 3.5 Section 3.2 of the Canterbury-Bankstown Development Control Plan 2023 includes a car parking requirement of one car space per employee or classroom (whichever is greater) plus one car space per eight students in year 12. The DCP requirement for child care centres is one space per four children.
  - 3.6 13 infants/primary classrooms are proposed. Based on one space per classroom, 13 parking spaces would be required. 10 spaces would be required for the child care centre. 23 parking spaces are proposed in accordance with this requirement, including two spaces for people with disabilities.
  - 3.7 The DCP includes a bicycle parking requirement of one space per 10 staff plus adequate provision for students. One employee bicycle parking space is proposed in accordance with this requirement. It is not expected that child care centre or infants/primary students will be cycling to school.
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Access, Servicing and Internal Layout

- 3.8 Vehicular access is proposed from Haig Avenue via two driveways near the eastern and western ends of the site. The proposed driveways will replace the existing three driveways to the site. Driveways will be provided in accordance with the Australian Standard for Parking Facilities (Part 1: Off-street car parking), AS 2890.1:2004.
- 3.9 The eastern driveway will provide for entering vehicles and the western driveway for exit. Traffic flow will be one-way within the site from east to west, to provide for efficient set-down and pick-up.
- 3.10 Employee and visitor spaces will be on the northern side of the circulation aisle and set-down and pick up spaces will be provided on the southern side, as parallel parking. Outside school start and finish times, the set-down/pick-up spaces will also be available for visitors.
- 3.11 Parking spaces will be a minimum of 5.4 metres long by 2.6 metres wide. Spaces with adjacent obstructions will be 0.3 metres wider to appropriately provide for doors to open. The circulation aisle will be 6.2 metres wide. Spaces for people with disabilities will be 2.4 metres wide, with a 2.4 metre wide adjacent area for wheelchairs. These dimensions are considered appropriate, being in accordance with AS 2890.1:2004 and AS 2890.6:2009.
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### Traffic Generation and Effects

- 3.12 Traffic generated by the proposed development will have its greatest effects during weekday morning and afternoon periods around school start and finish times.
- 3.13 Traffic generation of the proposed development infants/primary classrooms would be some 220 vehicles per hour two-way at these times. This traffic has been assigned to the road network. Existing traffic flows plus the additional development traffic are shown in Figures 2 and 3, and summarized in Table 3.1.

<b>Table 3.1: Existing two-way peak hour traffic flows plus development traffic</b>					
<b>Road</b>	<b>Location</b>	<b>Weekday morning</b>		<b>Weekday afternoon</b>	
		Existing	Plus development	Existing	Plus development
Birdwood Road	East of Georges Crescent	855	+55	793	+55
Haig Avenue	West of Georges Crescent	645	+110	661	+110
Georges Crescent	North of Haig Avenue	731	+55	843	+55
	South of Haig Avenue	609	-	385	-

- 3.14 Table 3.1 shows that traffic increases on Haig Avenue would be some 110 vehicles per hour two-way at peak times. Increases on Birdwood Road and Georges Crescent would be lower at some 55 vehicles per hour.
- 3.15 The intersection of Haig Avenue with Georges Crescent has been reanalyzed with SIDRA for the additional development traffic flows shown in Figures 2 and 3. The analysis found that the intersection would continue to operate with average delays for all movements of less than 15 seconds per vehicle during peak periods. This represents level of service A/B, a good level of service.

3.16 The site access points on Haig Avenue have also been analyzed with SIDRA. The analysis indicates that they would operate at LOS A/B, with average delays of less than 15 seconds per vehicle.

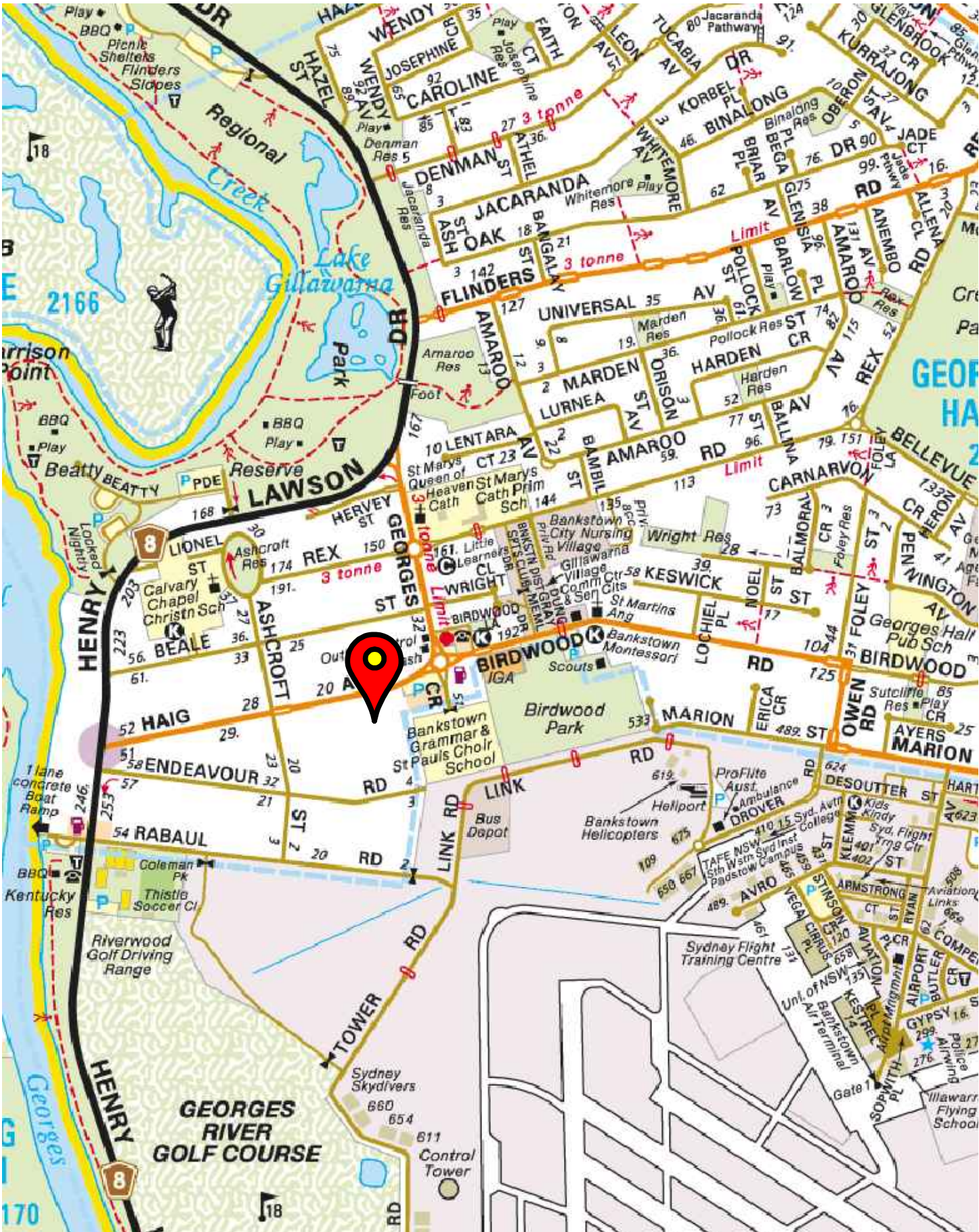
3.17 The road network will therefore be able to cater for the traffic from the proposed development.

#### Summary

3.18 In summary, the main points relating to the traffic and parking implications of the proposed infants/primary classrooms and child care centre are as follows:

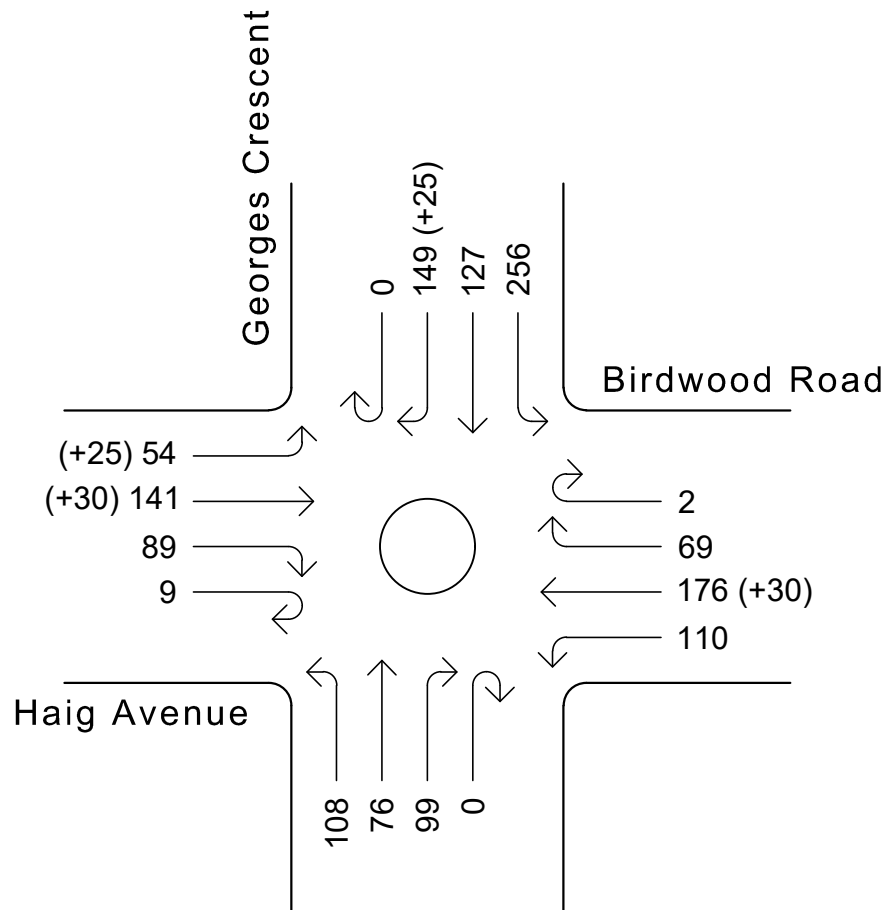
- i) 13 infants/primary classrooms plus a 40 place child care centre are proposed;
- ii) parking provision is appropriate;
- iii) access, internal circulation and layout will be provided in accordance with AS 2890.1:2004; and
- iv) the road network will be able to cater for the traffic from the proposed development.





Location Plan

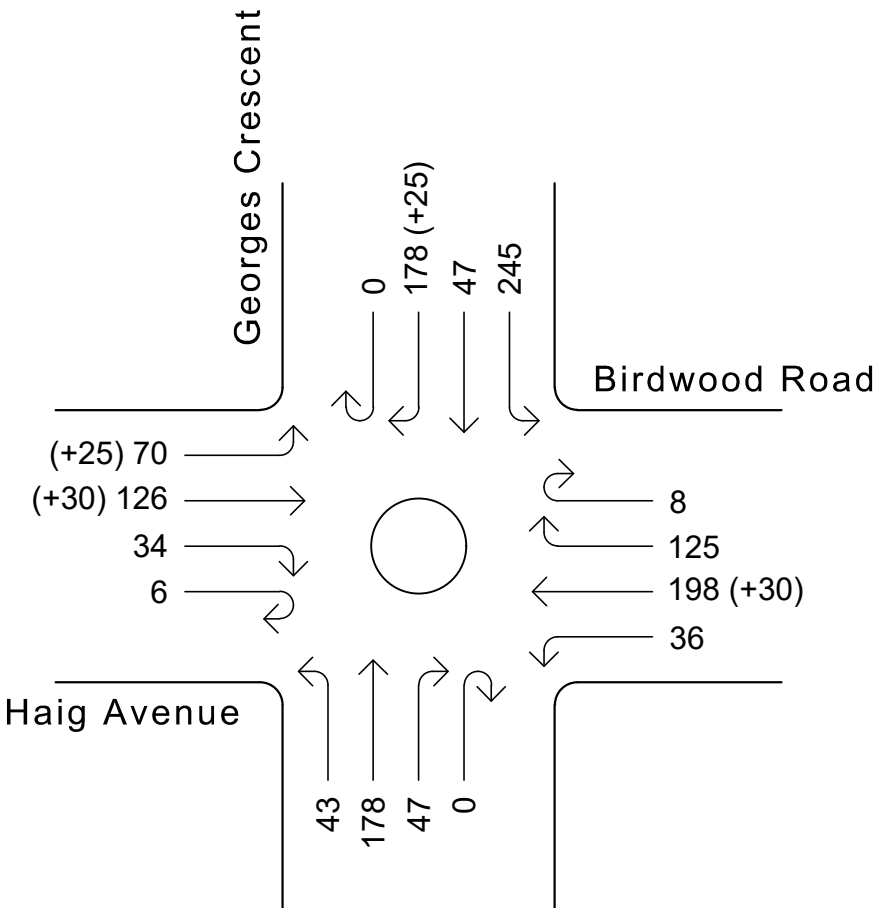
Figure 1



**LEGEND**

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

**Existing weekday morning  
peak hour traffic flows plus  
development traffic**  
**Figure 2**



**LEGEND**

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

**Existing weekday afternoon  
peak hour traffic flows plus  
development traffic**  
**Figure 3**