



**OFFICER REPORT TO LOCAL COMMITTEE
(ELMBRIDGE)**

**A307 TARTAR HILL PEDESTRIAN CROSSING PROPOSALS
FOLLOWING THE REMOVAL OF
TARTAR HILL FOOTBRIDGE**

27 SEPTEMBER 2012

KEY ISSUE & SUMMARY

As part of the scheme to remove the footbridge at Tartar Hill, a scheme to improve crossing facilities in the vicinity of the footbridge is proposed by SCC Structures Team. The scheme will be funded by SCC's Structures Budget. An options study has been carried out and a scheme has been designed for construction this financial year. The scheme is presented for consideration by the Local Committee.

OFFICER RECOMMENDATIONS

The Local Committee (Elmbridge) is asked to consider and comment on the solution being put forward.

1 INTRODUCTION AND BACKGROUND

This report investigates the provision of alternative pedestrian crossing facilities along the A307 Portsmouth Road (Tartar Hill), following the removal of the footbridge in late January 2012. A consultation was undertaken in April 2012 that captured the views and concerns of the public, which have been taken into consideration when undertaking the feasibility study. This report examines the existing conditions to assess the various options available in order to adopt a preferred solution appropriate for the site.

2 ANALYSIS

2.1 Site conditions

The A307 Portsmouth Road is subject to average vehicle flows of 13,310 vehicles per day, 3.7% of which are HGV's. It is a single two way carriageway with carriageway widths of between 8.9 and 11.5m. The speed limit is 30mph with street lighting on both sides of the carriageway, however 75% of traffic exceed this limit. The 85th percentile speed (the speed which 85% of the vehicles are not exceeding) is 39mph. A vehicle activated sign is located on the southwest bound carriageway, but, on its own, it has little effect on controlling vehicle speed.

2.2 Surrounding area

The surrounding area along the A307 between the old Police station and Brunswick Road is heavily developed with residential housing. There are several small businesses on the south side of the road and a motor service centre on the north side. The old common is situated on the northern side and is popular with dog walkers.

2.3 Pedestrian Routes

St. Andrews Church of England Primary School draws the most number of pedestrians at peak periods. A popular pedestrian route joins Portsmouth Road from the Old Common Road onto the north footway crossing the A307 at the central island at the Health centre, to gain access to the school. A small number of pedestrians also go to the Health Centre, although this is mainly accessed by vehicle (see drawing PC0227-001, Annex 2).

2.4 Existing pedestrian crossings

There is an existing controlled pelican crossing near the junction with Northfield Road at the Cobham end of the scheme, which connects the housing estate on the north side with the leisure centre and amenities on the south side. An uncontrolled crossing exists at the Esher end, which provides access for housing north of the A307 (Denby Road etc.) to facilities and amenities on the south side. These existing pedestrian crossings are positioned 740m apart, on a busy carriageway in a built up area.

2.5 Existing bus routes

The A307 Portsmouth Road is on the 515 bus route, which runs hourly, with bus stops located near the junction of Old Common Road and the Health Centre when travelling northbound and a bus stop near the Health Centre when travelling southbound. The bus stops are also used by secondary school services.

2.6 Accident Data

The accident records for the last 5 years showed 16 reported accidents on the A307 over an approximate length of 1km, between the Old Common Road and Icklingham Road junctions. Of the 16 accidents, only 1 involved a pedestrian which was near the motor service centre outside property no. 114, where a vehicle reversing out of the driveway struck a pedestrian on the footpath. There were no accidents reported at the unauthorised crossing near the health centre.

On review, the majority of accidents are due to careless or erratic driving behaviour with 7 accidents being standard collisions, 5 due to loss of control, 3 resulting in rear end shunts and 1 due to overtaking a turning vehicle. The driving behaviour captured in the accident data is also reflected in the speed survey data that identified high vehicle speeds. This combination has an impact on the comfort of the pedestrian when crossing the road, leading to a sense of vulnerability. This was raised as a comment during consultation.

2.7 Pedestrian Survey

A pedestrian survey was undertaken in March 2008. The data showed that in the period 07:00 – 19:00 a total of 227 pedestrians crossed the A307 in the vicinity of the bridge. 35 of those used the bridge, 6 crossed at the northern end of the pedestrian guard railing and 186 crossed in the vicinity of the bus stop near the health centre.

Following the removal of the bridge, a survey was undertaken in April 2012. In the period 07:00 – 19:00, a total of 201 pedestrians crossed. Of this total, 9 pedestrians crossed at the northern end of the guard railing, and 192 crossed near the health centre; making use of the central island at the bus stop.

2.8 Vehicle Survey

There is local concern that speed at this location is high. A speed survey was undertaken between 14th – 20th July 2012 for the periods 0:00 – 24:00 that detected an 85th percentile speed of 39mph (39mph NE bound; 38mph SW bound) with 75% of vehicles exceeding the 30mph speed limit. It is considered that the high driver's speed may be influenced by the wide road, which can make drivers feel comfortable at speed. The average traffic flow was 13,310 vehicles/day (6515 v/day NE bound; 6795 v/day SW bound) with 1,198 vehicles/hour being the highest peak hour count.

2.9 Vehicle v Pedestrian conflict

Although Local Transport Notes 1/95 and 2/95 steer away from the explicit use of the numerical criterion stated in TA 68/96 to determine the degree of conflict between pedestrians and vehicles, it is still considered appropriate as a good guide and an initial starting point. This method uses the formula PV^2 to assess whether a pedestrian crossing is required, where V is the 2-way total hourly flow of vehicles and P is the 2-way total hourly flow of pedestrians crossing the road within 50m on

either side of the site at busy times. If an average value exceeding 10^8 is met, then this would justify the requirement for a pedestrian crossing.

On applying the relevant figures to the PV^2 formula, a value of 0.35×10^8 was achieved, which does not exceed the value of 10^8 given in TA 68/96. This concludes that on comparison of numerical criterion alone, a 'do nothing' option is preferred and a pedestrian crossing facility is not considered necessary. However, when considering the high traffic speeds, the vulnerability of pedestrians and the high percentage of school children using unofficial crossings, it is considered that improvements can be made that will improve safety and the environment to the user.

2.10 Traffic Calming Measures

The speed survey indicated high vehicle speeds that make pedestrians feel vulnerable when crossing the road. Comments made during consultation confirm this, which gives sufficient evidence to suggest that speed control and traffic calming measures should be considered in addition to providing a safe pedestrian crossing.

Currently the only measures that currently identify this stretch of road as a 30mph zone and assist with controlling speed include 30 mph terminal regulatory speed limit signs on either end of the site (nearside 30mph sign missing on the SW bound carriageway), 'SLOW' carriageway markings at various locations, street lighting and a temporary Vehicle Activated Sign (VAS) when travelling in a south westerly direction.

Limited measures exist to notify that motorists are entering a road with a change of character (30mph zone) and the measures that do exist are not having the desired effect on controlling vehicle speed.

To reduce and control speeds on the approaches to and through a built up area, it will generally be necessary to employ a combination of traffic calming measures as individual measures may not control speed alone. TA 87/04 states 'as a general rule, a 1mph reduction in mean speed will result in a 5% reduction in all-injury accidents and a 10% reduction in killed or seriously injured accidents'. TA 87/04 Table 2.1 states a target 85th percentile speed reduction of 7 mph or over, which is required to bring the 85th percentile speed for this scheme from 39mph to 30mph, will result in a 47% reduction in all severity accidents.

3 OPTIONS

3.1 CROSSING TYPE OPTIONS

A wide range of options were considered and each type of crossing has advantages and disadvantages. The type chosen should be appropriate to the circumstances of the site and the demands and behaviour of road users. In light of the fact that the over bridge has been removed, several options have been investigated which are listed below.

Uncontrolled Crossings

3.11 Do nothing and encourage use of existing crossing facilities near Northfield Road and Brunswick Grove

The pedestrian survey identified that the existing crossing facilities are not on the desire line and as a result, pedestrians are using unofficial crossing points increasing risk and compromising their safety. It is not possible to impose measures that will favour the use of the existing crossing facilities over the unofficial crossing. The existing crossing facilities are 740m apart, in a built up area, where constant access is required to private means of accesses. Pedestrians will tend to establish their own route if the existing facilities are not adequate. The 'do nothing' option is not considered suitable at this location.

3.12 Pedestrian Refuge

It has been observed on site that traffic gaps of adequate duration to cross the road safely are available sufficiently frequently for pedestrians to cross the road safely, without suffering significant delay. It is believed that the form of crossing currently witnessed at the central island is suited to the demands and behaviour of road users. Its location however, as discussed earlier in the report, is of concern.

A pedestrian refuge at the desired location (between No.s 135 and 164) would provide a relatively inexpensive method of improving crossing facilities for pedestrians. The size of the refuge will need to be large enough to accommodate the demand to ensure pedestrians don't cross within the shadow of the island, as witnessed under existing conditions. An absolute minimum width of 1.2 metres is needed but the standing area for pedestrians must be sufficient for the location. A single carriageway approach width of 4 to 4.5m adjacent to a refuge is recommended, although narrower widths have been used successfully. There are no regulations defining the length of a refuge, although 2m is considered a minimum to allow two wheelchairs to pass.

At this location the carriageway width varies between 8.9 and 9.1m. A 1.2m wide refuge would provide running lane widths of 3.85m, which is close to the recommended width. Distances between private means of accesses allow for a refuge length of 10m approximately. In accordance with a site survey, the maximum demand was 7 people and 3 children bikes crossing at one time. It may be preferred to increase the refuge width and decrease the lane widths to accommodate the pedestrian demand and create more of a traffic calming pinch point.

Due to the random crossing patterns that exist, consideration should be made to using a number of central refuges, which may be more suitable than a single pedestrian crossing. This may reduce the number of people using one crossing point.

3.13 Improve existing central islands

The existing central islands near the Health Centre is already heavily used as a crossing point and is a popular location for a permanent crossing for residents, according to comments made during consultation. The existing island could be modified relatively easily to provide a more suitable facility for pedestrians, at a low cost. Although vehicular flow is relatively high and such a measure would not give

priority to pedestrians, site observations have shown that generally there are sufficient gaps in which to cross.

The existing bus stop would need to be relocated to accommodate a crossing here and ideally the island will need to be made wider to cater for the demand in pedestrian capacity. The existing side inlet gully will need to be relocated to allow for the provision of dropped kerbs on the south east side. The conflict zone however will remain due to its proximity to the junction.

Early communications within Elmbridge Borough Council have identified a possible suitable alternative location for the bus layby at the SW corner of the Old Common, which falls on 'common land' which is also an Area of Conservation Interest. If this option was to be progressed, an ecological survey and environmental assessment would be required along with further discussions concerning land ownership. Additional implications to be considered include that Elmbridge Borough Council would be unlikely to approve the relocation of the shelter on to the nearby common land. The shelter currently displays advertising and there would be a financial penalty to remove the structure altogether, though agreement could be reached to keep it at its current location, although that site would be redundant as a bus stop.

Controlled Crossings

3.14 Zebra Crossing

Site observations showed that the existing method of crossing often functions as a form of zebra crossing as motorists have a tendency to stop, giving priority to the pedestrian. However, TA 91/05 states that zebra crossings should not be introduced on roads with an 85th percentile speed of 35mph or above. As the current 85th percentile speed exceeds this, the zebra crossing is only an option if speed control measures that will reduce speeds below this threshold are adopted.

Portsmouth Road is an 'A' classified road and its function is to carry a large volume of traffic. Vehicle delays for a zebra crossing are typically five seconds for a single able person crossing but can be much more where irregular streams of people cross over extended periods. If vehicles are expected to stop each time a pedestrian enters the crossing, there are concerns that this will cause substantial delay to motorists, causing queuing. With erratic driver behaviour identified within the accident history and 3 accidents within 5 years being rear end shunts, providing a crossing facility that will result in stationary vehicles should be discouraged.

3.15 Signal Controlled Crossing

A controlled crossing would give pedestrians a more controlled environment in which to cross, and also allows pedestrian flow to be governed. LTN 1/95 sets out the following criteria when considering the suitability of signal controlled crossings. They should be used where;

- Vehicle speeds are high and other options are thought unsuitable;
- There is normally a greater proportion of elderly or disabled pedestrians;
- Vehicle flows are high and pedestrians have difficulty in asserting precedence;
- Pedestrian flows are high and delay to vehicular traffic would otherwise be excessive.

As shown through the pedestrian survey data and observations on site, pedestrian flows are not particularly high during peak hours, with the majority of pedestrians

consisting of school children supervised by adults. Outside peak periods, pedestrian flows are low. Sufficient opportunities exist to cross between the gaps in the traffic and the difficulty level in crossing can be described as low following observations on site. Although traffic speeds are high, these can be controlled through alternative, less costly measures.

The installation of a signal controlled crossing will result in vehicle delays and for the same reasons discussed above under zebra crossings. Providing a crossing facility that will result in stationary vehicles should be discouraged, as this could be a potential for rear end shunts.

Representation from those properties fronting the proposed location is likely to be received, if a significant amount of street furniture is installed outside their frontages.

3.16 Provide a new footbridge

The pedestrian survey indicated low pedestrian use of the footbridge prior to it being demolished and low pedestrian crossing movements at this site following its demolition. Its positioning at the location of the old footbridge is not on the desire line for pedestrians and there is no suitable alternative position to install a footbridge, due to land constraints. The footbridge was originally erected to provide a safe pedestrian crossing over the A3. This road has since been de-trunked and is now the A307, which operates under a lower speed limit and lower traffic flows. For these reasons, it is considered that a footbridge is no longer suitable, does not provide value for money and an alternative safe crossing should be considered.

3.17 School Crossing Patrols

The peak pedestrian flow mainly consists of school users. Consideration was given to a school crossing patrol as a means of providing a safe crossing point which will be operational for selective periods of the day only. An initial assessment by the Community Engagement Team stated that they do not consider that the site is suitable for a School Crossing Patrol.

3.18 Recommendation

Following observations on site, a review of the survey and accident data, and the options assessment above, it is recommended that a pedestrian refuge is provided south of the Health Centre. This would provide a low cost option on a popular pedestrian route that is appropriate to the demands and behaviour of road users, without incurring excessive delays to traffic. Due to the excessive traffic speed, it is recommended that this option is taken forward along with traffic management/speed reduction methods.

As random pedestrian crossing patterns exist it should be considered whether a number of central refuges would be beneficial rather than a single pedestrian crossing, which caters for the highest demand. A series of central refuges could provide additional crossings in combination with acting as a traffic calming measure.

3.2 TRAFFIC CALMING OPTIONS

The various options considered for traffic calming measures are given below.

3.21 Gateways

(A Gateway is a coloured surfacing patch imprinted with a 30 mph roundel image)

Vehicle speeds recorded on the northern end of the scheme are high as vehicles increase speed in advance of exiting the 30mph zone into a 40mph speed limit in a north easterly direction and when entering the 30mph zone when travelling in a south westerly direction. Due to the wide carriageways and general perception of the surrounding area, vehicles tend to continue travelling in excess of the speed limit throughout the area.

Gateways on average decrease vehicle speeds by 5mph. It is considered that the use of a gateway will assist in controlling traffic speeds at the northern end of the scheme and enhance driver's awareness, where drivers are expected to adopt a different style of driving and lower speeds. A gateway in combination with improved signing, carriageway markings and rumble devices could assist in reducing speeds as they enter the 30mph zone.

3.22 Carriageway Narrowing

On carriageway cycle facilities would not only improve accessibility and safety for cyclists, but would also act as a traffic calming measure through reducing carriageway widths. However, the traffic surveys did not identify a particular demand that would warrant on carriageway cycle facilities and at this stage, it is uncertain how it would tie in with the wider cycle network.

An alternative to this would be to use central hatching to reduce the carriageway width. Central hatching could link the existing central islands with proposed central refuges whilst also protecting right turning vehicles.

3.23 Road Markings and Surfacing

To emphasise the speed limit coloured surface patches with the legend 'SLOW' or a 30mph speed limit roundel could be laid at regular locations throughout the site. This will have a high initial visual impact to alert drivers of the speed limit and to encourage a reduced speed.

3.24 Vehicle Activated Signs

Vehicle Activated Signs (VAS) can reduce vehicle speeds between 1-7mph and reduce accident risk without the need for enforcement, unlike safety cameras. The existing VAS is a temporary measure installed by the police under the Elmbridge Drive SMART Speed Management Plan. It should be considered whether a permanent VAS should be installed, to convey an illuminated message to motorists exceeding the speed limit. This should be set at a low trigger speed to control traffic speed on approach to the main pedestrian crossing points.

3.25 Physical Traffic Management Measures

The traffic calming measures adopted should encourage drivers to adopt a uniform speed without excessive acceleration or deceleration. It is considered that physical obstructions such as chicanes, build outs and humps would impede on traffic flows. Additionally this would create additional features for drivers to negotiate, increasing the likelihood of accidents. It is considered that less physical measures are better suited for the class of road and the current traffic flows.

3.26 Recommendations

To assist in providing a safe environment to all users, it is recommended that a gateway is used on the north easterly approach to the scheme, in combination with central hatching to reduce carriageway widths. Additionally, coloured surface patches with 'SLOW' or 30mph roundels throughout the scheme should be used to raise greater awareness to motorists that they are travelling within a 30mph limit. As the existing VAS is a temporary installation, consideration should be given to providing a permanent VAS.

4 CONSULTATIONS

- 4.1 Following public consultation in April 2012, the majority of comments identified that a safer pedestrian crossing facility was required for access to the school and Health Centre, along with speed control measures as vehicles speeding was a problem. Pedestrians feel vulnerable, as crossing at the central island is unsatisfactory due to the bus bay and its proximity to the access to the Health Centre. They also felt that the crossing island here was too small.
- 4.2 Preliminary designs were submitted for Road Safety Audit and the Designer's Responses Table which demonstrate how the concerns raised were addressed in the design process is included in Annex 1.

5 FINANCIAL AND VALUE FOR MONEY IMPLICATIONS

- 5.1 The proposed scheme is estimated to cost less than £60,000 and will be fully funded from the SCC Structures Budget as a replacement for the footbridge. It offers good value for money by addressing both speed management and pedestrian crossing issues in an integrated way and the improvements extend over an 800m stretch of the A307.

6 EQUALITIES AND DIVERSITY IMPLICATIONS

- 6.1 Unlike the footbridge, the proposed crossing improvements will be accessible to people with impaired mobility and for pedestrians with buggies or bicycles.

7 CRIME AND DISORDER IMPLICATIONS

- 7.1 N/A

8 CONCLUSION AND REASONS FOR RECOMMENDATION

- 8.1 It is recommended that the improvements included in the scheme will provide a safer environment that would be beneficial to the community.
- 8.2 The recommended improvements include (see drawings PC0227_02 and 03 in Annex 2)
- A pedestrian refuge located south of the existing central island.
 - The provision of additional central islands at known unofficial crossing points, with its main function acting as a traffic calming measure whilst also aiding pedestrian safety without being an official crossing in a location which is not desirable.
 - Central hatching to reduce carriageway widths.
 - A gateway at the north-easterly entrance to the scheme where the 30mph speed limit starts. This will include new signing, a coloured patch and rumble devices on the approach.
 - Coloured surface patches with 'SLOW' legend throughout the scheme.
 - The provision of permanent Vehicle Activated Signs for speed management

9 WHAT HAPPENS NEXT

It is intended that the scheme will be constructed this financial year and fully funded from the SCC Structures Budget.

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BACKGROUND PAPERS:	Elmbridge Local Committee Report – June 2012 : Proposal for the permanent removal of A307 Tartar Hill Footbridge, Portsmouth Road, Cobham

Version No. 1 Date: 18-09-12 No of annexes: 2