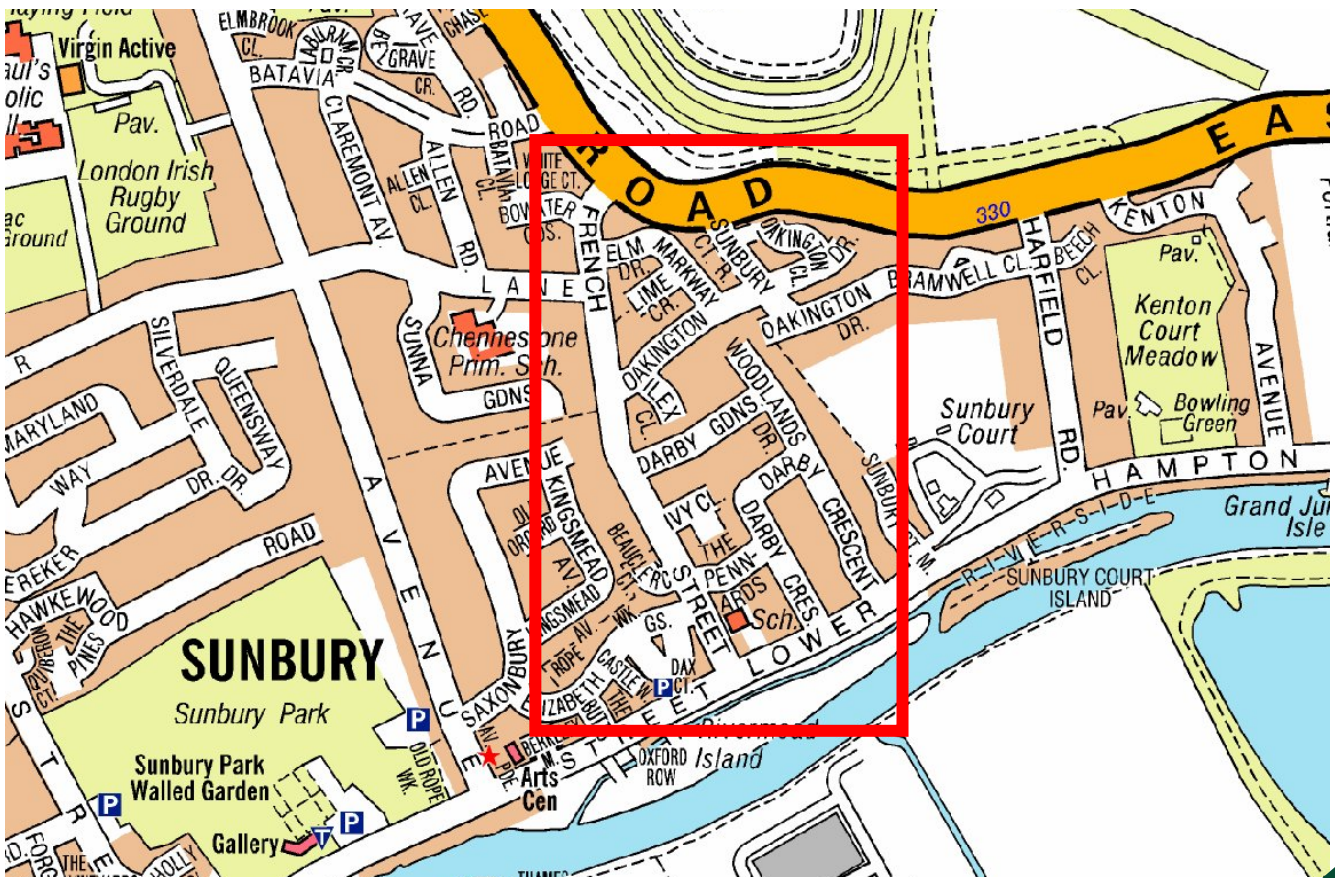


# French Street, Sunbury

## Extension of 20mph Zone

### Feasibility Report

February 2019





Project Title: D236 French Street, Sunbury on Thames  
Extension of 20mph Zone

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## **1 INTRODUCTION:**

Concerns have been raised by residents of French Street regarding traffic speeds, road safety and pedestrian accessibility on French Street. The local Divisional Member requested a feasibility study to investigate the concerns and identify potential options for highway measures.

This road has therefore been assessed under Surrey County Council's policy (2014) for 'Setting Local Speed Limits'. The policy can be found at the following address:

[https://www.surreycc.gov.uk/\\_data/assets/pdf\\_file/0011/28748/Setting\\_Local\\_Speed\\_Limits\\_Policy\\_July2014.pdf](https://www.surreycc.gov.uk/_data/assets/pdf_file/0011/28748/Setting_Local_Speed_Limits_Policy_July2014.pdf)

This is an 8 step approach consisting of:

- Step 1 – Request to change speed limit is received.
- Step 2 – Measure existing speeds and analyse road casualty data.
- Step 3 – Compare the existing speeds with the suggested new speed limit.
- Step 4 – Conduct feasibility of supporting engineering measures.
- Step 5 – Consult with Surrey Police Road Safety and Traffic Management Team.
- Step 6 – Local Committee decision and allocation of funding
- Step 7 – Advertisement of legal speed limit order and implementation.
- Step 8 – Monitoring of success of scheme

There should be no expectation that the police would be able to provide regular enforcement if a speed limit is set too low as this could result in an unreasonable additional demand on police resources. It is also important to set reasonable speed limits to ensure consistency across the country.

Consultation has taken place with the Local Divisional Member and Surrey Police in developing potential highway measures as presented in this report.

**2. SITE ANALYSIS:**

French Street is a ‘C’ classified road and is approximately 750 metres in length. It is a through road between C234 Thames Street and A308 Staines Road East, which are the main distributors between Hampton Court to the east and Staines upon Thames to the west.

French Street is a residential road with houses / flats along the full length and has other residential cul-de-sacs and through-roads accessed from it. Beauclerc Infant & Nursery school is located at the south of French Street, just after the junction with Thames Street. There is a considerable amount of on street parking, especially between side roads The Pennards and Darby Gardens. In this location the road narrows and the on street parking narrows the carriageway down to one lane and creates an informal priority.

There are two different speed limits along the length of French Street. A 20mph Zone exists along Thames Street, at the South end of French Street. This 20mph Zone extends approximately 300m along French Street, ending just south of the junction with Darby Gardens. At this point a new 30mph speed limit begins which extends along the remaining 350m of French Street up to the junction with A308 Staines Road East, at which point a 40mph speed limit is signed.

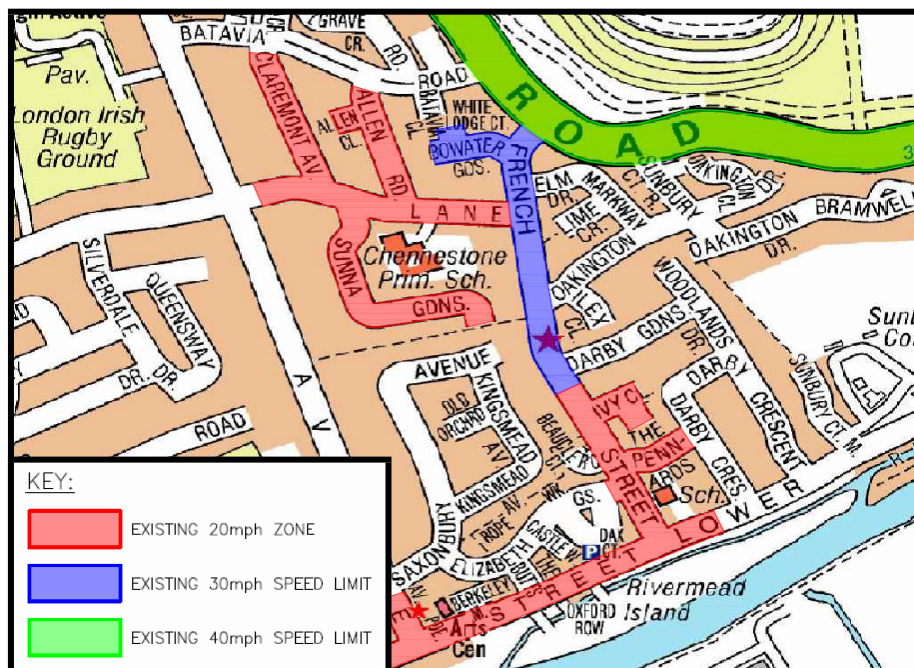


Figure 01: Existing speed limits

The existing 20mph Zone along French Street does not feature any traffic calming measure in terms of vertical alignment for example speed cushions

or raised tables, However the horizontal alignment is altered by a pedestrian refuge island close to the school. After this point there is on street parking which creates an informal priority give way. Throughout the existing 30mph speed limit along French Street there is a considerable amount of dropped kerbs for vehicle access to driveways. These dropped kerbs reduce the number of effective traffic calming options as it is difficult to alter the horizontal / vertical alignment of the carriageway at resident's driveway access.



*Figure 02: Pedestrian refuge island and on street parking within the current 20mph zone.*

Along the length of French Street there are two side roads connecting French Street to D6237 The Avenue which runs parallel with French street approximately 350m to the West. These roads are D6240 Elizabeth Gardens (not within the 20mph Zone) which joins French Street at the south end near to the school and D6238 Manor Lane (forms part of a 20mph Zone west to The Avenue, including access for Chennestone Primary School) to the north of French Street.

The roads adjoining French Street to the east are D6234 Ivy Close which is a cul-de-sac and D6234 The Pennards both situated within the 20mph Zone. Within the 30mph section there are a number of residential roads to the east.

French Street has been given Surrey Priority Network (SPN) code 4b. These classifications in part help to establish the priority levels for maintenance purposes. More information on Highway Network Hierarchy can be found online at the following address:

<https://www.surreycc.gov.uk/roads-and-transport/policies-plans-consultations/policies-and-plans/highway-safety-inspections-standards-and-procedures>

The carriageway width varies throughout the current 20mph Zone from 6.7m at the south end of French Street to 8.6m at the start of the 30mph speed limit just south of Darby Gardens. Along the existing 30mph section French Street widens considerably to over 15m at the junction with A308 Staines Road East.



*Figure 03: Junction of French Street with A208 Staines Road East*

Within the 30mph limit to the west of Oakington Drive, there is a shared footway/cycleway running east to west, perpendicular to French Street. This shared facility forms part of an accessible route from Upper Halliford through to French Street.

Cyclists wishing to continue travelling westbound through Sunbury have to cycle on the carriageway. There are no dropped kerbs to rejoin the carriageway.





Figure 04: End of Shared footway/cycle way on French Street

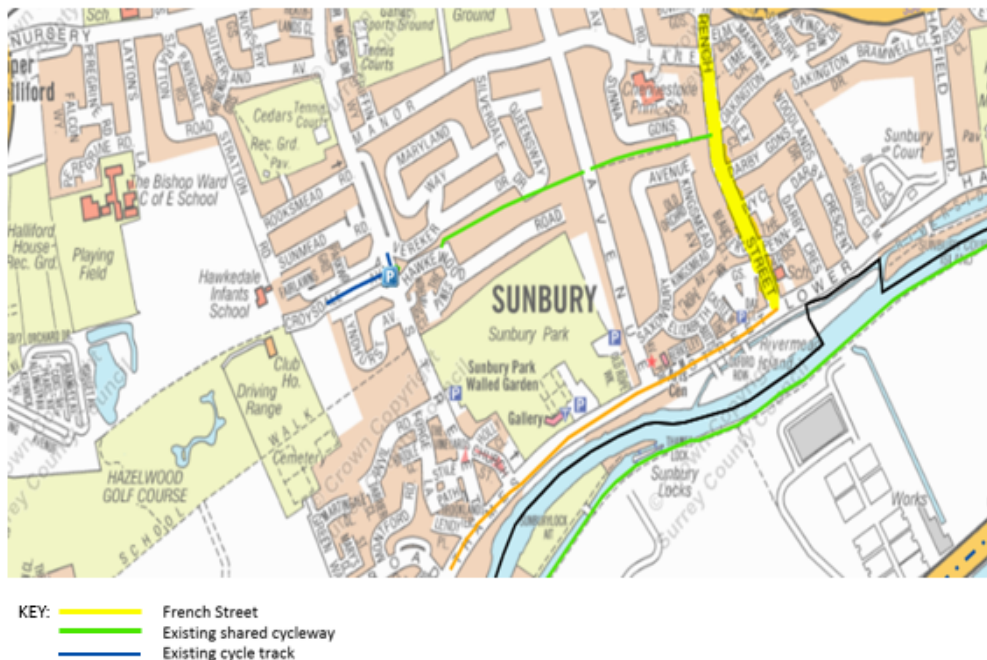


Figure 05: Map showing current shared cycle facilities

The map above shows the route cyclists/pedestrians can use to access two schools, Bishop Ward C of E School and Hawkedale Infants School, greenspaces: Sunbury Park and Halliford Recreation Ground. Although the route from French Street westbound is residential, flat and away from busy roads, there are few dropped kerbs

### **3. DATA COLLECTION:**

#### **3.1 Speed Data**

Speed data for this location was assessed for a two week period, from the 08<sup>th</sup> - 23<sup>th</sup> September 2018 using radar surveys. The results are shown in the following table:

	Direction of travel	Average speed of vehicles
<b>Location 1</b> <b>LC3, French Street</b>	Eastbound	23.5mph
	Westbound	20.5mph
<b>Location 2</b> <b>LC6, French Street</b>	Eastbound	21.2mph
	Westbound	23.0mph
<b>Location 3</b> <b>LC12, French Street</b>	Eastbound	24.6mph
	Westbound	23.6mph

*Figure 04: Speed Survey Results*

*Drawing detailing locations of speed survey points can be found in the appendix, drawing number PC0818-00.*

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#### **3.2 Personal Injury Collisions**

An assessment has been made of the personal injury collisions along French Street, including its junctions with Thames Street and Staines Road East. Data has been collected from dates between 1<sup>st</sup> January 2016 and 30 November 2018. The Police and Surrey County Council do not collect or hold 'damage only' collision data, and therefore we are unable to report or comment on these. During this period there were five recorded collisions resulting in injury, four of which were at the junction of French Street with Staines Road East. All five collisions occurred within the current 30mph length of French Street. None of the collisions resulted in serious injury.

When the police attend personal injury collisions they assess and log the contributory factors that lead to the collision. The table below shows all the factors that led to a collision that have been recorded along French Street Road factors attributed to them. Traffic speed was not recorded as a contributory factor in any of the collisions.

<b>Collision contributory factors (01/01/16 to (30/11/18)</b>	
<b>Factor</b>	<b>Number</b>
<b>Dazzled by sun</b>	1
<b>Careless/reckless /in a hurry</b>	1
<b>Disobeyed double white line</b>	1
<b>Failed to look properly</b>	2

*Figure 05: Personal Injury Collision Data*

### 3.3 Highway Extents

The Highway Extents at French Street and surrounding roads was obtained to understand what measures could be developed without having to acquire land.



Figure 06: Highways Extents

### 3.4 Road Safety Audit

The options produced and discussed within this report are commonplace on the public highway but it should be noted that if any of the options are promoted for construction they will be subject to independent Road Safety Audits throughout the design process and following implementation. Road Safety Audits may recommend changes or additional works

#### 4. DISCUSSION AND OPTIONS:

For the options where vertical traffic calming features are considered, the drawings include areas shown with hatching. This indicates those areas where constraints, such as residential accesses, preclude installation of certain types of feature, e.g. full width road tables would not usually be considered where they may conflict with accesses. Measures are also included within the existing 20mph section. This is to ensure consistency throughout French Street and discourage drivers from accelerating once passing any traffic calming measures.

##### 4.1 Option 1 – 20mph Limit

The results from the speed survey show that the speed limit cannot be reduced to 20mph without some form of traffic calming measures to influence the speeds. Surrey County Council’s ‘Setting Local Speed Limits’ policy states that if the mean speed is above 24mph, signs alone are not sufficient to significantly reduce speeds (see below table).

Measured mean speed before	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Predicted mean speed after	19.9	20.6	21.4	22.2	23.0	23.7	24.5	25.3	26.1	26.8	27.6	28.4	29.2	29.9	30.7	31.5	32.2	33.0	33.8	34.6	35.3
	New lower speed limit allowed					New lower speed limit only allowed with supporting highway measures															

Whilst a 20mph limit is not possible without traffic calming measure, a 20mph scheme with traffic calming measures (20mph Zone) is possible and has been explored in some of the other options.

##### 4.2 Option 2 – 20mph Zone with Road Cushions

20 mph zones should be used where a speed reduction to 20 mph is desirable and where traffic calming measures would be needed to ensure that average speeds are at or below 20 mph. These traffic calming measures could include road tables, priority give ways, road markings, humps and cushions. The combination and design of measures chosen will depend on the road type, the layout of the local road network, the level and type of traffic flow.

This option includes road cushions which are narrow rectangular humps that allow wide tracked vehicles such as buses and large emergency vehicles to straddle or partially straddle the road cushions, therefore minimising discomfort for passengers. Two wheeled vehicles are unlikely to be affected by road cushions, which is advantageous for cyclists but may mean that motorcyclists may not reduce their speed. Groups of three cushions can be spaced across the road where carriageway width allows. This ensures that at least one cushion is available to be straddled, limiting the impact of parking

over one or two of the cushions. An advantage of using road cushions over alternative tables / speed bumps is that a drainage solution is not usually required

Noise and vibration levels may be a nuisance at locations adjacent to cushions, especially where larger commercial vehicles are likely to travel which may not fully straddle the cushions. Road cushions can also be unpopular with some residents due to discomfort, fear of damage to vehicles and perception of the increased noise and vibration.

On French Street there is a length of almost continuous dropped kerbs for an approximate length of 150m between Oakington Drive and Manor Lane. Using road cushions within this section may require vehicles accessing residential properties to travel across the road cushion at an angle not intended by the design. In addition, drivers may be tempted to use the dropped kerbs to drive onto the footway to bypass the cushions.

Therefore there are two variations to the option for road cushions:

- **Option 2a** – Road cushions along the length of French Street excluding the 150m length between Oakington Drive and Manor Lane.  
Refer to drawing PC0818-01.1

Instead of using road cushions to calm the traffic speeds on the 150m length section, a design of considerable hatching is proposed. By visually reducing the lane widths drivers need to focus on their road position which in turn can reduce vehicle speeds. However, hatching can be a maintenance liability if the lining requires refreshing regularly. Although economical, drivers may choose to ignore the road markings leaving the purpose of the hatching unfulfilled. A traffic order would be required for this option, plus associated signing.

**Cost estimate: £24,000.**

- **Option 2b** – Road cushions along the length of French Street including the 150m length between Oakington Drive and Manor Lane.  
Refer to drawing PC0818-01.2

This option includes road cushions included within the 150m length section. It is unfavourable to install road cushions directly in front of a residents access due to the fact that the residents will have to turn across the cushion in a way which they are not designed to account for. The sides of the speed cushions are steeper than the front and back, and a resident attempting to access or leave their driveway would likely be required to go across the side of the cushion, possibly having one wheel on and one wheel off. Further design of the cushions could mitigate some of these issues. There is likely to be some additional noise and vibration associated with this option.

**Cost estimate: £30,000**

### **4.3 Option 3 – 20mph Zone with Road Tables**

Refer to drawing PC0818-02

Road tables are a widely used form of traffic calming device because they have proved to be effective at controlling speeds and are generally applicable to most road layouts. According to research conducted by the Department for Transport, road tables have the largest impact on speed reduction, flow and injury collisions. The geometry can also affect the degree of discomfort experienced by road users. However, they also tend to cause the greatest delay to emergency service vehicles.

- Road tables at the junctions of Ivy Close and Darby Gardens and near to the junctions with Oakington Drive, Manor Lane and Staines Road East

**Cost estimate: £90,000**

However, installing road tables within the 150m length between Oakington Drive and Manor Lane is not advisable, as all dropped kerbs would need to be raised to encompass the tables. The table would also be required to extend across the full length of the dropped kerb as having the ramp midway through the dropped kerb would create difficulty for vehicles accessing driveways

Therefore alternative horizontal traffic calming measures for this 150m section have been explored in Option 4.

### **4.4 Option 4A – Horizontal Traffic Calming with kerb buildouts**

Road narrowing by constructing kerb buildouts will enable vehicles to access their driveways with the added effect of reducing the width of the road. Drivers will need to drive more carefully in a narrowed section of road to keep their vehicle in the correct road position which may result in slower speeds.

There are a two variations to the option of kerb buildouts:

- Build outs on both sides of the carriageway which will reduce the carriageway width to 5.5m. Refer to drawing PC0818-03.1

**Cost estimate: £15,000**

- Single build outs on each side of the carriageway which will again reduce the carriageway to a width of 5.5m. This option creates more horizontal deflection for vehicles and may result in further reductions in speed. Refer to drawing PC0818-03.2

**Cost estimate: £12,000**

#### **4.5 Option 4B – Horizontal Traffic Calming with road marking only**

Refer to drawing PC0818-03.3 and PC0818-03.4

This option features the same arrangements of 4A but the physical buildouts are replaced with road marking alone to visually reduce the width of the lanes. Although using hatching offers the benefits of accessibility for emergency vehicles and no discomfort to motorists, some drivers may choose to ignore the hatching and drive across it. In addition hatching to this extent is likely to be a maintenance liability as the lining will require refreshing regularly. Although the white lining has elements of anti-skid resistance, consideration should be taken for the increased risk of vehicles losing control due to the differential surfaces, especially 2 wheeled vehicles such as pedal cycles and motorcycles.

**Cost estimate: £5,000**

Whilst the options using kerb buildouts do not stop vehicles from driving across the build out (as they are constructed using dropped kerbs) they may be more of a deterrent than simply providing hatching only.

#### **4.6 Combination of traffic calming options**

The options explored above may be used in combination, based on suitability for the various sections in French Street. This may include road tables at junctions, plus cushions or build-outs on the 150m length between Oakington Drive and Manor Lane.

#### **4.7 Option 5 – Raised Table at Beauclerc School**

Refer to drawing PC0818-04

This option involves constructing a raised table at the existing uncontrolled crossing at Beauclerc School. At the location of the proposed raised table there is an existing pedestrian refuge island. As part of the proposed raised table the refuge island would remain as it reduces the distance pedestrians must cross in one movement, however it would need to be reconstructed. The existing crossing is used considerably by pedestrians travelling to Beauclerc School. Raised tables are effective at reducing injury collisions and vehicle speeds and whilst the numbers of collisions / injuries on French

Street are low it would likely be viewed positively by pedestrians due to the location of the school and safety concerns regarding the children.

The raised table would require drainage works to ensure that ponding does not occur on the high side of the table, which can be complex and costly. An assessment of the lighting would need to be carried out at detailed design.

**Cost estimate: £25,000**

#### **4.8 Option 6 – Zebra Crossing at Beauclerc School**

Refer to drawing PC0818-05.1 and 0.5.2

This option looks at two designs for providing a zebra crossing facility at the location of the existing pedestrian refuge island near to Beauclerc School. Zebra crossing facilities give pedestrians waiting to cross the road priority over oncoming vehicles as motorists are obliged to give way to pedestrians, therefore this option also serves as a speed reducing feature to encourage vehicles to drive more carefully.

Design 1 combines the raised table discussed in point 4.5 with a new zebra crossing, whilst design 2 is a zebra crossing with no raised table.

The visibility at the proposed location for the zebra crossing is sufficient in both directions. Visibility of approximately 90m can be achieved in the south direction (to the roundabout with Thames Street) and 60m+ in the north direction. Again, with these options the pedestrian refuge island is to remain / be reconstructed which assists visibility as the pedestrians can cross in two stages.

With these options zebrite beacons would be installed on both sides of the pedestrian refuge island and also at the back of footways adjacent to the crossing. The beacons at the back of footway would be installed on existing / new lighting columns with an offset bracket towards the carriageway for the beacon. This option will also require the installation of 2.4m width red colored tactile paving to the back of footway and also red colored tactile paving at the pedestrian refuge island. Approximately 50m of high friction surfacing on each approach of the pedestrian crossing will be required, along with zebra crossing road markings.

Zebra crossings are permitted on roads where the speed limit is 30mph or less, and the measured mean speeds are at or below 35mph. The speed survey undertaken in 2016 showed the average speed at 24mph.

A drawback of this option could be that pedestrian usage will predominantly be during school term and relatively low at other times. Therefore there is a risk of drivers becoming complacent and missing occasions when



pedestrians are attempting to cross. This option would require a Road Safety Audit plus associated signing and Statutory Consultation.

**Cost estimate: £50,000-70,000**

#### **4.9 Option 7 – Footway/Cycleway Link at Oakington Drive**

Refer to drawing PC0818-06.1, 06.2 and 06.3

This option looks into improving facilities for pedestrians and cyclists by converting an existing verge to a shared footway/cycle way and installing dropped kerbs to enable both cyclists and pedestrians an accessible crossing. Opposite Oakington Drive, the existing off carriageway shared footway/cycle way ends at French Street. This shared facility forms part of an accessible route from Upper Halliford to Sunbury.

This route ends on French Street, where cyclists wishing to continue travelling west bound (Lower Hampton) have to cycle on the carriageway, e.g. via Oakington Drive and Bramwell Close.

This option looks at converting the grass verge on the western side of Oakington Drive to a shared footway/cycle way and converting the existing footway at the north east of Oakington Drive to a shared footway/cycle route. A link to the existing footway/cycleway to the west is provided by dropped kerbs on the southern side of the Oakington Drive junction. This will allow cyclists to continue westbound off the carriageway and away from vehicles.

The verge does not form part of the existing publicly maintainable highway which would require agreement with the landowner, i.e. Spelthorne Borough Council. Constraints include a number of trees in the verge, various street furniture and numerous utilities covers. The utilities found within the verge include telecoms and foul water drainage. The depths of these utilities is unknown and some investigation work through trial holes would need to be undertaken to determine the exact depth of the apparatus. The gradient of the verge is reasonably steep, the options proposed would require some regrading of the existing verge in order to accommodate a proposed footway/cycleway.

There are a number of variations for this option:

- Shared path on the verge south of Oakington Drive, adjacent to the carriageway ....
- Shared path on the verge south of Oakington Drive, adjacent to the residential properties
- Shared path in the centre of the verge south of Oakington Drive

**Cost estimate: £35,000 (some variation depending on number of trees removed/replaced, utility diversions required)**

An alternative to the above is to provide a level route for cyclists by installing dropped kerbs from the existing footway/cycleway opposite the north side of the Oakington Drive junction. Cyclists may then join Oakington Drive to continue westbound. Some amendment to the existing drainage on the west side of French Street may be required.

**Cost estimate: £5,000**

#### 4.10 Option 8 – Do Nothing

With few reported injury collisions in the last three years, for which a pattern of behaviour has been identified, works in purely casualty reduction terms could not be justified when compared to other locations. However, there are concerns within the community regarding driver behaviour and safety, which the options seek to address.

#### 4.11 Summary

Option	Description	Cost -estimate	Comments
1	20mph Limit	N/A	Recorded speeds do not support a lowering of speeds via signing alone
2	20mph Zone Road cushions	£24-30,000	Recorded speeds support a lowering of speeds with traffic calming. Cushions may not be suitable for the entire length of French Street.
3	20mph Zone Raised Tables	£90,000	Recorded speeds support a lowering of speeds with traffic calming. Tables may not be suitable for the entire length of French Street.
4	Horizontal Traffic Calming	£5-15,000 (Dependent on measure chosen)	Traffic calming using kerb build-outs and/or road markings to support a 20mph Zone
5	Raised table at Beauclerc School	£25,000	Reduce speeds near to school access and improve pedestrian facilities.
6	Zebra crossing at Beauclerc	£ 50,-70,000	Reduce speeds near to school access and improve pedestrian

	School		facilities.
7	Footway / Cycleway Link at Oakington Drive	£5-35,000 (Dependent on option chosen)	Improved facilities for cyclists and pedestrians to link to existing facilities.
8	Do nothing	N/A	Would not provide improvements or address concerns of local residents.

## **5. RECOMMENDATION:**

It is recommended that the following options (in priority order) are appropriate to be progressed, and likely to provide benefits for residents and road users of French Street:

- Option 2 – 20mph Zone supported by a combination of traffic calming features (road cushions, road tables, build-outs), to reduce vehicle speeds and improve the environment for residents
- Option 5 – Raised Table at Beauclerc School, to improve crossing facilities
- Option 7 – Footway / Cycle way Link at Oakington Drive, either with new shared-use path or dropped kerbs to provide level access

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