
Decision Session – Cabinet Member for City Strategy

28 June 2011

Report of the Director of City Strategy

PETITION CONCERNING EXISTING 20MPH SCHOOL SAFETY ZONE ON HAXBY ROAD

Summary

1. In response to a petition from residents, requesting the removal of existing road humps within the Haxby Road Primary School Safety Zone and the introduction of a signalised pedestrian crossing to benefit the school and local shops, this report examines the background issues and evaluates the requested actions. The technical evaluations within the report conclude that removing the road humps is likely to increase vehicle speeds to the detriment of road safety near the School, and whilst the introduction of a pelican crossing may be desirable, there is no feasible location without disadvantage to residents on this section of road.

Recommendations

2. That the Cabinet Member:-
 - i. Note the content of the petition, but agree that no further action should be taken.

Reason: To maintain a safe road environment around Haxby Road Primary School and the nearby shops.

- ii. Reply to the lead petitioner.

Reason: To inform them of the Cabinet Member's decision.

Background

3. Haxby Road is a busy radial route linking the city centre with the A1237 outer ring road (see attached location plan **Annex A**). It is classified as a traffic route under the Council's speed management plan and as such is important for emergency service and bus operations. Bus services using the route include the high frequency service nos 1 and 5. Haxby Road Primary School is situated on the east side of the road and

around the Vyner Street junction there is a corner shop, a bank, a launderette and a dvd rental store.

4. There is an existing 20mph school safety zone with traffic calming outside the School. Other pedestrian crossing facilities include a zebra crossing to the south of the Vyner Street / White Cross Road junction and a pedestrian refuge to the north of the bridge. A school crossing patrol is allocated to this school and operates at the Haleys Terrace / Huntington Road / Fossway junction.
5. The petition from residents was passed to a meeting of the Full Council on 15 July 2010 by Councillor Douglas. The petition was signed by 37 people and the front page is provided as **Annex B**. The petition asks the Council to remove the junction table and speed cushions, which are considered to be ineffective and a source of vibration to nearby properties, and replace them with a signalised pedestrian crossing for pedestrians to safely access the school and shops.

Suggested Removal of Road Humps

6. The existing 20mph school safety zone includes a junction table outside Haxby Road Primary School and two pairs of speed cushions. Junction tables are generally accepted to be a proven speed control device in urban areas that can provide good crossing points for pedestrians. However, it is acknowledged that they can cause slight increases in noise, vibration, vehicle passenger discomfort and delay for the emergency services. Speed cushions were developed to address these issues and because they can be straddled by large vehicles are less likely to generate such problems. However, they are not suitable for pedestrian crossing points.
7. Ground borne vibration caused by large vehicles negotiating the junction table at an inappropriate speed is the main issue identified by residents. National research and local studies at similar sites have recognised that whilst there is a nuisance factor to typical levels of vibration experienced, it is highly unlikely to cause actual damage to properties. Damage is only likely to occur where properties are less than 3m away from the road hump (the nearest property to the junction table is more than 6m away) and even then this is only on certain very soft soil types which are very unlikely to be present here. A recent traffic count on 19 January 2011 recorded 271 buses, 193 medium goods vehicles and 8 heavy goods vehicles in 12 hours (7am to 7pm).
8. To evaluate the effectiveness of the traffic calming measures, a survey was undertaken in the centre of the 20mph zone. Unfortunately, there are no records of vehicle speeds being taken prior to the introduction of the zone, but to assess the likely speed of vehicles without traffic calming, surveys have also been conducted outside the 20mph zone. The results are shown in the table below.

Location	Mean speeds		85 th percentile	
	Northbound	Southbound	Northbound	Southbound
Within the School Safety Zone	20	20	24	24
Top of the bridge north of the School Safety Zone	23	22	27	27
Just south of Fountayne Street	24	22	29	27

9. The existing mean speeds of 20mph and 85th percentile speeds of 24mph are considered to indicate a good level of compliance with the 20mph speed limit. These results suggest that the average speed of traffic near the school is likely to rise by about 3mph if the traffic calming measures were removed. This level of increase would allow a signed 20mph speed limit to be retained, however the higher speeds would increase the risk of accidents occurring and affect the severity of associated casualties (figures published by the DfT suggest that a 1mph increase in speed generally equates to a 5% increase in accidents).
10. There have been no recorded injury accidents within the existing 20mph zone, which suggests that it is achieving its aim of creating a safer environment near the School. However, there have been four accidents in the vicinity of the Vyner Street / White Cross Road junction in the last three years. These involved: a cyclist colliding with the car it was overtaking; a cyclist being overtaken and clipped by a wing mirror; a right turning vehicle colliding with a vehicle travelling straight on; and a pedestrian crossing at the zebra being hit by an overtaking vehicle.
11. It is estimated that the removal of these features would cost around £23,000 including traffic management costs and fees.

Installation of a Pelican crossing

12. Pelican crossings are generally only recommended where there is a very high crossing demand in conflict with high traffic volume and speed. If pelicans are installed where a road can be crossed relatively easily, the situation often arises when a pedestrian crosses before the green man appears, leaving drivers frustrated when stopped by a red light with no-one using the crossing. Pelicans are best sited as close as possible to where most pedestrians already cross, to discourage pedestrians crossing in the shadow of the facility where drivers are not focussing. In addition, vehicle speeds can sometimes increase when signals are introduced as drivers speed up to catch green lights.
13. To assess demand for pedestrian crossing facilities on the section of Haxby Road between Rose Street and Fountayne Street, a 12 hour crossing survey was undertaken on Wednesday 19 January 2011 between 7am and 7pm. The delay experienced by pedestrians was also recorded. The results are shown in the table below and on a plan as **Annex A**.

Location	Total pedestrians	Average waiting time (seconds)	Total children	Average waiting time (seconds)
Between Rose Street & just south of Greenfields (includes existing junction table)	308	7	42	5
South of Greenfields & north of Vyner Street	487	4	39	4
Between Vyner Street & Fountayne Street (includes existing zebra crossing)	812	1	45	1

14. The total for children crossing would not solely be children attending Haxby Road Primary but would also include children walking to Park Grove Primary and Joseph Rowntree Secondary School children crossing to nearby bus stops.
15. The location with the most pedestrian crossing movements was just south of Vyner Street where the zebra crossing is provided. Crossing movements here are likely to be generated by the nearby shops, launderette, and bank as well as the local schools.
16. Outside Haxby Road Primary School a junction table is provided to reduce vehicle speed and provide a level surface to cross on. Our survey showed 308 pedestrian including 42 child crossing movements here. Around 50 Haxby Road Primary School pupils live to the west of the School and have to cross Haxby Road. The 2009 school travel survey suggests that 12 children live off Hambleton Terrace, Rose Street or Greenfields and their most direct crossing point would be outside the school. Other children who walk have access to other crossing facilities on the route such as the existing zebra crossing. It is therefore likely that other Haxby Road Primary School children crossing here have been driven, and their parents have parked on Greenfields or the west side of Haxby Road.
17. A recent traffic count on 19 January 2011 recorded just over 10,000 vehicles in 12 hours (7am to 7pm).
18. A nationally accepted practice for assessing the justification for a pedestrian crossing is to apply a calculation, known as PV^2 , which effectively evaluates the potential for conflict between pedestrian (P) and vehicle (V) flows. A modified version of this calculation has been developed which takes account of accident history (A) and a 'difficulty in crossing' factor (D) relating to the physical characteristics of the particular road. This is known as the $ADPV^2$ calculation. When a value of $ADPV^2$ between 1 and 0.7×10^8 is achieved it is recommended that consideration should be given to a signal controlled crossing. For values between 0.7 and 0.2×10^8 a signal controlled crossing would not be recommended, but alternatives such as a zebra or pedestrian refuge should be considered. However, where the value of $ADPV^2$ is below 0.2×10^8 then a crossing facility would not normally be justified.

19. The ADPV² value has been calculated for all three sections of road covered by the pedestrian surveys. The lowest result was between Rose Street and just south of Greenfields which produced a score of 0.7×10^8 , and the highest at the existing zebra crossing with 1.2×10^8 . This suggests that the introduction of a signalised crossing could be justified on any of the three sections of road. The full ADPV² calculations are provided in **Annex C**.
20. When considering the introduction of a new signalised pedestrian crossing many factors need to be taken into account, including: forward visibility; on-street parking; vehicular accesses; side roads; bus stops; and other features in the road. Guidance on the siting of pedestrian crossings does not recommend the installation of a signalised crossing within 20m of a junction (unless the junction is signalised with pedestrian facilities included). This is to ensure that any vehicles waiting to turn out of the side road have adequate visibility of the signal heads. On the main road approaches traffic signals must be clearly visible for a desirable minimum distance of 50m where 85th percentile approach speeds are 25mph. On-street parking patterns should also be considered as parking is prohibited within the extents of the zig zag markings associated with the crossing. A pelican crossing typically costs £45,000 including traffic management costs and fees.

Alternative Locations for a Signalised Crossing

21. Given all these considerations, three possible locations for introducing a signalised pedestrian crossing between Rose Street and Vyner Street have been identified and assessed. These are either side of the Greenfields junction where the existing raised crossing points are, and midway between Greenfields and Vyner Street. The advantages and disadvantages of each location are discussed below, and the key points are illustrated on the plan in **Annex D**.
22. Just North of Greenfields Junction

Advantages

- a) This would benefit the 308 pedestrian movements surveyed crossing in this vicinity in 12 hours. This included a total of 42 children, most of which were at school times.
- b) The west footway is already wide enough to accommodate waiting pedestrians. However, some footway widening would be needed on the east footway.

Disadvantages

- a) This location is not in line with the guidance of siting pelican crossings more than 20m away from a junction. However, Greenfields has a fairly small number of properties and on the whole is not used by a large volume of traffic.
- b) This would place a signalised crossing adjacent to an existing bus stop. It is likely that any stopped bus (including frequent bus services 1 and 5) would mask the offside signal head for southbound drivers. This could have road safety implications if an approaching driver was unaware that the signals had gone to red. The bus stop could not be relocated northwards because of the incline of the bridge (forward visibility for overtaking vehicles would be restricted by the gradient). The bus stop would therefore have to be relocated south of the Greenfields junction. This would

require the removal of the existing parking bay for four vehicles, although it may be possible to introduce a short length of parking (two vehicle spaces) with a daytime restriction outside house nos. 145 to 147. As properties are close to the carriageway, and buses would stop frequently with passengers waiting on the adjacent narrow footway, this is unlikely to be welcomed by residents.

c) Three parking spaces on the east side would have to be removed to preserve visibility of the signal heads.

d) As no other road markings are permitted within the extents of the zig zag markings, there would not be a gap large enough for the school keep clear marking. Double yellow lines would still deter parking outside the School, but the added visual indication that there is a school would be lost.

23. Just south of Greenfields Junction

Advantages

a) Same advantages as above.

Disadvantages

a) As disadvantage (a) above.

b) The parking bay to the south would have to be removed (four vehicle spaces) to preserve forward visibility. Although it may be possible to introduce a short length of parking (three vehicle spaces) with a daytime restriction outside house nos. 145 to 149.

c) The crossing point would be in direct conflict with the vehicular access to the scout hut which would have to be relocated to Greenfields with the permission of the land owner. Otherwise, waiting pedestrians would be directly in the path of vehicles using the access and the signal poles would be vulnerable to being struck by manoeuvring vehicles.

d) As disadvantage (d) above.

24. Between Greenfields and Vyner Street Junction

Advantages

a) A reasonable distance from any side road to preserve forward visibility of signal heads.

b) This would benefit the 487 pedestrian movements surveyed crossing in this vicinity in 12 hours. This included a total of 39 children, most of which were at school times.

c) This location is only a short detour (around 20m) to attract some Haxby Road Primary parents to cross their children here.

Disadvantages

a) The parking bay south of Greenfields junction would have to be removed (four spaces) to preserve forward visibility.

b) As residential properties are very close to the carriageway, there may be a noticeable increase in noise as vehicles stop and pull away. The signal heads would also be close to house windows.

c) As disadvantage (d) above.

d) The existing zebra crossing would be located very close to the new pelican. This raises a serious safety concern over drivers focussing on the signal heads and possibly not recognising the presence of a zebra crossing. Therefore with this option it is recommended that the zebra crossing be removed, however, this is likely to cost an additional £4,000 including traffic management and fees. Pedestrians who usually cross at the existing zebra crossing may not be willing to walk the 45m detour to use the pelican crossing, and may be strongly opposed to the removal of a well established facility.

25. The three possible locations for a signalised pedestrian crossing all have disadvantages. Each one affects on-street parking and would increase noise to varying degrees for residents with vehicles stopping and starting. There are also safety and practical issues around visibility, the private access to the scout hut, and implications to an established bus stop. Whilst a number of pedestrians would benefit from a crossing closer to the School, if the zebra crossing is considered too close to the signalised pedestrian crossing and has to be removed on safety grounds, this would disbenefit a greater number of pedestrians who may not be willing to take a detour to use the new facility.

Member Views

26. Officers consulted with Ward Councillors Douglas, King and Scott, plus Councillors Merrett, Gillies and D'Agorne, on the proposals. Their responses are summarised below.

Ward Member Views

27. Cllr H Douglas – no comments at this stage.

28. Cllr K King – no comments received.

29. Cllr D Scott – no comments received.

Other Member Views

30. Cllr D Merrett – no comments received.

31. Cllr I Gillies – is happy to support the views of the Ward Councillors on this local issue.

32. Cllr A D'Agorne – would not support removing the junction table or the zebra crossing, and suggests that a lower cost solution would be to reprofile the junction table ramps so that they are less severe to negotiate, thereby reducing vibration levels. The effect on vehicle speed would have to be monitored.

Officer comment

The school safety zone was implemented in 2004, but our records suggest that the issue of vibration was not raised until 2010. At this time, there was some disintegration of the road surface near the ramps which were subsequently repaired.

The existing junction table is not particularly severe compared to similar traffic calming features, and as there is currently good compliance with the speed limit, speeds would be likely to increase if the ramp gradients were reduced.

Options on the Way Forward

33. The Cabinet Member has two basic options to consider:

Option One – note the contents of the report but take no further action;

Option Two – request that Officers progress one or more of the suggestions made by the petitioners.

Analysis of Options

34. The petition received shows a level of local concern about the existing scheme, but the suggestion of replacing the traffic calming measures with a signalised pedestrian crossing would have significant drawbacks. Most significantly the alternative proposals would have a negative impact on road safety mainly because vehicle speeds are likely to increase. The introduction of a crossing facility would be detrimental to residents in terms of loss of parking and increased noise of vehicles stopping and starting. The area already has an established well used crossing facility serving pedestrians with minimal delays for drivers. Therefore option one is recommended.

Corporate Priorities

35. It is not considered that the contents of the report would significantly impact on any of the corporate priorities. However, if option two was progressed it could potentially have a negative effect on road safety, thus impacting on the Safer City corporate priority.

Implications

This report has the following implications:

Financial

36. None, unless option two is pursued. Funding would have to be allocated at the expense of other schemes.

Human Resources

37. None.

Equalities

38. None, unless option two is pursued. Pelican crossings have a slight benefit over zebra crossings for those with visual impairments but the increase in vehicle speed that would be expected would be a disbenefit to all road users, particularly the most vulnerable young and elderly pedestrians and cyclists.

Legal

39. City of York Council, as highway authority for the area, has powers under the following Acts and associated Regulations to implement improvements to the highway and any associated measures:
- The Highways Act 1980
 - The Road Traffic Regulation Act 1984
 - The Road Traffic Act 1988

Crime and Disorder

40. Speeding is a criminal offence and the Council has a responsibility to deliver effective speed management. The existing 20mph zone has achieved a good level of compliance with the speed limit.

Information Technology

41. None.

Land & Property

42. None, unless option two is pursued, and the alternative progressed involves relocating a private access outside the adopted highway.

Sustainability

43. None.

Risk Management

44. In compliance with the Council's risk management strategy, the only risk associated with the recommendations in this report is considered to be to organisation / reputation as there is a risk of criticism from affected residents if the suggestion in the petition is not taken forward. However this risk is considered to be low given the sound reason for not proceeding.
45. Measured in terms of impact and likelihood, the risk score for all these risks has been assessed at less than 16 (see table below). This means that at this point the risks need only to be monitored as they do not provide a real threat to the achievement of the objectives of this report.

Risk Category	Impact	Likelihood	Score
Organisation/Reputation	Low	Possible	14

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Report Approved



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Specialist Implications Officer(s)

There are no specialist implications.

Wards Affected: Clifton

All

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For further information please contact the author of the report.

Background Papers:

Minutes of Full Council meeting 15 July 2010

Annexes

- Annex A Location plan and survey results
- Annex B Front page of petition
- Annex C ADPV² calculations
- Annex D Alternative locations for a pelican crossing