

## 8. COLOMBO STREET/TENNYSON STREET – INTERSECTION SAFETY



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### PURPOSE OF REPORT

1. The purpose of this report is to inform the Board on the outcome of investigations into traffic issues in the Beckenham shops area. The issues were raised following a survey of residents regarding the safety of pedestrians using the Colombo/Tennyson Streets intersection, and a subsequent deputation to the Board by representatives of the Beckenham Neighbourhood Association.

### BACKGROUND ON COLOMBO STREET/TENNYSON STREET – INTERSECTION SAFETY

2. At the Board's 16 August 2005 meeting, Council officers were asked to report back to the Board on the following issues:
  - (a) To simplify the intersection the car access by Hardings Chemist must be removed - could an entrance/exit be made via Somerfield Street?
  - (b) Could the lights be phased so pedestrians have more time to cross and cars have time to get through the intersection (current phasing of lights needs correcting)?
  - (c) The whole of Beckenham shops area made a "go slow" zone.
  - (d) How does this issue relate to the Citywide Passenger Transport Study?

### Access Adjacent To Hardings Chemist/Post Shop

3. The access point to the car park behind Hardings Chemist has a left-turn only on exit. It is illegal to turn right or proceed straight ahead. While it would make the intersection less complicated if this access point was removed, Council cannot simply remove this access. The driveway was in place before the signals were installed and as such the property owner has existing use rights. An alternative point of access onto Somerfield Street would require negotiation between Harding's Chemist and the property owner of 142 Somerfield Street.
4. As a general rule, driveways opposite the side street at T-intersections are not signalised. Generally they do not have enough traffic demand to justify their own phase and would cause too much confusion if run in conjunction with the phase for the side road. At present the situation is clear, as left-turning vehicles leaving the driveway must give way to the right-turners from Tennyson Street. Since the installation of the Colombo/Tennyson Streets traffic signals in June 1996, there have been no reported crashes involving vehicles using this access/egress. A diagram and report are attached showing reported crashes in the area over the last five years.

### Pedestrians At Colombo/Tennyson Streets Intersection

5. The current phasing of the signals is adequate to cater for both the needs of motorists and pedestrians. The time given to each vehicle phase varies throughout the day as the system controlling the signals dynamically adjusts the amount of green time based on the volume of traffic on each approach. The amount of time given to pedestrians is always the same and is based on 6 seconds of green (to allow pedestrians to start crossing) and a flashing red clearance period (determined from an 85% percentile walking speed of 1.2m/s). Both crossings across Colombo Street have 13 seconds of clearance for the 15 metre length of crossing.
6. Some protection for pedestrians at the signals is already provided in the form of a 'late-start'. Basically this prohibits vehicles from moving for a short period as the pedestrian phase is introduced, giving time for pedestrians to get out on the road and be more visible to turning traffic. At the Colombo/Tennyson Streets and Colombo/Strickland Streets intersections we have increased the amount of late start for pedestrians from 3 seconds to 6 seconds. The disadvantage of this is that it reduces the amount of time available to traffic and will increase the length of queues on Strickland Street and Tennyson Street. To a certain extent the impact of this is mitigated by the low volume of pedestrians. The late start is only introduced when there is a pedestrian demand to cross Colombo Street and as such does not occur in every cycle of the signals.

7. Often the suggestion is made to provide an exclusive pedestrian phase or Barnes Dance. These are not an acceptable treatment on an arterial road in a suburban environment. As an entire phase is devoted to pedestrians, during which vehicles are unable to move, they are extremely inefficient and can only be justified where there are a large number of pedestrians and additional delay to vehicles can be accepted, such as the central city. It should be noted that exclusive pedestrian phases also cause excessive delays to pedestrians. Current pedestrian wait times of around 30 second would increase to around 60 seconds.
8. If we were installing a new set of traffic signals at a T-intersection, the design would not include a pedestrian facility in conflict with vehicles turning right out of the side street. Ultimately the solution might be to remove this crossing at the Colombo/Tennyson Streets intersection if the additional late-start proves ineffective. This is likely to meet with negative response from the community as the additional distance and time delay involved in making the crossing to the northeast corner are an inconvenience to pedestrians. There is always a compromise that has to be made between safety, efficiency and convenience.
9. Since the installation of the traffic signals, there have been two reported crashes involving pedestrians at this intersection. In both cases the pedestrian was crossing on the north side of the intersection when struck by a vehicle making a right-turn out of Tennyson Street.
10. There is a relatively large number of pedestrians crossing in the mid-block area between the two intersections. Mostly this involves people who patronise the shops and need to cross the street to get from their parked vehicle to businesses on the opposite side. As there is more time and distance involved in using the signalised pedestrian facilities at either of the two intersections, most pedestrians choose to cross mid-block. In a video survey undertaken between the hours of 8-9 am on Tuesday 18 October 2005, 41 people crossed the road in the area between the two intersections. Only 16 (39%) of these 41 used the signalised crossings.

#### **Vehicle Speeds On Colombo Street**

11. Colombo Street is a major arterial road, and near the Beckenham shops it carries around 17,500 vehicles per day. Surveys were undertaken by Council staff using a radar gun to ascertain the speed of vehicles passing through this area. The 85th percentile speed was 47 km/h (i.e. 85% of vehicles are travelling at less than 47km/h). As a general rule, measured 85th percentile speeds tend to be higher than the posted speed limit. In this case the speed is comparatively low and suggests that there is not a speeding issue in this area. This is to be expected, as the road environment is such that it is not conducive to excessive speed. There are a variety of interactions taking place in the vicinity of the two closely spaced sets of traffic signals - parking manoeuvres, bus stops, driveways, cyclists and pedestrians.

#### **Somerfield/Strickland Streets Intersection**

12. In the past five years there have been two non-injury crashes reported at this intersection. In comparison to other intersections in Christchurch this does not indicate a serious safety concern. Extending the traffic signals at Colombo/Strickland Streets to include this intersection is not feasible. The two intersections are too close together and as such it would not be practical to run them as one intersection. For the intersection to function would require elaborate phasing and signal head placement, and would probably create more problems than it would solve. There is also insufficient space between the two intersections to allow any queuing and it would not be possible to provide adequate and safe pedestrian facilities as exist at present. It would also degrade the level of service for traffic on the arterial road, Colombo Street. The current layout of the intersection is as good as it can be without some major work to realign the approaches, which would require property purchase and significant sums of money, and cannot be justified at this point in time.

13. The suggestion was made to remove the left-turn display which allows vehicles to make a left turn from Colombo Street in to Strickland Street while the Strickland Street phase is running. While it is agreed that this would help to simplify the situation for vehicles exiting Somerfield Street, there are reasons for continuing to operate the left-turn green arrow. There are a high number of vehicles making this left-turn movement, especially in the morning peak hour period (487). Were the left-turn never able to run at the same time as the Strickland Street phase, the length of queues of left-turners would significantly increase, leading to regular blocking of the northbound thru lane. There are already times when the mid-block section between Tennyson and Strickland Streets is filled. Removing the left-turn green arrow would significantly increase the occurrence of this happening, reducing the efficiency of both intersections and increasing delays to motorists. The only way to relieve the ensuing congestion would then be to increase the length of the left-turn lane by removing parking on the west side of Colombo Street, a move which is unlikely to be endorsed by any of the local businesses.

#### **Driveway at Colombo/Strickland Streets**

14. The driveway between First National Real Estate and Filadelfio's falls into a similar category as the one adjacent to Hardings Chemist. A video survey was undertaken on 26 October 2005 to evaluate usage of the driveway. In total there were 68 vehicle movements in the ten and a half hour period between 07.30 and 18.00. This does not indicate a demand high enough to justify the signalling of this driveway.
15. In the past five years there have been no reported crashes involving vehicles using this driveway.

#### **Relationship To Citywide Public Transport Priority Plan**

16. There are unlikely to be any major changes to the geometry or signal timings of the intersections in the area as part of the Citywide Public Transport Priority Plan.

#### **FINANCIAL AND LEGAL CONSIDERATIONS**

17. Nil – this report is for information only.

#### **STAFF RECOMMENDATION**

It is recommended that the Community Board receive the information on the outcome of investigations into traffic issues in the Beckenham shops area.

#### **CHAIRPERSON'S RECOMMENDATION**

For discussion.

#### **CHAIRPERSON'S COMMENT**

I would also like the Board to explore the matter of the slower speed zone option.