

Scholars Drive Link Traffic Report

In response to requests for Council to provide a traffic study supporting the Scholars Drive Link (formerly the Jade Link) as the best option to relieve traffic congestion on Scholars Drive this report has been prepared by Council's Traffic and Transportation Manager, Rodney Zinn.

The Issue

Chancellor State College is accessed solely from Scholars Drive which is a cul-de-sac. Vehicles exiting Scholars Drive are delayed at a supervised school crossing and by vehicles heading east bound on University Way. Both locations give priority to other road users which causes extensive delays on Scholars Drive during pick-up and drop-off times.

Options Considered

1. Signalise the University Way, Scholars Drive and Springhill Drive Intersection

This option is considered the ultimate solution as traffic signals will allow traffic movements on University Way to be controlled to reduce congestion on Scholars Drive. Discussions around the construction of signals with AVID Property Group in previous years were unsuccessful, even though Councillor Dickson was willing to contribute funds to bring the project forward.

Further review of this option has been undertaken and it is no longer Council's preferred short-term option because it would divert construction vehicles away from Peter Crosby Way through the residential area on Springfield Drive.

It should be noted that AVID is conditioned to construct traffic signals at the University Way, Scholars Drive and Springhill Drive intersection in 2028.

2. Beaverbrook Circuit Drainage Reserve

Residents presented an option which would require the construction of a connecting road through the school's car park on the western boundary and along the drainage reserve at the rear of homes facing Beaverbrook Circuit and Sorbonne Close. The exit onto University Way was proposed to be left out only, further impacting on capacity at the University Way, Scholars Drive and Springhill Drive roundabout.

This option was not supported by the school or Council as it travels through a car park with 90-degree angle parking, would impact on the schools bicycle parking, school buildings and an internal footpath and also Council's footpath through the drainage reserve.

3. Opening the PT Only Green Link to Small Vehicle Access

Residents of Columbia Street initially asked that Council approach USC to allow general vehicle access to the existing Green Link which joins up to the university's internal road network.

This option was not supported by USC as it would increase vehicle movements and maintenance requirements on the internal road network. It was also considered that additional vehicle movements would increase risk for pedestrians within the university's grounds.

4. Scholars Drive Link

Formerly named the Jade Link, the Scholars Drive Link is intended to provide an alternative one way exit from the Scholars Drive cul-de-sac to Columbia Street to allow vehicles to avoid congestion at the University Way, Scholars Drive and Springhill Drive roundabout.

Congestion on Scholars Drive occurs between 3:00pm and 3:40pm, which is longer than the majority of schools on the Sunshine Coast which have a 15 minute to 20 minute afternoon peak.

A traffic movement study was carried out in 2016 to inform the Scholars Drive project development. Intersection counts were carried out between 6:00am and 9:00pm on Thursday and Saturday at the following intersections;

- University Way, Scholars Drive & Springhill Drive roundabout
- University Way & Albany St 'T' intersection

These early traffic counts have been compared to a drone survey carried out on Tuesday 20/7/21 and the numbers of turning vehicles are similar. It is also noted that student numbers at Chancellor State College have reduced slightly due to the opening of additional schools in the area.

The counts identified the following peak times and volumes for traffic exiting Scholars Drive;

AM Peak (Attachment A)

- Right turn movements – 8:15am to 9:15am (294 vehicles)
- Through movements – 8:40am to 9:10am (31 vehicles)
- Left turn movement – 8:45am to 9:10am (69 vehicles)

PM Peak (Attachment B)

- Right turn movements - 3:10pm to 4:00pm (233 vehicles)
- Through movements - 3:15pm to 3:30pm (25 vehicles)
- Left turn movements - 3:10pm to 3:30pm (79 vehicles)

A verification count was carried out on Thursday 22/7/21 to calibrate the 2016 count data and it showed that current volumes are below those in the 2016 data. Left turn movements were down to 63 vehicles vs 79 vehicle in 2016 between 3:00pm and 3:30pm. Traffic also flowed freely on scholars Drive after 3:33pm. A summary of this traffic count is shown in Attachment C. For the purposes of this report the 2016 traffic counts are considered current and appropriate for this analysis.

It is difficult to make assumptions as to how many vehicles will divert from Scholars Drive to the new Scholars Drive Link. It is safe to assume that all left turning vehicles will divert to the Scholars Drive Link. Based on congestion at the University Way roundabout and queues on the Scholars Drive Link some through and right turning vehicles may also divert to the Scholars Drive Link.

If only left turning vehicles were considered the volumes would be between 70 and 80 vehicles using the Link in and AM and PM peaks, or around 3 vehicles per minute under free-flowing conditions. If another 100 vehicles diverted to the Scholars Drive Link, giving a total of 180 vehicles using the Link, there would be around 7 vehicles per minute for 25 minutes passing residents homes.

Given the low volumes it is highly likely that some of the vehicles making the through and right turn movements will choose to use the Scholars Drive Link rather than join the queue of vehicles trying to exit at the roundabout. It is not possible to allocate a number as it will be based on a number of unknown choices that the motorist will be making. Some motorists may use the Scholars Drive Link in the early stages out of curiosity, but this is expected to be temporary.

Council officers will monitor vehicle movements after the Scholars Drive Link is opened and actual vehicle numbers will be used to set times that the Link will be open to traffic. It is Council's intention to reduce the impact of traffic on residents of Columbia Street by managing the opening and closing times of the Scholars Drive Link to ensure it is only open for the shortest time possible.

A summary of AM Peak (8am to 9am) traffic movements at the intersection of University Way, Scholars Drive and Springhill Drive is attached in attachment D. PM Peak (3:00pm to 4:00pm) traffic movements are shown in Attachment E.

Conclusion

It is difficult to model the potential movements on Scholars Drive Link as motorist's choice on which exit to use will likely be based on length of queue rather than destination. A split of 1/3 of vehicles using the new Link and 2/3 continuing to use the University Way roundabout is likely. Given the reduction of vehicles using the roundabout it is anticipated that queues on Scholars Drive will be well below the current 600 metres and clear earlier than 3:30pm.

The predicted volumes of traffic likely to use the Scholars Drive Link will be high soon after the Link opens but will drop off to around 30 vehicles in a 5 minute period or 6 per minute as travel patterns develop. Queue length is predicted to drop to below half the current 600 metre queue.

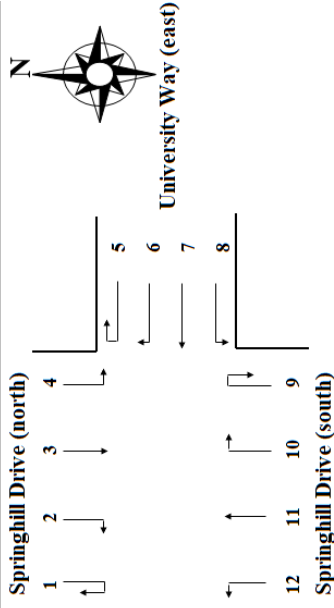
Council officers will monitor the traffic volumes in the first 3 months and modify the Scholars Drive Link opening times to reflect peak vehicle movements. Once the short-term peak has passed the Link will be closed to through traffic to improve residents amenity.

Further investigation and analysis will be carried out on the movements at the intersection of University Way and Albany Street in the near future. This report will be updated when this information is available.

Attachment A

AUSTRAFFIC VIDEO INTERSECTION COUNT

Site No.: 165 Weather: Fine
 Location: Springhill Drive/University Way, Sippy Downs
 Day/Date: Thursday, 11 August 2016
 1hr AM Peak: Hour ending - 9:05 AM
 1hr PM Peak: Hour ending - 4:00 PM
 2hr AM Peak: Hour ending - 9:30 AM
 2hr PM Peak: Hour ending - 5:00 PM

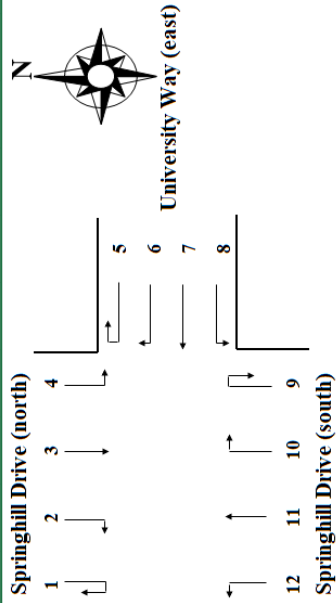


TIME (5 min end)	Movement 1			Movement 2			Movement 3			Movement 4			Movement 5			Movement 6			Movement 7			Movement 8		
	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total
8:10 AM	1	0	1	9	0	9	0	0	0	6	0	6	4	0	4	19	0	19	4	0	4	0	0	0
8:15 AM	0	0	0	17	0	17	0	0	0	7	0	7	16	1	17	30	0	30	16	1	17	1	0	1
8:20 AM	0	1	1	16	1	17	0	0	0	3	0	3	11	0	11	24	0	24	11	0	11	1	0	1
8:25 AM	0	0	0	15	0	15	1	0	1	4	0	4	12	0	12	29	1	30	12	0	12	0	0	0
8:30 AM	0	1	1	20	0	20	2	0	2	8	0	8	17	0	17	35	1	36	17	0	17	3	0	3
8:35 AM	0	0	0	24	0	24	0	0	0	6	0	6	20	0	20	19	0	19	20	0	20	2	0	2
8:40 AM	1	0	1	23	2	25	5	0	5	5	0	5	25	0	25	22	1	23	25	0	25	1	0	1
8:45 AM	1	0	1	19	0	19	0	0	0	13	0	13	24	0	24	12	1	13	24	0	24	0	0	0
8:50 AM	1	0	1	31	0	31	5	0	5	6	0	6	15	0	15	26	0	26	15	0	15	0	0	0
8:55 AM	1	0	1	37	1	38	7	0	7	10	0	10	11	0	11	26	0	26	11	0	11	1	0	1
9:00 AM	0	0	0	37	0	37	8	0	8	21	1	22	3	0	3	13	1	14	3	0	3	0	0	0
9:05 AM	1	0	1	20	0	20	4	0	4	10	0	10	2	0	2	16	0	16	2	0	2	3	0	3
9:10 AM	0	0	0	20	0	20	3	0	3	8	0	8	4	0	4	18	0	18	4	0	4	0	0	0
9:15 AM	1	0	1	10	1	11	1	0	1	3	0	3	1	0	1	19	1	20	1	1	2	1	0	1
9:20 AM	0	0	0	6	0	6	1	0	1	0	0	0	0	0	0	24	0	24	1	0	1	0	0	0

Attachment B

AUSTRAFFIC VIDEO INTERSECTION COUNT

Site No.: 165 Weather: Fine
 Location: Springhill Drive/University Way, Sippy Downs
 Day/Date: Thursday, 11 August 2016
 1hr AM Peak: Hour ending - 9:05 AM
 1hr PM Peak: Hour ending - 4:00 PM
 2hr AM Peak: Hour ending - 9:30 AM
 2hr PM Peak: Hour ending - 5:00 PM



TIME (5 min end)	Movement 1			Movement 2			Movement 3			Movement 4			Movement 5			Movement 6			Movement 7			Movement 8		
	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total
3:05 PM	2	2	4	9	0	9	1	0	1	2	0	2	0	0	0	9	1	10	17	0	17	2	0	2
3:10 PM	2	0	2	22	2	24	2	0	2	0	0	2	5	0	5	5	0	5	26	1	27	0	0	0
3:15 PM	0	0	0	17	0	17	6	0	6	15	4	4	2	1	3	2	1	3	19	0	19	4	0	4
3:20 PM	0	0	0	30	1	31	10	0	10	16	0	16	6	0	6	6	0	6	33	0	33	1	0	1
3:25 PM	0	0	0	37	0	37	5	0	5	15	0	15	7	0	7	7	0	7	16	0	16	1	0	1
3:30 PM	0	0	0	25	0	25	4	0	4	13	0	13	6	0	6	6	0	6	14	0	14	2	0	2
3:35 PM	0	0	0	25	0	25	0	0	0	9	0	9	4	0	4	4	0	4	18	1	19	3	0	3
3:40 PM	0	0	0	20	0	20	2	0	2	6	0	6	1	0	1	6	1	7	22	0	22	0	0	0
3:45 PM	0	0	0	15	0	15	1	0	1	5	0	5	0	0	0	1	0	1	16	0	16	5	0	5
3:50 PM	0	0	0	9	0	9	2	0	2	1	1	2	0	0	0	1	0	1	30	0	30	3	0	3

Attachment C

SITE Roundabout at Intersection of Scholars Drive and University Way

DATE 22/07/2021

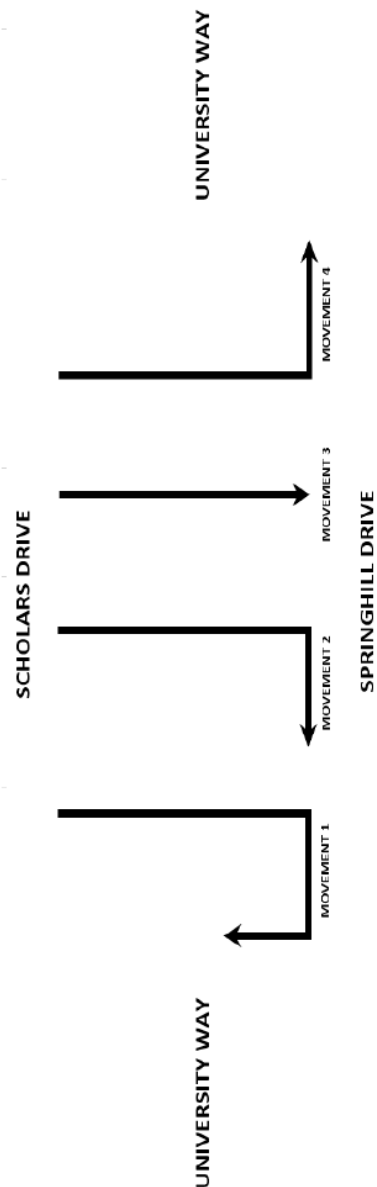
OFFICER Jarrod Lea

COMMENTS Only movement from Scholars Dr recorded

Time	Movement 1	Movement 2	Movement 3	Movement 4	TOTAL
3:00PM - 3:05PM	3	10	1	4	18
3:05PM - 3:10PM	0	29	7	11	47
3:10PM - 3:15PM	0	21	5	10	36
3:15PM - 3:20PM	0	15	3	11	29
3:20PM - 3:25PM	0	31	1	16	48
3:25PM - 3:30PM	0	25	1	26	52
3:30PM - 3:35PM	0	19	2	6	27
3:35PM - 3:40PM	0	11	1	4	16
TOTAL	3	161	21	88	273

NOTES: Traffic free flowing from 3:33PM

MOVEMENT DIAGRAM





AUSTRAFFIC VIDEO INTERSECTION COUNT

Movement

Weather: Fine

Site No.: 165

Location: Springhill Drive/University Way, Sippy Downs

Day/Date: Thursday, 11 August 2016

Summary: 15 Hour Volumes : 6:00 AM to 9:00 PM

1hr AM Peak :Hour ending - 9:05 AM

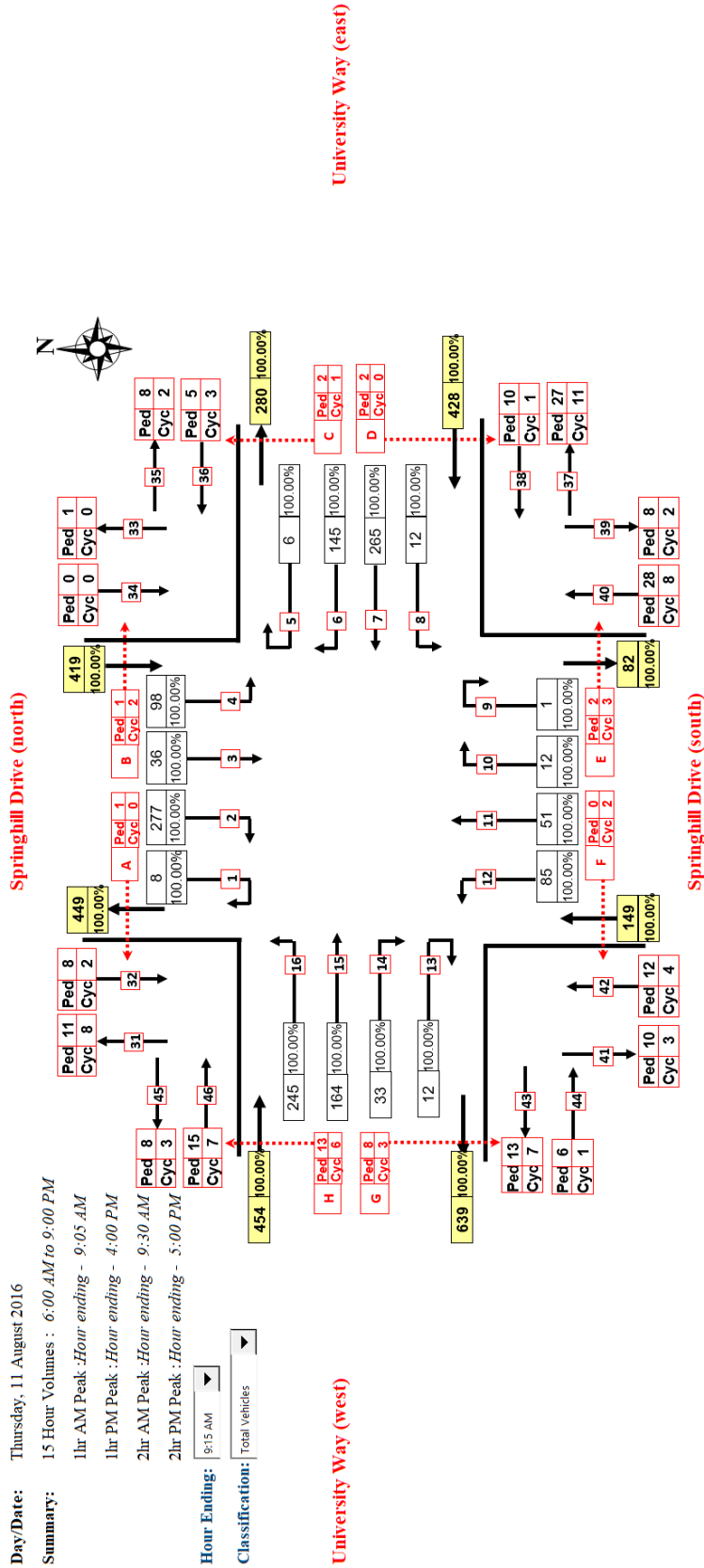
1hr PM Peak :Hour ending - 4:00 PM

2hr AM Peak :Hour ending - 9:30 AM

2hr PM Peak :Hour ending - 5:00 PM

Hour Ending: 9:15 AM

Classification: Total Vehicles





AUSTRAFFIC VIDEO INTERSECTION COUNT

Location:

Site No.: 165 Weather: Fine

Location: Springhill Drive/University Way, Sippy Downs

Day/Date: Thursday, 11 August 2016

Summary: 1.5 Hour Volumes : 6:00 AM to 9:00 PM

1hr AM Peak : Hour ending - 9:05 AM

1hr PM Peak : Hour ending - 4:00 PM

2hr AM Peak : Hour ending - 9:30 AM

2hr PM Peak : Hour ending - 5:00 PM

Hour Ending: 4:00 PM

Classification: Total Vehicles

