

8. LYTTTELTON SCHOOLS VARIABLE SPEED LIMIT

General Manager responsible:	General Manager City Environment, DDI 941-8656
Officer responsible:	Transport and Greenspace Manager
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PURPOSE OF REPORT

1. The purpose of this report is that the Board endorse the installation of a new variable speed limit (40 km /hr school zone) in Winchester Street at St. Josephs school & Oxford Street at Lyttelton Main school and that the Board recommend to Council that it approve a new variable speed limit and include it in the Christchurch City Speed Limits Register.

EXECUTIVE SUMMARY

2. The Council has a programme of installing 40 km/h variable speed limits (known as “school zones”) outside schools according to a prioritisation process. To date eighteen schools have benefited from this treatment. The “school zone” will operate on school days, for no more than thirty minutes in the morning at a time between 8.30 a.m. and 9.00 a.m. and for no more than thirty minutes in the afternoon at a time between 3:00 p.m. and 3.30 p.m.
3. Now that the Council has formalised the Christchurch City Council Speed Limits Bylaw 2005, it can resolve to make these new variable speed limits. Accordingly infrastructure for these variable speed limits cannot be commissioned until they have been formally resolved by the Council.

FINANCIAL IMPLICATIONS

4. The estimated cost for the school zone (separate from the Oxford Street Zebra crossing relocation) is \$40,000. The funding for this project will be managed out of the original BPDC allocated budget for Lyttelton schools and a surplus from other projects completed in the Lyttelton Harbour basin.
5. The recommendations of this report align with 2006-16 LTCCP budgets.

LEGAL CONSIDERATIONS

6. The proposed variable speed limit complies with the conditions specified and published by the Director of Land Transport New Zealand in the *New Zealand Gazette* (2/6/2005, No. 86, p. 2051) approving a variable speed limit of 40 km/h in school zones and setting out conditions for those speed limits. A copy of that notice is **attached**. Council resolution is required to implement the speed limit restrictions and traffic management changes.

ALIGNMENT WITH LTCCP AND ACTIVITY MANAGEMENT PLANS

7. This report’s recommendations support the project objectives as outlined in the 2006-16 LTCCP.
8. This project aligns with the Transport and Greenspace Unit’s Our Community Plan 2006-2016.

ALIGNMENT WITH STRATEGIES

9. This project is consistent with key Council strategies including the Road Safety Strategy, Pedestrian Strategy and Safe Routes to School Strategy.

CONSULTATION FULFILMENT

10. Both Lyttelton school’s Board of Trustees have been informed of the proposed variable speed limits and have expressed support for the installation of variable speed limits at their school. Information newsletters will be made available to all the families of children attending the schools. Property owners and residents will receive a newsletter about the signage to be installed outside their properties and these property owners will be spoken to in person, and given a minimum of 14 days to make submissions about these.

11. Before the Council can set a variable speed limit pursuant to Clause 5(1) of the Christchurch City Speed Limits Bylaw 2005, the public consultation requirements set out in Section 7.1 of the Land Transport Rule Setting of Speed Limits 2003 Rule 54001 must be complied with. Section 7.1(2) provides that the persons that must be consulted before the Council sets a speed limit are:
- (a) *Road controlling authorities that are responsible for roads that join, or are near, the road on which the speed limit is to be set or changed; and*
 - (b) *A territorial authority that is affected by the existing or proposed speed limit; and*
 - (c) *Any local community that the road controlling authority considers to be affected by the proposed speed limit; and*
 - (d) *The Commissioner of Police, and*
 - (e) *The Chief Executive Officer of the New Zealand Automobile Association Incorporated, and*
 - (f) *The Chief Executive Officer of the Road Transport Forum New Zealand; and*
 - (g) *Other organisation or road user group that the road controlling authority considers to be affected by the proposed speed limit; and*
 - (h) *The Director of Land Transport New Zealand.*
12. Section 7.1(3) of the Rule provides:
A road controlling authority must consult by writing to the persons in 7.1(2) advising them of the proposed speed limit and giving them a reasonable time, which must be specified in the letter, to make submissions on the proposal. In terms of Section 7.1(2)(a) and 7.1(2)(b) there are no road controlling authorities or territorial authorities that are required to be consulted in respect of any of the proposed variable speed limits.
13. The representatives of the Commissioner of Police, the Director of Land Transport New Zealand, the Chief Executive Officer of the New Zealand Automobile Association Incorporated and the Chief Executive Officer of the Road Transport Forum of New Zealand will receive written advice of the proposed new variable speed limit in accordance with Section 7.1(2) (d), (e), (f) and (h). No other organisation or road user group is considered affected by the proposed speed limits. No neighbouring road controlling authority is affected. Support for the proposed variable speed limits will be sought in writing from the New Zealand Police and from Land Transport New Zealand.

STAFF RECOMMENDATIONS

The Board recommends to the Council:

- (a) The installation of a variable speed limit on Winchester Street and Oxford Street (school zone) subject to a satisfactory outcome of any issues raised by the community during consultation undertaken by the Council in respect of the proposals to set the new variable speed limit of 40 km/h specified below meets the requirements of Section 7.1 of the Land Transport Setting of Speed Limits Rule 2003.
- (b) That pursuant of Clause 5(1) of the Christchurch City Speed Limits Bylaw 2005 a variable speed limit of 40 km/h apply on 1): Winchester Street, commencing at the Oxford Street intersection and extending in a north westerly direction for a distance of 145 meters. And (2) Oxford Street commencing at a point 30 meters south westerly of the Exeter Street intersection and extending in a south westerly direction for a distance of 157 meters

- (c) That the steady state LED display 40 km/h legend in the variable speed limit sign is illuminated on any school day during the following times:
 - (i) 30 minutes before the start of school until the start of school, and
 - (ii) 30 minutes at the end of school, beginning no earlier than five minutes before the end of school; and
 - (iii) 10 minutes at any other time when at least 50 children cross the road or enter or leave vehicles at the roadside.
- (d) That the abovementioned variable speed limits shall come into force on the date of adoption of this resolution.

BACKGROUND ON THE 2 LYTTTELTON SCHOOLS SPEED ZONE

14. (a) **Brief History:**
Banks Peninsula District Council initiated a budget for safety works at the Lyttelton Main school on Oxford Street and St Josephs school on Winchester St. A report was submitted to the Lyttelton /Mt Herbert Community Board in December 2006 and there is a high expectation that remedial work will commence shortly. The Oxford Street project at Lyttelton Main school is underway.
- (b) **Winchester Street Issue:**
Following a number of discussions with the St Josephs school Board of Trustees chairperson, it is agreed that the problem is that vehicles on Winchester street, travelling eastwards from the Canterbury Street intersection are travelling too fast for the conditions. This combined with the total lack of approach visibility of the school gate /crossing point ,creates an unsafe situation for children needing to cross Winchester Street. If a school zone is installed now instead of , say 3 or 4 years time- as per its relative priority (8th equal) on our list for 165 schools, would this undermine the priority process developed to install the many zone requests received? In my opinion, the answer is no. Reasons:
- (i) There is no practical civil engineering solution for this issue.
 - (ii) Banks Peninsula District Council specifically set aside money to resolve the issue at Winchester street and there is a high expectation that a solution will be implemented.
 - (iii) The school zone priority process was developed prior to the merger with BPDC and was developed specifically for schools in the former CCC area.
 - (iv) The available funds are outside the available funding specifically set aside for school zones and the implementation of a zone in Lyttelton will not affect the relative priority of any other schools in the CCC area.
- (c) **Oxford Street Issue:**
While the project is underway to relocate the zebra pedestrian crossing, to better align with the school's and the wider community's needs, the Lyttelton Main school Board of Trustees has requested a 40 km /hr zone.

THE OBJECTIVES

15. The objectives of a school zone are to:
- (a) Slow approaching motorists, who are driving too fast for the conditions (pedestrians hit by a vehicle travelling at 70 km/hr have a 95 % risk of death, whereas this risk decreases dramatically at lower speeds i.e. 5% risk at 30 km/hr)
 - (b) Raise awareness of the approaching motorist (a motorist, in an alert state, can potentially react up to 1 second faster than, when not in an alert state. For example, at 65 km/hr, vehicles are travelling at 18 metres per second-a distance that may be critical to saving a pedestrian casualty).
 - (c) Creating a safer environment for children, needing to cross a roadway at the school.
16. There is a need to establish a set of selection criteria so that each school can be compared and prioritised. The criteria have been established as:

Road Environment

17. Issues to be addressed are land use, road engineering, approach visibility, traffic growth potential, and urban fringe and alignment issues. Sites are scored according to the following, where zero is considered an ideal environment, and ranging to four being considered a difficult road environment.

18. An example of an ideal road environment can be:
- (i) A roadway with good approach visibility i.e. visibility not obstructed by horizontal or vertical alignment changes.
 - (ii) Zero distractions created by advertising clutter on the roadside.
 - (iii) No land uses which generate activity such as entering or exiting traffic from sites or heavy parking demand, not associated with the school.
19. Where the ideal road environment does not exist, school frontage roads will be assessed for a school zone, based on the following scoring rational:
- 0 = ideal road environment
 - 1 = low level of distractions, low level of other land use traffic generation, and average approach visibility.
 - 2 = medium level of distractions, medium level of other land use traffic generation, and low approach visibility
 - 3 = high level of distractions, high level of other land use traffic generation. And poor approach visibility
 - 4 = Very high level of distractions, very high level of other land use traffic generation, and very poor approach visibility.
20. While it may be debated that an ideal road environment, is conducive to a higher speed environment, and therefore should be scored high, rather than low, the ideal road environment reduces the potential for approaching vehicles, to be operated by unaware motorists. The scoring for other criteria accounts for speed and other issues.

Kerbside Activity

21. Consideration of activity outside the school.
- 0 = A minimal problem.
 - 1 = low/median activity, i.e. activity is similar to surrounding land use parking activity.
 - 2 = full demand i.e. all available kerbside occupied.
 - 3 = full demand with some parking disturbance i.e. double parking, reversing.
 - 4 = a situation of chronic parking congestion and manoeuvring. Roadway may effectively be narrowed to one lane.
22. The degree of parking activity may create a situation whereby the approaching motorist is distracted by this activity. Children may attempt crossing the roadway by walking out, between parked cars. Double parking further compromises the inter visibility, by the physical obstruction to sight lines. While not a desirable activity, the reality is that children may be on the roadway, when getting into / out of cars, on the driver's (road side) of the vehicle.

Number of Heavy Vehicles (Trucks, Buses etc)

23. Assessment of the number of Heavy Vehicles passing the school gate where
- 0 = virtually none
 - 1 = low
 - 2 = low/medium
 - 3 = medium/high
 - 4 = very high
24. Where heavy vehicles are present, the potential risk to child safety increases. There have been a number of child fatalities, where the child has collided with a heavy vehicle. While the vehicle operator is not necessarily at fault, the fact is that, heavy vehicles are unforgiving, when colliding with a person.

Cyclists

25. Assessment of cyclist activity within the zones, where
- 0 = indicates very few cyclists
 - 1 = low level
 - 2 = medium level
 - 3 = high level
 - 4 = very high level, at locations with Intermediate / Secondary schools adjacent
26. Where a greater number of cyclists occur, travelling to and from school, children tend to bunch (riding 2, sometimes, 3 abreast). Also, in greater numbers, the probability of unexpected manoeuvres (sudden changes of direction / road crossings etc), can increase.

Motor Vehicle Operating Speeds

27. Assessment of the 85th percentile speed of vehicles at the school crossing at peak times, where
- 0 = below 45 km/h school zone not warranted below 45 km/h in L.T.S.A. Note 37.
 - 1 = 45–49 km/h
 - 2 = 50-54 km/h
 - 3 = 55-60 km/h
 - 4 = 60-69 km/h
 - 5 = 70-79 km/h
 - 6 = 80 km/h, and above
28. The stopping distance increases exponentially, with an increase in vehicle speed. This creates a potential safety risk to the cyclist or pedestrian, as identified in the opening statement of objectives, and the comment relating to alertness /reaction time.

Motor Vehicle Volume

29. Assessment of the average daily total, where
- 0 = below 3,000 vehicles
 - 1 = 3,000-4,000 vehicles
 - 2 = 4,000-6,000 vehicles
 - 3 = 6,000-8,000 vehicles
 - 4 = 8,000+ vehicles
30. In Christchurch, the traffic volume during the morning peak traffic hour, when school children are arriving at school, is typically 10% of the daily traffic volume. For example, a road with 6,000 vehicles per day, will have about 600 vehicles per peak morning hour, or 1 vehicle every 6 seconds, on average, passing the school when children are arriving. These volume rates give an indication of the level of road use activity at the critical time and the relative difficulty of gap selection etc.

Level of Crossing Activity

31. Assessment of school related road crossing activity, numbers and duration, where:
- 0 = usually zero pedestrians i.e. dropped off by car or do not need to cross the roadway.
 - 1 = low 1-19 school pedestrians
 - 2 = medium 20-50 school pedestrians
 - 3 = high above 50 school pedestrians
32. Where there is relatively low activity, school staff can generally manage children crossing the roadway.

Road Status

33. Assessment of the road network classifications, where
- 1 = Local
 - 2 = Collector
 - 3 = Minor Arterial
 - 4 = Major Arterial
34. The status of the road provides an indication of the general awareness of passing motorists. For example, a local road generally has motorists who live locally with a high awareness of the road environment outside the school. A major arterial road may have a significant number of motorists passing, who are on a longer journey, with no local knowledge of the road environment.

Community Interest

35. An issue to be addressed is the level of community involvement and sensitivity, where a score of zero indicates no community concern raised to Council, to a score of 4 which reflects substantial community lobbying, i.e. political involvement and meetings held.

THE OPTIONS

36. The preferred option is to install a temporary 40 kph speed limit using electronic and static signage that operates during the daily opening and closing periods of the two schools on Oxford Street and Winchester Street. Other Options are described....

ASSESSMENT OF OPTIONS

The Preferred Option

37. Lyttelton Main and St. Josephs school using the above criteria ranks =8 in the present school prioritisation.

	Benefits (current and future)	Costs (current and future)
Social	Improved pedestrian safety for school children.	Nil.
Cultural	Nil.	Nil.
Environmental	Nil.	Additional roadside signage.
Economic	Nil	Capital expenditure and maintenance.
Extent to which community outcomes are achieved: Primary alignment with community outcome <i>"Our City provides a choice of housing, easy mobility and access to open spaces, and a range of utilities that allow people to enjoy an acceptable quality of life"</i> by providing a safe transportation network.		
Impact on the Council's capacity and responsibilities: No impact		
Effects on Maori: It is considered that there are no effects on Maori.		
Consistency with existing Council policies: Consistent with the Road Safety Strategy particularly in respect to designing and managing roads with appropriate speed environments and providing safe facilities for pedestrians.		
Views and preferences of persons affected or likely to have an interest: All affected parties have been contacted and all responses indicated support of the proposal.		
Other relevant matters: Nil.		

Maintain the Status Quo

38. Maintaining the status quo or doing nothing will achieve nothing for the community. The two schools on Oxford Street and Winchester Street have requested that something be done to improve safety for children on these two frontage roads when school children are crossing the road. To do nothing will maintain a possibly hazardous situation.

	Benefits (current and future)	Costs (current and future)
Social	Nil	Potential for pedestrian crossing crashes with time.
Cultural	Nil	Nil
Environmental	Nil	Nil
Economic	No capital expenditure or on going maintenance costs.	Nil

Extent to which community outcomes are achieved:
Maintaining the status quo is not aligned to any Community Outcomes.

Impact on Council's capacity and responsibilities:
No impact

Effects on Maori:
It is considered that there are no effects on Maori.

Consistency with existing Council policies:
Maintaining the status quo is not consistent with the Road Safety Strategy or the CCC Financial Plan and Programme 2004 and conflicts with the objectives of the asset management plan.

Views and preferences of persons affected or likely to have an interest:
Given that feedback in support was received for the option distributed for public consultation it is considered that there is some support for not maintaining the status quo.

Other relevant matters:
Nil.

OTHER OPTIONS FOR WINCHESTER STREET

- (a) Install a school patrol (Kea crossing). The number of children crossing the roadway is less than the Land Transport Warrant for a school patrol. The school would have difficulty providing enough children /staff to operate a school patrol. A patrol would do nothing to resolve the safe sight stopping distance due to the acute vertical curve.
- (b) Install Kerb extensions (with or without a school patrol). While this would shorten the crossing distance and improve lateral visibility, it would do nothing to resolve the approach visibility due to the vertical curve.
- (c) Install Road humps on western approach. These slow traffic but are not a suitable for buses to negotiate. There are a significant number of buses using this road.
- (d) Install Speed Cushions on western approach. The objective of these is to slow cars but allow larger vehicles (buses) to traverse without having to negotiate the vertical elements of this type of traffic calming. At a site where these were installed however, the cushions have had no effect on slowing buses.
- (e) Install a crossing facility at the apex of the vertical curve. This would maximise the approach visibility from both directions. Experience has shown that where a facility is installed away from the desire line, then pedestrians cross at the location where they wish. In this case pedestrians would be required to walk uphill, cross and then back downhill. This is unlikely.
- (f) Install a zebra crossing. The numbers are well below the warrant for a zebra crossing.
- (g) Level the vertical curve. This would be major and is well outside the financial resources available. Such work is unlikely to be justified economically. It is doubtful whether levelling of the vertical curve would create ideal approach visibility.