
Canterbury Bankstown Traffic Committee - 12 February 2019

ITEM 18 **Beaconsfield Street and Queen Street, Revesby**
Traffic signal review

WARD **Revesby**

ELECTORATE **East Hills - Discussion**

AUTHOR **Operations**

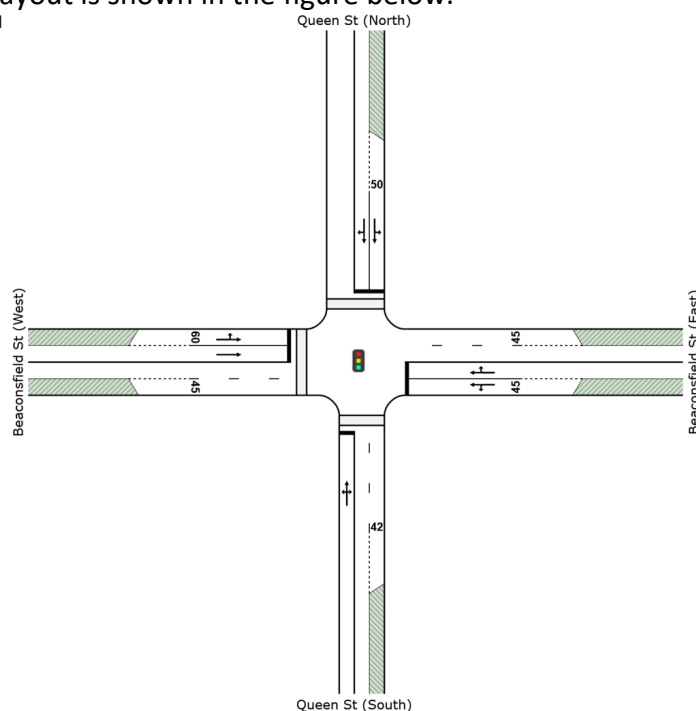
ISSUE

To consider the traffic signal review for the intersection of Beaconsfield Street and Queen Street, Revesby.

DISCUSSION

Council has received representation from the community to install right turn signalised arrows in Queen Street on both approaches to the intersection at Beaconsfield Street, Revesby. Residents reported long waiting times to turn right from Queen Street into Beaconsfield Street. Northbound motorists in Queen Street, were held up by motorists turning right at the intersection, leading to long queues heading north. There were also a number of accidents at the intersection involving cross traffic.

A consultant was commissioned to carry out the traffic signal modelling assessment. The existing layout is shown in the figure below.



SIDRA modelling was used to assess the traffic impact if Right turn signalised arrows were installed in both approaches in Queen Street at the intersection of Beaconsfield Street, shown in Attachment A.

Traffic counts were carried out in the AM and PM peak periods, and both peak periods show very low right turn volumes in Queen Street on both approaches as shown in Attachment B.

For example, the PM peak southbound traffic in Queen Street comprised of 693 vph for Left turn and Through, whilst the southbound Right turn was 45 vph.

In a similar way, northbound traffic in Queen Street comprised of 328 vph for Left turn and Through, while Right turn was 11 vph.

The RMS available accident data was reviewed and a copy of the crash diagram July 2012 to June 2017 is shown in Attachment C.

The following options were modelled:

- Existing – All turns allowed, except for Right turn from Beaconsfield Street into Queen Street southbound.
- Option 1 – Single Diamond Operation (requested by Council, on behalf of residents) – Exclusive Right turn lanes in Queen Street, both allowed to turn at the same time as the Left turn and Through traffic. Beaconsfield Street to remain unchanged.
- Option 2 – Split Approach – Allowing northbound in Queen Street and southbound in Queen Street to operate under separate phases. Beaconsfield Street to remain unchanged.
- Option 3 – No Right turn for northbound traffic in Queen Street and for southbound traffic in Queen Street, a Right turn arrow into Beaconsfield Street. Beaconsfield Street to remain unchanged.
- Option 4 – No Right turn for northbound traffic in Queen Street. Southbound traffic in Queen Street and Beaconsfield Street to remain unchanged.

The five options are provided in Attachment D.

The results of the intersection performance for each option are summarised below and provided in Attachment E.

Summary of Options

Option 4 performed better than the other options.

The Existing arrangement was the next preferred.

Option 1

To provide Right turn exclusive lanes to accommodate low Right turn volumes in both directions of Queen Street creates other impacts at the intersection.

The southbound Through capacity of Queen Street is impacted the most due to the through capacity reducing to one lane. The kerbside lane needs to accommodate both Left turns and Through traffic of 693 vph PM, while the Right turn exclusive lane accommodates 45 vph PM.

Providing an additional exclusive northbound Right turn lane in Queen Street reduces the southbound departure lane width from 6 metres to around 4 metres. Therefore the

westbound turn path in Beaconsfield Street into Queen Street towards the south will be tighter, restricting the left turn to vehicles under 9 metres.

Also there is a bus stop south of Beaconsfield Street which will impact on traffic through the intersection. Amenity at the intersection is compromised.

Providing the exclusive Right turn lanes may not address the recorded accidents even though it appears that 3 of the accidents are attributed to end of phase Right turning movements.

Option 2 – Split Approach, Right Turns under separate phases

The southbound Right turn volumes in Queen Street are not high enough to warrant a split approach. The separate phasing delays other movements, in particularly the northbound traffic which no longer operates concurrently with the southbound traffic phase, resulting in additional time being needed.

Option 3 - No Right Turn Northbound from Queen Street, Southbound right turn arrow from Queen Street

With the Right turn arrow from Queen Street southbound into Beaconsfield Street, and the No Right Turn ban in Queen Street northbound into Beaconsfield Street, there will be similar LoS to the existing arrangement. However the average delay in both peak periods are higher, and the queue lengths on all approaches will be longer. In the worst case, the AM peak for northbound traffic in Queen Street increases by a little more than 80 metres.

Option 4 – No Right Turn Northbound from Queen Street only change

With the No Right Turn ban in Queen Street northbound into Beaconsfield Street, and keeping all other legs unchanged, the LoS in the AM peak is improved from D to C. There will be a small reduction in the queue length for northbound motorists, also in the AM peak, as they will not be held up by those turning right at the intersection.

Alternatives for northbound motorists will be Bransgrove Road, then direct access to The River Road via the traffic lights, or north along Victoria Street to access the schools via the proposed roundabout at the intersection of Beaconsfield Road and Victoria Street (2018/19 Capital Works Program).

Summary of findings:

There is no definitive decision on what should be done at this intersection. Providing right turn green arrows in both directions of Queen Street requires one of the lanes to be an exclusive right turn lane. This layout then impacts the intersection in other ways, leading to long queues on approach to the signals and banning turns by certain vehicles.

The Consultant's report suggests that Council should consider implementing a northbound 'No Right Turn' on Queen Street at Beaconsfield Street and provide traffic signals at the intersection of Beaconsfield Street and Victoria Street for traffic to access the schools (Broderick Gillawarna, Revesby Primary and St Luke's). As mentioned above, Council will be constructing a roundabout at this intersection for this year's Capital Works program.

Suggestion

It is suggested that options be discussed with the RMS, with Option 4 preferred. If the RMS approves changes to the traffic signals, a Traffic Management Plan (TMP) would be needed and the proposal would then be listed for consideration in a future Works Program.

POLICY IMPACT

This matter has no policy implications to Council.

FINANCIAL IMPACT

Nil.

PROPOSED CONCLUSION:

- That the findings of the traffic study by a consultant, for the “Provision of ‘Signalised Right Turn’ both directions Queen Street” at the intersection of Beaconsfield Street, Revesby be considered.
- Preference given to Option 4 for the provision of a northbound “No Right Turn” on Queen Street at Beaconsfield Street, and a Traffic Management Plan (TMP) be submitted to RMS for consideration.

ATTACHMENTS

- A. Beaconsfield Street, Revesby - Concept for Consultant - Plan No TC 0192
- B. (AM and PM) Peak Periods and Traffic Counts
- C. Beaconsfield Street, Revesby - Crash Diagram - Plan No TC 0455
- D. Proposed Layout - Options 1-4
- E. Intersection Performance