

Annex B.1

Feasibility Report: Thames Street, Lower Sunbury, 20mph Zone

This report should be read in conjunction with the following drawings:

- Drawing PC0504-003 "Locations and mean speeds from 7 day ATC surveys"
- Drawing PC0504-004 "Spacing of existing features and possible locations for additional measures"
- Drawing PC0504-005 "Extent of proposed 20mph Zone and signing locations",

1.0 Brief

To introduce a 20mph zone on the C234 Thames Street, Lower Sunbury between its junctions with the C231 Halliford Road and the C236 French Street. The entire length of the proposed zone is approximately one (1) kilometre.

2.0 Existing site conditions

The length of Thames Street being investigated is currently subject to a speed limit of 30mph by virtue of street lighting and also benefits from a series of speed reducing raised tables. The existing speed reducing features are flat top raised tables so the opportunity has also been taken to compare these against current SCC design guidance and where appropriate recommend improvements to ensure compliance.

3.0 Analysis of speed data

Current SCC speed limit policy states that if the existing mean speeds are at or below 24mph then the speed limit can be reduced to 20mph through signing only, and there is likely to be general compliance. Bearing in mind the existing speed reducing features and narrow character of Thames Street, the first step was to obtain speed data for comparison against this policy, in order to establish what works would be required in order to introduce a 20mph zone.

Speed data was collected at 8 locations along Thames Street as shown on drawing PC0504-003. The combined mean speed at location four is 24.07mph, so technically above the 24mph threshold, but as this is such a small amount it is considered to be acceptable. This will however, need to be confirmed with Surrey Police should a scheme be progressed to detailed design. With that in mind, the mean speeds at all but 3 of these locations are considered to already meet the criteria for introducing a 20mph zone through signing alone, so the focus of this report is on proposing measures that should reduce speeds at the 3 non-compliant locations in order for a 20mph zone to be implemented and proposing logical start and finish points to the new zone.

4.0 Accident data

There were 8 accidents along the section of Thames Street being investigated in the 3 year period 2011 to 2013. 1 of these was serious and the remaining 7 were slight.

5.0 Analysis of existing speed reducing features

Spacing of features - Guidance recommends spacings of no greater than 100m between features. The spacings between the existing vertical features (raised tables and roundabouts) are 68m, 60m, 116.5m, 128.5m, 69m, 90.7m, 140m and 58.7m, however the term feature can also include road narrowings and whilst there aren't specifically any localised narrowings, the road does naturally become extremely narrow, particularly either side of The Avenue. This has the same effect on vehicle speeds so this is perhaps a bit misleading and needs to be taken in context. In terms of the existing raised tables, for those spacings that currently exceed 100m there are suitable locations where additional features could be located if desired and these are shown on drawing PC0504-004.

- Working from west to east, the first of the 3 non-compliant sites in terms of the spacing of the existing vertical features is south of St Mary's Church grounds (Location A on drawing PC0504-

ITEM 9

004), which also ties in with one of the locations where speeds are currently too high so an additional feature is required here to serve two purposes. The road width at this location is approximately 6.4m, so the most appropriate feature would be a flat topped raised table to match the existing and provide consistency.

- The second site (Location B) is located outside The Magpie PH. The combined mean at this location is 24.07mph so technically over the 20mph threshold. However as mentioned in section 3.0, as this is such a small amount over the threshold, it would be of questionable value for money to install a physical feature purely to reduce the speeds at this location. This approach however does not address the issue that the spacing is over the recommended 100m. Having said that, the road at this location has already begun to narrow as it approaches the junction with The Avenue and measures approximately 5.7m wide so this natural narrowing of the road could be considered to constitute a 'calming feature' and therefore lead to a conclusion that no works are necessary. Some vehicles were observed slowing down in order to pass due to the reduced road width, which further backs up the argument that the natural narrowing is in fact acting as a calming feature. There are therefore two options for this location:
 1. accept the speeds as being appropriate and accept that the natural narrowing of the road constitutes a 'calming feature', so do nothing, or;
 2. install a raised table with a 7.5m long flat top to match the existing features in order to reduce vehicle speeds and close the gap between vertical features.
- The third site (Location C) is outside numbers 39 and 41. As at Location B, the spacing between vertical features does not meet the guidance, but the existing speeds are already appropriate for a signed only 20mph zone. The road width at this location is approximately 4.5m, so is even narrower than at Location B. Due to the restricted width, vehicles were observed slowing or even stopping to give way to oncoming vehicles. The same 2 options listed for Location B are therefore valid for this location.

Raised table plateau length - Thames Street is a bus route so flat top humps must have a plateau of at least 7.5m long. All of the existing raised tables meet this criteria.

Ramp gradients - For a bus route, SCC guidance states that ramp gradients must be no steeper than 1:20. The existing raised tables are constructed from one continuous length of Hot Rolled Asphalt material so it is difficult to pinpoint exactly top of the ramp and also the height of the table in order to establish accurately the current gradients. The linear length of the ramps were measured ranging from 1.1m to 1.8m, so taking the maximum allowable gradient of 1:20 and assuming a 75mm high table, this would suggest that anything measured at a linear length of below 1.5m does not meet the current guidance. There is clear evidence of vehicle grounding on one particular ramp so this should be resolved, but in terms of the other ramp gradients that in theory do not meet the guidance, unless complaints or issues have been raised it does not seem cost effective to try and rectify them. My recommendation is therefore, to address the one ramp gradient that is clearly incorrect and is causing vehicles to ground out only.

6.0 Proposals (working west to east)

Western gateway

At the western end, taking on board that the mean speeds measured centrally between Halliford Road and Green Street are too high for just a signed reduction in speed limit (27mph), my recommendation would actually be to start the new zone approximately 35m west of the roundabout at Green Street. The existing roundabout becomes the first 'feature', eliminating the need to provide an additional speed reducing feature between Halliford Road and Green Street, and also the potential for having to alter the existing Lower Sunbury gateway feature and associated road markings. Proposed works are the installation of new 20mph zone signs either side of the road (on black posts) and a painted 20 roundel on the carriageway. **Guide price £3,000.**

This does not however fully fulfil the brief so if this option is not favoured then the start of the zone could be located approximately 25m east of the Halliford Road junction and consist new 20mph zone signing and a painted 20 roundel on the carriageway. In addition to that, provide a new 7.5m long flat topped raised table to tie in with the welcome to Lower Sunbury gateway feature (located between the

two accessways on the northern kerb). These combined should ensure the start of the new zone is clear, speeds are reduced and the spacing between features is in accordance with current guidance. Guide price for alternative option £13,000

Green Street

As Green Street is a one way road, only one sign is required, but it needs to be positioned within 20m of Thames Street. The most suitable location is therefore 20m north of the junction with Thames Street, in the western footway. The proposal is to provide the sign mounted on a black post at this location. **Guide price £1,250.**

Church Street

Guidance recommends signs on both sides of the road when entering a lower speed limit zone so these are proposed approximately 10m north of the junction with Thames Street and will be erected on black posts. In addition to this, a painted 20 roundel in each lane of the carriageway will be provided. **Guide price £2,500.**

Location A

Provide a new 7.5m long flat topped raised table south of the grounds to St Mary's Church, approximately 105m east of Church Street. This will serve the purpose of reducing the mean speeds between the two existing raised tables to below the threshold for a 20mph zone and will also plug the gap where at present the spacing is too long. This type of feature will also provide continuity of style and so will blend in with the existing character of the area. **Guide price £10,000.**

Non-compliant ramp

Excavate and re-lay the ramp to ensure a 1:20 ramp gradient is achieved. **Guide price £1,000.**

Location B

My recommendation is to do nothing at this location as described as option 1 (see also the information and options detailed in the second bullet point in section 5.0). For information, the guide price for the discounted option 2 (raised table to match the existing) is £10,000.

The Avenue

Provide a pair of 20mph zone signs on new black posts located 20m north of the Thames Street junction. In addition to this, provide a painted 20 roundel on the carriageway for southbound traffic. **Guide price £3,000.**

Location C

My recommendation is to do nothing at this location as described as option 1 (see also the information and options detailed in the third bullet point in section 5.0). For information, the guide price for the discounted option 2 (raised table to match the existing) is £10,000.

French Street and eastern gateway

The southern section of French Street, including The Pennards and Ivy Close is already subject to a 20mph zone so it would be logical to join the proposed zone with the one that already exists in order to create one integrated zone. This could be achieved by removing the existing 20mph zone signs from the southern end of French Street and providing a new pair of signs on Lower Hampton Road, approximately 20m east of the roundabout. These would be mounted on black posts to match the existing street furniture. In addition, a painted 20 roundel on the carriageway is also proposed. The speeds measured to the east of this proposed location are slightly above the 24mph threshold for a 20mph zone, but at the location proposed for this gateway it is estimated that speeds will be reducing as vehicles are approaching the existing roundabout, so no physical features are proposed. **Guide price £4,000.**

The overall extent of the proposed 20mph zone and the signing locations are shown on drawing PC0504-005.

TOTAL COST OF RECOMMENDATIONS £24,750

This page is intentionally left blank