

STAFF REPORT

TO: Chairman and Members, Engineering Services Committee

FROM: Gary Clark, Transportation Manager
(Prepared by Steve Elkington Transportation Project Engineer)

REFERENCE: RD3615

DATE: 7 March 2011

SUBJECT: **Salisbury Road/Arbor Lea Intersection Signalising (Waimea College New Entrance) – RESC11-03-03-INF**
Report prepared for meeting of 17 March 2011

1 PURPOSE

- 1.1 The purpose of this report is to inform the Engineering Services Committee of the proposal to install traffic signals at the intersection of Salisbury Road and Arbor Lea Avenue due to a new entrance planned for the expansion of Waimea College.

2 BACKGROUND

- 2.1 The Ministry of Education approached Council several years ago in regard to installing a new entrance at the northern end of Waimea College opposite Arbor Lea Avenue as part of the planned expansion of the college. The main concern with the new entrance was that it would conflict with the efficiency and safety of the Arbor Lea Avenue intersection effectively turning the intersection into a cross-roads configuration. Under the district plan this layout where the fourth leg would be a reasonably busy accessway, is not permitted.
- 2.2 The Ministry had looked at purchasing a neighbouring property and also utilising existing entrances which they considered less than ideal and there where high costs in obtaining the land.
- 2.3 The planned expansion of the college involves additional classrooms, a new carpark to service a special needs block as well as allowing service vehicles to access the back of the school and gym.
- 2.4 The peak hourly traffic movements for the new accessway are expected to be 132 vehicle movements for peak morning and afternoon hours of 8.00-9.00 am and 3.00-4.00pm in the first year.
- 2.5 Salisbury Road is a main arterial road providing a strategic transport route carrying approximately 15,000 vehicles per day with a peak hour flow of approximately 1350 vehicles per hour (recorded July 2009). Arbor Lea Avenue is an access road carrying

approximately 1200 vehicles per day with a peak hour flow of approximately 70 vehicles per hour (recorded July 2009).

- 2.6 Arbor Lea Avenue has a single access point on to the local roading network via Salisbury Road. Egress can be difficult at peak and peak shoulder times and there are safety issues with this intersection.

3 COMMENT

- 3.1 Council required the Ministry of Education to engage a recognised traffic engineer to assess the impact of signalising the intersection of Salisbury Road and Arbor Lea Avenue and carry out modelling to determine required phase movements and phase times. The modelling also helped to understand the impact on the capacity and hence levels of service for Salisbury Road now and in the future. The signal phasing times will be monitored and managed by a system called SCATS which allows varying red/green phase times based on traffic demands. This system allows signals along a route to be coordinated to improve safety and traffic flow
- 3.2 The new signals will also provide pedestrian phases for crossing Salisbury Road whilst permitting side road movements and for crossing Arbor Lea Ave and the new college accessway when left turn and straight through traffic flows are permitted on Salisbury Road.
- 3.3 Appended to this report is a plan showing the proposed signalised intersection layout. Both Salisbury Road approaches to the intersection have separate right turn lanes and a combined left-turn and through traffic lane. Arbor Lea Avenue is only wide enough for a single lane to accommodate straight-ahead, left turn and right turn out movements. Based on current flows and limited catchment development surrounding Arbor Lea Avenue, it is not considered necessary to add multiple egress lanes.
- 3.4 Council will fund 50% of the cost of installing the new signals and markings from its Subsidised Minor Improvements Budget for 2010/11. The Ministry of Education will pay the other share as well as the entire cost for altering kerbs to accommodate the new accessway. The ongoing operations and maintenance of the signals will be funded from Council's Subsidised Roding Programme.
- 3.5 The signals will be managed by Nelson City Council who currently manage Council's other set of signals as well as those of the New Zealand Transport Agency.
- 3.6 The signal phases include one for right turning traffic from Salisbury Road, a second for left turning and straight through traffic on Salisbury Road and the third for all side road vehicle movements. There is no filtering during the second phase to permit right turning traffic from Salisbury Road to turn (driver has red arrow aspect) if there is no oncoming vehicle. The reason for this is that vehicle numbers for turning right from Salisbury Road into either Arbor Lea Ave or the college accessway is relatively low and hence the queue lengths are expected to be short. An option to allow filtering in future for right turning traffic to turn from Salisbury Road during the **SECOND PHASE**, when these drivers would normally have a red arrow will be considered.

3.7 The work is programmed to be tendered and construction commencing before the end of the current financial year. The work is expected to take several months to complete. Consultation with affected property owners will be undertaken beforehand. Public notification will also be undertaken through Council's usual media network as well as a letter drop to nearby residents warning of the proposed work. Whilst an effort will be made to coordinate the work with school holidays it is acknowledged that these holidays are generally only two weeks duration and are unlikely to align well with the contract period. The Ministry of Education requires its share of the cost to be invoiced by June 2011.

4 RECOMMENDATION

4.1 THAT the Engineering Services Committee receive this report, RESC-11-03-03-INF Salisbury-Arbor Lea Intersection Signalising.

Gary Clark
Transportation Manager