BIRMINGHAM ROAD MOUNT EVELYN TRAFFIC MANAGEMENT

Report Author:	Executive Officer Stormwater, Traffic & Transport
Responsible Officer:	Director Built Environment & Infrastructure
Ward(s) affected:	Billanook;

The author(s) of this report and the Responsible Officer consider that the report complies with the overarching governance principles and supporting principles set out in the Local Government Act 2020.

SUMMARY

At its meeting on 13 September 2022, Council received a petition highlighting concerns about dangerous traffic conditions during pick up and drop off times at Birmingham Primary School, Mount Evelyn. The petitioners requested the intersection at Birmingham Road and Francis Crescent be signalised.

Separate to the petition, concerns were also expressed by school crossing supervisors regarding safety issues at the Birmingham Road children's crossing.

Council officers have conducted a thorough traffic investigation, including on-site inspections, intersection assessment and engagement with relevant stakeholders. The assessment revealed that while the intersection currently operates acceptably during AM Peak, congestion occurs at the intersection between 3:30 pm and 3:45 pm.

The request to signalise the Birmingham Road/ Francis Crescent intersection will improve traffic flow during the critical period between 3.30pm-3.45pm. Outside of the period between 3.30pm-3.45pm, intersection performance would not be significantly improved. However, signalisation of the intersection will provide other benefits, including:

- Temporal separation of high-risk pedestrian and vehicle movements
- Increased driver compliance
- Greater capacity for increased traffic generated to and from the school.

The signalising of the intersection is expected to cost approximately $500,000, coupled with an annual maintenance cost of $20,000.

Council has recently been notified of Road Safety Victoria's funding opportunity "Safe Local Roads and Streets Program" – factsheet attached. Under this program, each Council would receive $2 million to implement prioritised road safety projects. Council's Traffic team is scheduled to begin engagement with Road Safety Victoria in June/July 2024. It is recommended that the signalised intersection at Birmingham Road/Francis Crescent be included for prioritisation and funding consideration.

Additionally, Council's Traffic team is in the process of implementing improvements by installing radar speed display signs and have commissioned the installation of zig zag line marking on the approach to Birmingham Road children's crossing to address safety concerns raised by the school crossing supervisors.

RECOMMENDATION

That Council

1. ***Note the implementation of radar speed display signs and zig zag line marking on Birmingham Road.***
2. ***Include the signalisation of Birmingham Road / Francis Crescent for funding consideration as part of Road Safety Victoria's Safe Local Roads and Streets Program.***

RELATED COUNCIL DECISIONS

This report responds to the petition received by Council on 13 September 2022 to signalise the intersection of Birmingham Road and Francis Crescent.

DISCUSSION

Background

Birmingham Primary School is located on Francis Crescent, Mount Evelyn. With Francis Crescent being the only road only road frontage to the school, all vehicular pickups and drop offs occur from Francis Crescent and this results in parking and traffic congestion during the peak periods.

The school crossing on Birmingham Road is a staged crossing, staffed daily by two supervisors. The two crossings along Francis Crescent are also rostered to be staffed daily.

To address parking issues, the Council formalised parking arrangements in front of the school in 2013. However, despite the school's expansion since then, there have been no upgrades to the external road infrastructure.

At its meeting on 13 September 2022, Council received a petition highlighting the dangerous traffic conditions during pick up and drop off times at Birmingham Primary School, Mount Evelyn. The petitioners requested for the intersection at Birmingham Road and Francis Crescent to be signalised.

In addition to the petition, concerns were expressed by school crossing supervisors regarding safety issues at the Birmingham Road children's crossing.

Figure 1 below shows the existing conditions around the subject site.

Figure 1: Aerial image of subject site

Traffic Investigation

Council's Traffic Engineering team conducted thorough on-site inspections during peak school hours, engaging with the school principal, crossing supervisors, the lead petitioner, and representatives from the School Council. Furthermore, a Traffic Engineering consultant (consultant) was engaged to conduct a traffic assessment at the Francis Crescent/ Birmingham Road intersection. (Table 1 below outlines the existing traffic conditions.)

The Level of Service (LoS) is a qualitative measure of intersection performance. LoS A refers to movements operating at excellent conditions, LoS F refers to movements operating at poor conditions and requires mitigation measures or upgrades to better manage traffic.

Table 1: Existing Traffic Conditions (AM Peak and PM Peak)

Approach	Movement	Avg. Delay (Sec)	Queue (m)	LoS
AM Peak				
Birmingham Road (East)	Through	2.9	30.2	A
	Right	7.0	15.5	A
Francis Crescent (North)	Left	9.6	8.6	A
	Right	20.2	17.4	C
Birmingham Road (West)	Left	3.5	0.0	A
	Through	0.0	0.0	A
PM Peak				
Birmingham Road (East)	Through	3.1	18.2	A
	Right	9.2	7.7	A
Francis Crescent (North)	Left	57.4	55.7	F
	Right	29.1	14.3	D
Birmingham Road (West)	Left	3.7	0.0	A
	Through	0.4	0.0	A

As shown above, the intersection is currently operating under good conditions during the morning peak hour, with relatively modest delays and queues.

The critical movement is the right-out from Francis Crescent, which experiences average delays of approximately 20 seconds, and queues of approximately three vehicles (noting that LoS C – refers to good conditions – within acceptable limits).

During the afternoon peak, the intersection performance reduces because of increased pedestrian crossing movements blocking the eastbound Birmingham Road carriageway, and generally higher traffic volumes throughout. Movements from Francis Crescent are critical, with delays of approximately 57 seconds for left-out movements, and queues of around approx. 55 metres (eight vehicles).

To better reflect the operating conditions during peak periods existing conditions observed at the site, the vehicle, and pedestrian movements from the 15 minute pedestrian peak were modelled – times outside of the peak 15 minute period for both AM and PM period indicates excellent conditions (LoS A) for all movements.

Considering the above, from a traffic operational perspective the intersection performance is the only time deemed to be under poor conditions during school pick-up/drop-off periods for the 15-minute period between 3.30pm - 3.45pm.

Signalising the intersection at Francis Crescent/ Birmingham Road

A concept layout of the signalised intersection, with pedestrian crossings on the north and east approaches, generally consistent with the existing arrangement has been developed for Francis Crescent/ Birmingham Road. (Refer - Figure 2.)

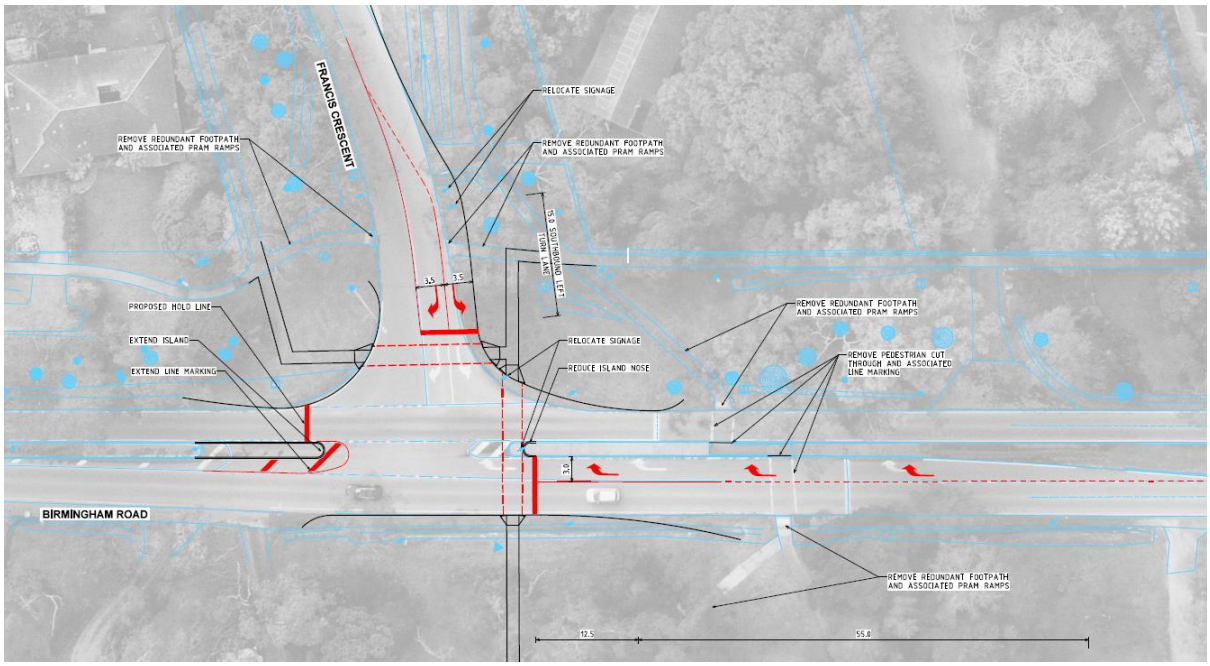

Figure 2: Signalised Intersection concept layout

A comparison between existing and future scenario with a signalised intersection. The signalised intersection design is expected to operate under excellent conditions during both peak periods. (Refer Table 2)

It is important to note that the signalisation of the intersection will increase queues and delays, particularly for movements which previously had priority and were not required to wait. However, this is expected for a signalised intersection and all queues and delays outlined above are within acceptable limits. Notably, delays for the critical exit manoeuvres (Francis Crescent – Left/ Right) in the afternoon period are considerably reduced.

The data outlines that outside of the period between 3.30pm -3.45pm, intersection performance would not be significantly improved. However, signalisation of the intersection will provide other benefits, including temporal separation of high-risk pedestrian and vehicle movements, likely increased driver compliance, and greater capacity for increased traffic generated to and from the school.

Table 2: Comparison between existing and future scenario with a signalised intersection

Approach	Movement	Avg. Delay (Sec)		Queue (m)	
		Existing	Future	Existing	Future
AM Peak					
Birmingham Road (East)	Through	2.9	7.6	30.2	30.1
	Right	7.0	15.4	15.5	32.5
Francis Crescent (North)	Left	9.6	24.5	8.6	35.1
	Right	20.2	24.3	17.4	30.2
Birmingham Road (West)	Left	3.5	11.4	0.0	39.4
	Through	0.0	8.0	0.0	39.4
PM Peak					
Birmingham Road (East)	Through	3.1	6.0	18.2	27.3
	Right	9.2	17.6	7.7	10.6
Francis Crescent (North)	Left	57.4	27.9	55.7	40.3
	Right	29.1	26.4	14.3	19.2
Birmingham Road (West)	Left	3.7	11.5	0.0	90.0
	Through	0.4	8.1	0.0	90.0

During the engagement with the school crossing supervisors, it was highlighted that the visibility of pedestrians at the crossing for westbound traffic is obstructed by vehicles occupying the right turn lane – as shown in Figure 3 below. It was also reported that vehicles are also speeding through Birmingham Road not adhering to the 40km/hr speed limit.

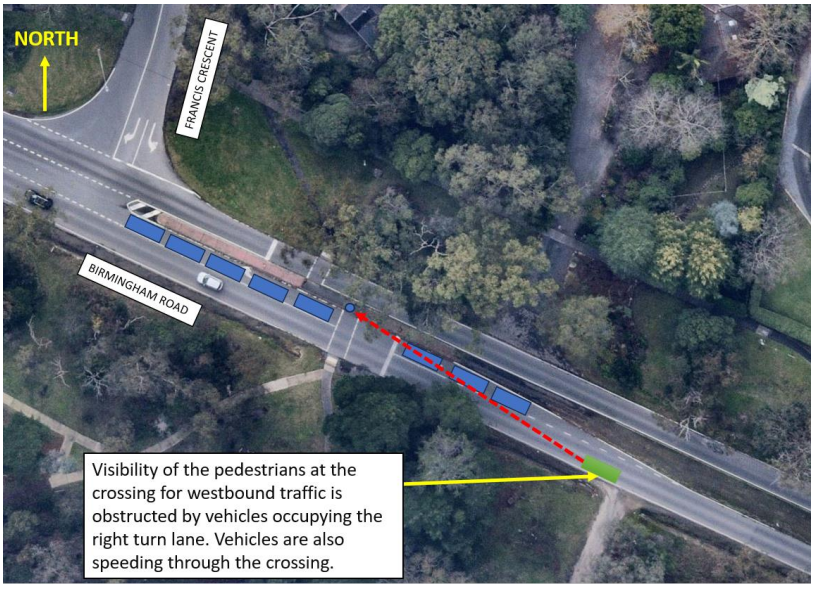

Figure 3: Safety Issues at the Birmingham Road Children's crossing

Council's Traffic team is in the process of installing radar speed display signs on Birmingham Road. These signs will serve as visual prompts, aiming to reinforce adherence to the speed limit by encouraging drivers to reduce their speeds, if surpassing the limit. By providing real-time speed feedback, there is an increased

chance to prompt immediate adjustments in driving behaviour, fostering increased compliance with speed regulations.

To further enhance safety, Council's traffic team have commissioned the installation of zig zag line markings on the approach to Birmingham Road children's crossing to effectively alert drivers to exercise caution and reduce their speed. These visual cues created by zigzag markings have proven to be more compelling in other locations in Yarra Ranges encouraging drivers to slow down.

The congestions and intersection efficiency remains unchanged.

FINANCIAL IMPLICATIONS

The improvements of installing radar speed display and improving zig-zag line marking are to be funded from existing operating budgets.

The installation of traffic signals will cost approximately $500,000, coupled with an annual maintenance cost of $20,000. The maintenance expense could be offset by reducing the number of crossing supervisors required at the crossing from 2 to 1, resulting in potential savings of approximately $20,000 per annum.

Council has recently been notified of Road Safety Victoria's "Safe Local Roads and Streets Program" – factsheet attached. Under this program, each Council will receive $2 million to implement prioritised road safety projects. Council's Traffic team is scheduled to begin engagement with Road Safety Victoria in June/July 2024.

It is recommended that the signalised intersection at Birmingham Road/Francis Crescent be included for funding consideration.

Noting that infrastructure initiatives are subject to prioritisation and availability of funding, it is important to consider other safety initiatives to manage the safety concerns raised by the school community.

The staffing criteria for school crossing supervisors is currently under review by the Department of Transport and Planning (DoTP), on this premise, the maintenance expense may be offset by reducing the number of crossing supervisors required at the Birmingham Road crossing from 2 to 1, providing potential savings of approximately $20,000 per annum.

COMMUNITY ENGAGEMENT

As part of the investigation, officers have engaged with the school principal, crossing supervisors, the lead petitioner, and representatives from the School Council.

CONFLICTS OF INTEREST

No officers and/or delegates acting on behalf of the Council through the Instrument of Delegation and involved in the preparation and/or authorisation of this report have any general or material conflict of interest as defined within the *Local Government Act 2020*.

ATTACHMENTS TO THE REPORT

1. Safe Local Roads and Streets Program – Fact Sheet.