

## **Appendix 1:**

### **Epping Forest Casualty Reduction Sites 2015/16**

The 2014/15 ECC EFDC LHP recommended funding for the advanced design of five identified Casualty Reduction cluster sites.

The designs will be completed this financial year and the estimated construction cost will be adjusted accordingly for each scheme and placed on the Potential Schemes List ready for the Panel to consider for 2015/16 implementation.

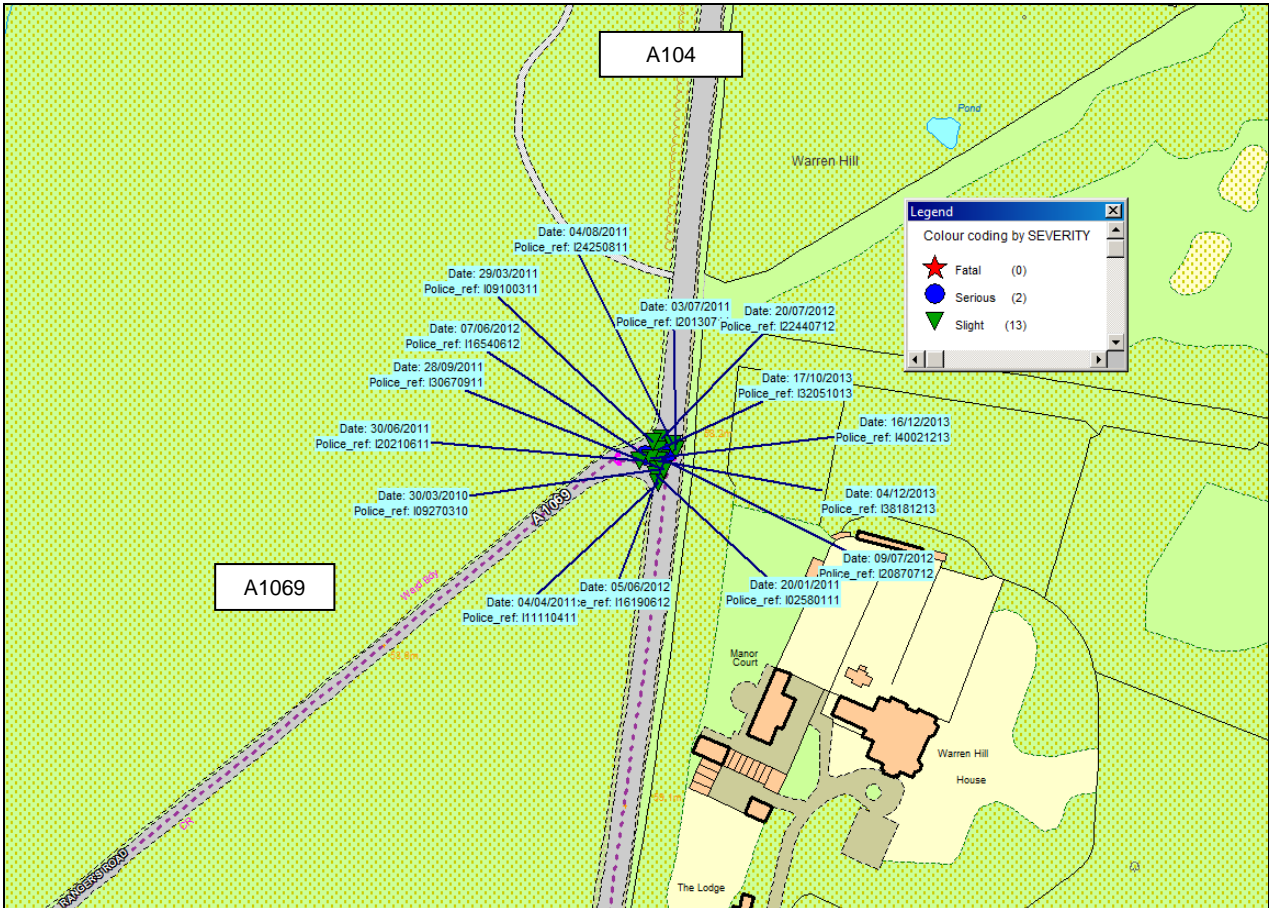
1. A104 Epping New Road junction with A1069 Rangers Road – estimated construction cost £40,000
2. A113 Abridge Road junction with access to Virgin Active Health Club – estimated construction cost £22,000
3. A121 Woodridden Hill approach to Wakes Arms Roundabout - estimated construction cost £10,000
4. B1393 London Road junction with access to MacDonaldis - estimated construction cost £15,000
5. Coopersale Street, bend 200m south east of Houblons Hill - estimated construction cost £23,000

Site Report Essex Highways  
Casualty Reduction Site Report



Location: A104 Epping New Road j/w A1069 Rangers Road, Loughton / Buckhurst Hill

1.0 Site Plan with Collision Plot



2.0 Site Description & Observations

Details	Description/Observations
Road Name (s)	A104 Epping New Road junction with A1069 Rangers Road
Speed Limit	40mph
Street Lit	Yes
Carriageway type	Single carriageway
Gradient	Epping New Road is flat, Rangers Road has a very slight uphill gradient as it joins Epping New Road.
Traffic Management	The roads form a standard 'T' junction with Rangers Road under give way control. Epping New Road has a ghosted right turn lane facility for traffic turning right into Rangers Road with a traffic island located within the hatching at each end of the facility.

<b>Road Surface</b>	The road surface along Epping New Road appeared to be in very good condition owing to recent resurfacing works.
<b>Signing</b>	The road in the vicinity of the junction is covered by a 40mph speed limit. There are junction warning signs and ADS signs on both approaches on Epping New Road (see Images 1 and 4 below). Rangers Road has a yellow backed advanced give-way 80 yds sign (see Image 2 below). However, there is no give way sign present on Rangers Road at the junction (see Image 3 below).
<b>Road Markings</b>	There are edge of carriageway and central hatching with road studs along Epping New Road that incorporate the traffic islands for the right turn lane. There is give way lining at the Rangers Road junction. They are all in a good condition.
<b>Visibility</b>	Whilst Epping New Road is straight, visibility of the signing and junction is partially restricted due to the adjacent heavily wooded area of Epping Forest. The visibility of the junction ahead on Rangers Road is partly restricted due to the road alignment which curves to the right at the junction. Visibility to the left and right from the give way line in Rangers Road was good at the time of the site inspection (13/11/14).
<b>Vegetation</b>	See above – the vegetation requires some cutting back so that the signs associated with the junction are fully visible.
<b>Other</b>	

### 3.0 Personal Injury Collision Analysis

<b>Collision details</b>	<b>Number</b>
Total no. of Collisions	15 (2 serious, 13 slight)
Total no. of Casualties	17 (2 serious, 15 slight)
Number of collisions in hours of darkness	5 (33%)
Number of collisions in wet/damp conditions	9 (60%)
Collisions involving vulnerable road users	8 (6 motorcyclists and 2 cyclists) - 53%

<b>Identified Collision Pattern(s)</b>	<b>No of Collisions</b>
Collisions involving vehicles emerging from Rangers Road - 5 involving a northbound vehicle on Epping New Road being struck and 3 collisions where a southbound vehicle has been struck.	8 (53%)
Collisions involving vehicles turning right from Epping New Road into Rangers Road striking oncoming northbound traffic on Epping New Road.	4 (27%)

## 4.0 Site Photographs



Image 1 – View travelling northbound on Epping New Road approaching the Rangers Road junction on the left (taken 13/11/14)



Image 2 – View travelling north eastbound on Rangers Road towards the junction with Epping New Road (taken from Streetview)



Image 3 – View on Rangers Road of junction ahead with Epping New Road (taken from Streetview)



Image 4 – View travelling southbound on Epping New Road with Rangers Road junction on the right (taken 13/11/14)



Image 5 – View to the right from Rangers Road (taken on 13/11/14)



Image 6 – View to the left from Rangers Road (taken 13/11/14)

## 5.0 Recommendations

### Remedial Measures

- 1) Install new Vehicle Activated junction warning signs on both Epping New Road approaches to the Rangers Road junction. The signs are to be connected to detector loops in the carriageway so that they only activate when a vehicle is waiting to exit Rangers Road. The VAS for northbound vehicles will also activate when a vehicle is in the right turn lane waiting to turn right into Rangers Road.
- 2) Install new SLOW markings on the carriageway adjacent to the new VAS signs.

The overgrown signs and missing give way sign have been reported to the Maintenance team to arrange for them to be cut-back/replaced.

## 6.0 Estimated Costs

Estimated Construction Costs	£40,000
Survey Design and project management	£8,000
Total	£48,000

## 7.0 Scheme Approval

Safety Engineering Team:	Tel No.	Date
Senior Safety Engineer: Jenny Hill	01245 342902	18/11/2014

Location: A113 Abridge Road j/w Virgin Active Gym Access, Chigwell  
District: Epping  
Collision Investigation Period: 01/05/2009 – 30/04/2014

## 1.0 Site Plan with Collision Plot



## 2.0 Site Description & Observations

Details	Description/Observations
Road Name (s)	A113 Abridge Road j/w access to Virgin Active Health Club
Speed Limit	60mph
Street Lit	Yes
Carriageway type	Single carriageway
Gradient	The northbound Abridge Road approach to the junction goes up a slight incline (see Image 1) and then levels out prior to the junction.
Traffic Management	The access in/out of the Virgin Active Health Club/Golf Range is a standard T junction (see Image 2). There is a ghost island right turn lane further south on Abridge Road to assist vehicles turning right into the Woolston Manor Golf & Country Club access.
Road Surface	The road surface along the site appeared to be worn and the scrim data shows that on the Abridge Road northbound approach to the junction the skid resistance is below the recommended level. The Maintenance team do not have any plans at present to undertake resurfacing works here.
Signing	There are no warning signs for the junction. There is a brown tourist sign

	(double backed) located on the lamp column opposite the access for Virgin Active Health Club, however it does not appear to be an official Highways sign (this would need to be checked).
<b>Road Markings</b>	There is edge of carriageway and centre lining along Abridge Road. The lining along this stretch of road has recently been renewed.
<b>Visibility</b>	Visibility to the right when exiting the access is reduced due to the road gradient falling away and the adjacent overgrown vegetation (see Image 3).
<b>Vegetation</b>	See above – the verge requires cutting but there is also a mature willow tree which requires cutting back to improve the sight line.
<b>Other</b>	

### 3.0 Personal Injury Collision Analysis

Collision details	Number
Total no. of Collisions	4 (1 serious, 3 slight)
Total no. of Casualties	6 (1 serious, 5 slight)
Number of collisions in hours of darkness	0 (0%)
Number of collisions in wet/damp conditions	0 (0%)
Collisions involving vulnerable road users	1 (25%, motorcyclist)

Identified Collision Pattern(s)	No of Collisions
Failure to give way collisions caused by motorists pulling out of Health Club access and hitting northbound traffic on Abridge Road.	3 (75%)

### 4.0 Site Photographs



Image 1 – View travelling northbound along Abridge Road before Health Club access



Image 2 – View travelling northbound on Abridge Road just prior to health Club access on nearside



Image 3 – View to the right when exiting the Health Club access

## 5.0 Recommendations

### Remedial Measures

- 1) Install new yellow backed 'junction on left ahead' warning sign on Abridge Road for northbound traffic. Sign to be lit.
- 2) Install new SLOW road marking next to above sign.
- 3) Review the existing brown sign for Virgin Active (it does not appear to be an authorised tourism sign) – this double backed sign should be replaced with a sign to highlight the junction – it needs to be investigated if the Gym/Golf Club meets the criteria for tourism signing. It is felt that a sign here is beneficial in highlighting the access. Any sign needs to be bigger and the adjacent vegetation cut back to ensure it is visible.
- 4) Remove the redundant post located in the verge on the south west side of the access.
- 5) Investigate whether a give way line can be installed across the access into the Health Club.
- 6) Resurface the northbound Abridge Road approach to the junction to ensure the skid resistance is improved.

The overgrown vegetation/willow tree on the south west side of the access has been reported to maintenance to arrange for it to be cut back.

## 6.0 Estimated Costs

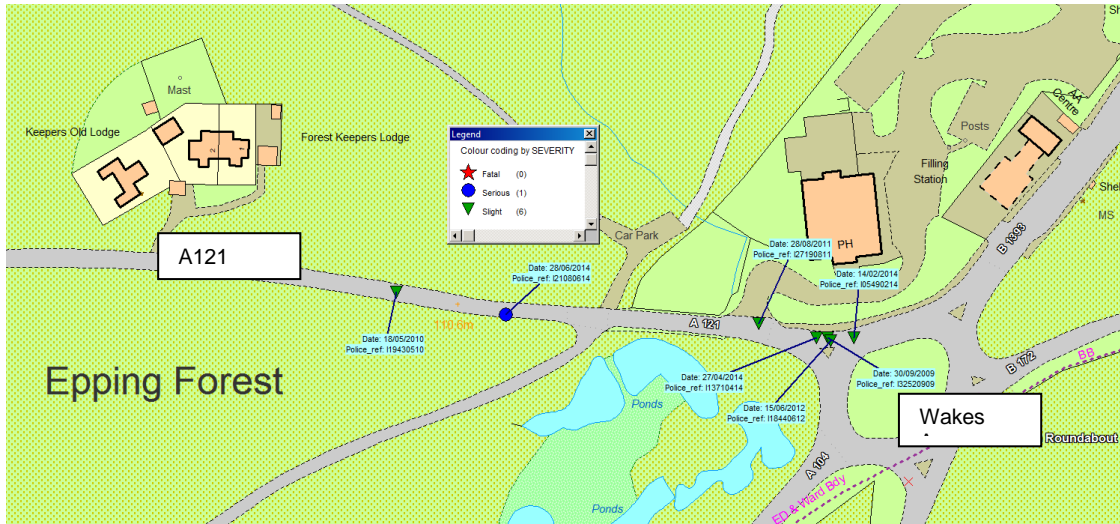
Estimated Construction Costs	£22,000
Survey Design and project management	£5,000
<b>Total</b>	<b>£27,000</b>

## 7.0 Scheme Approval

<b>Safety Engineering Team:</b>	<b>Tel No.</b>	<b>Date</b>
Senior Safety Engineer: Jenny Hill	01245 342902	30/10/2014



### 1.0 Site Plan with Collision Plot



### 2.0 Site Description & Observations

Details	Description/Observations
Road Name (s)	A121 Woodridden Hill approach to Wakes Arms Roundabout
Speed Limit	40mph
Street Lit	No
Carriageway type	Single carriageway
Gradient	The eastbound carriageway gradually climbs then flattens out put prior to the roundabout
Traffic Management	None
Road Surface	The road surface along the site appeared to be in good condition.
Signing	There is a large ADS sign on the offside of the road (see image 2 below). However, due to the vegetation drivers cannot see the sign until they are close to it. There is also a cattle grid warning sign on the nearside of the road (for the offside junction) which is covered by vegetation. The road is covered by a 40mph speed limit however there doesn't appear to be sufficient repeater signs to enforce it.
Road Markings	There are edge of carriageway and centre lining with road studs along Woodridden Hill which are in a good condition.
Visibility	Visibility of the roundabout ahead is partially reduced by road alignment and adjacent vegetation.
Vegetation	See above – the ADS and cattle grid warning signs require cutting back so that they are fully visible.

Other	
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### 3.0 Personal Injury Collision Analysis

Collision details	Number
Total no. of Collisions	7 (1 serious, 6 slight)
Total no. of Casualties	11 (1 serious, 10 slight)
Number of collisions in hours of darkness	3 (42%)
Number of collisions in wet/damp conditions	2 (28%)
Collisions involving vulnerable road users	1 (14%)

Identified Collision Pattern(s)	No of Collisions
Nose to tail collisions on the approach to the roundabout.	35 (71%)

### 4.0 Site Photographs

	
<p>Image 1 – View travelling eastbound along Woodridden Hill, alignment and vegetation restricts view of ADS and roundabout.</p>	<p>Image 2 – View travelling eastbound on Woodridden Hill prior to the Wakes Arms Roundabout.</p>

### 5.0 Recommendations

Remedial Measures
<ol style="list-style-type: none"> <li>1) Install new Roundabout ahead warning sign with distance sub-plate on Woodridden Hill.</li> <li>2) Install new SLOW markings on the carriageway adjacent to the new roundabout sign and the existing cattle grid sign.</li> <li>3) Replace the existing chevron sign on the roundabout island with a yellow backed chevron.</li> <li>4) Check distances between 40mph repeaters and arrange for any additional signs to be installed.</li> </ol> <p>The overgrown ADS and cattle grid signs have been reported to the Maintenance team to arrange for them to be cut back.</p>

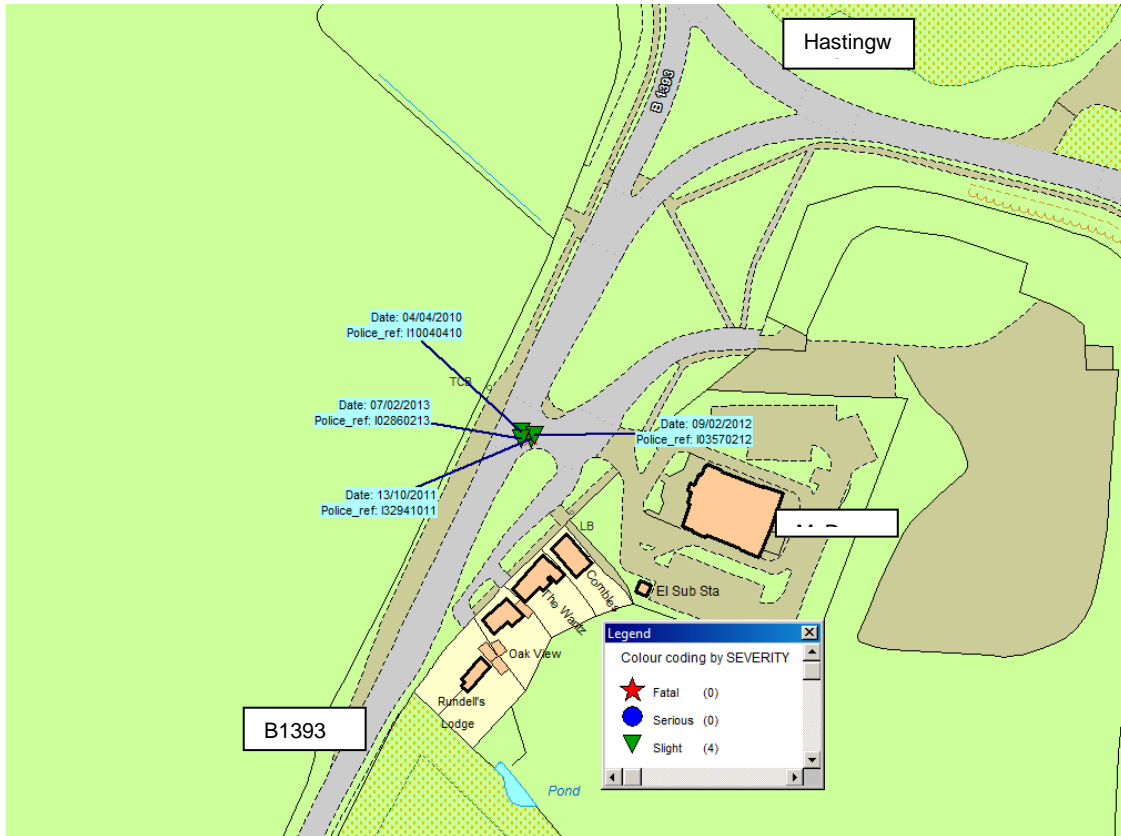
## 6.0 Estimated Costs

Estimated Construction Costs	£10,000
Survey Design and project management	£4,000
Total	£14,000

## 7.0 Scheme Approval

<b>Safety Engineering Team:</b>	<b>Tel No.</b>	<b>Date</b>
Senior Safety Engineer: Jenny Hill	01245 342902	17/11/2014

### 1.0 Site Plan with Collision Plot



### 2.0 Site Description & Observations

Details	Description/Observations
Road Name (s)	B1393 London Road j/w access to McDonalds
Speed Limit	60mph
Street Lit	Yes
Carriageway type	Single carriageway
Gradient	None
Traffic Management	The access in/out of the McDonalds Restaurant/Hastingwood Highways Depot is a standard T junction. There is a ghost island right turn lane on London Road to assist vehicles turning right into the access.
Road Surface	The road surface along the site appeared to be worn and the scrim data shows that on the London Road southbound approach to the junction the skid resistance is below the recommended level. The Maintenance team will be looking at whether this can be included in their 2015/16 resurfacing programme.
Signing	There is an existing junction on the left warning sign for traffic leaving the Hastingwood Roundabout, however it is close to the access and due to the

	curvature of the road and vegetation it isn't very conspicuous. There is a give way sign at the junction for motorists joining London Road.
Road Markings	There is central hatching and right turn lane markings along London Road which are visible. There are give way lines at the junction which are slightly worn.
Visibility	Visibility to the right when exiting the access is reduced due to the road alignment and adjacent vegetation.
Vegetation	See above.
Other	

### 3.0 Personal Injury Collision Analysis

Collision details	Number
Total no. of Collisions	4 (all slight)
Total no. of Casualties	5 (all slight)
Number of collisions in hours of darkness	2 (50%) area street lit
Number of collisions in wet/damp conditions	3 (75%)
Collisions involving vulnerable road users	0 (0%)

Identified Collision Pattern(s)	No of Collisions
Failure to give way collisions caused by motorists turning right out of McDonalds access and hitting southbound traffic on London Road.	4 (100%)

### 4.0 Site Photographs

	
<p>Image 1 – View travelling southbound along London Road from the M11 Roundabout (Streetview Image) - junction warning sign circled in red</p>	<p>Image 2 – View to the right when exiting the McDonalds access onto London Road</p>

## 5.0 Recommendations

### Remedial Measures

- 1) Remove existing 'junction on left ahead' warning sign on London Road for southbound traffic and replace with a yellow backed version. Install the sign nearer roundabout and trim adjacent vegetation to ensure it can easily be seen. Sign is lit.
- 2) Install new SLOW road marking next to above sign.
- 3) Investigate whether the give way lining can be moved further forward to improve visibility for vehicles exiting side road. This may require hatching of the nearside lane on the southbound London Road.

## 6.0 Estimated Costs

Estimated Construction Costs	£15,000
Survey Design and project management	£4,000
Total	£19,000

## 7.0 Scheme Approval

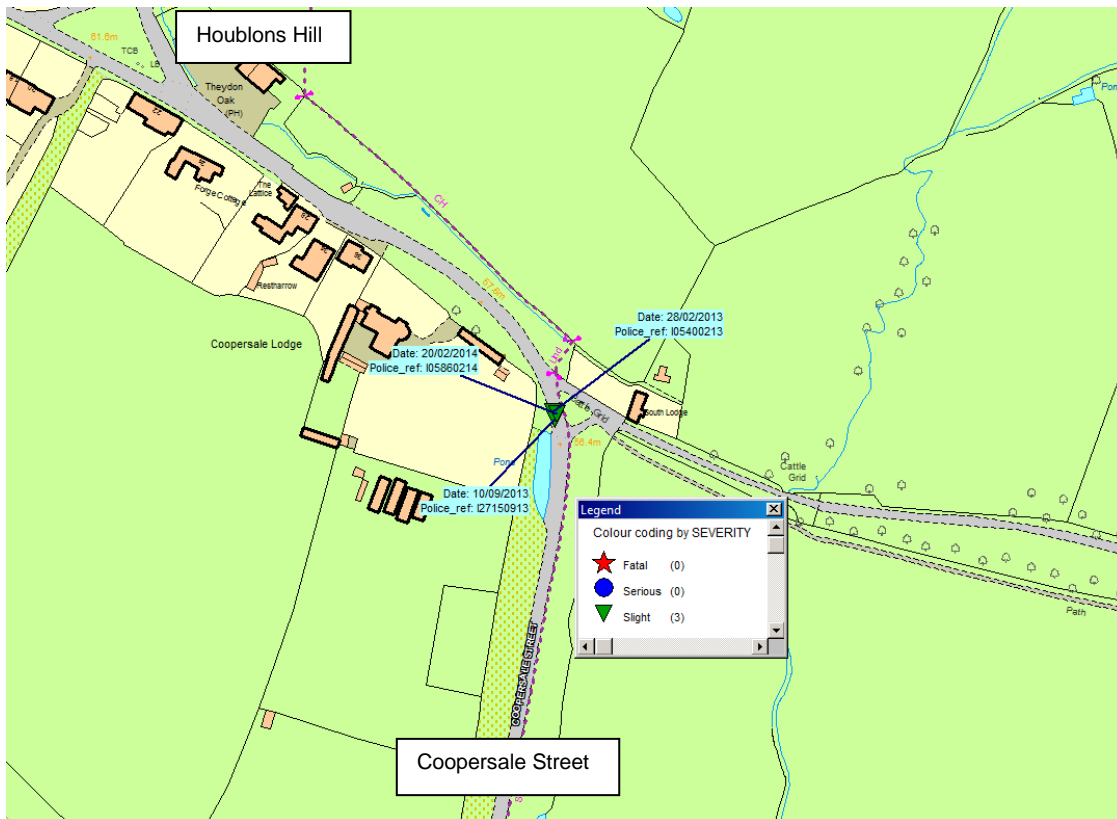
Safety Engineering Team:	Tel No.	Date
Senior Safety Engineer: Jenny Hill	01245 342902	30/10/2014

Site Report Essex Highways Casualty Reduction Site  
Report 2015/16



Location: Coopersale Street, Epping  
District: Epping  
Collision Investigation Period: 01/05/2009 – 30/04/2014

1.0 Site Plan with Collision Plot



2.0 Site Description & Observations

Details	Description/Observations
Road Name (s)	Coopersale Street, bend 200m south east of Houblons Hill
Speed Limit	40mph
Street Lit	No
Carriageway type	Single carriageway
Gradient	Level
Traffic Management	None, carriageway forms a 90 degree bend near access to South Lodge
Road Surface	The road surface along the site appeared to be very worn, particularly around the bend. There is no scrim data available for this road. The Maintenance team do not have any plans at present to undertake resurfacing works here.
Signing	There are 'bend ahead' warning signs with 'reduce speed now' sub-plates on both approaches to the bend. There are both overgrown and the northbound sign is in a very poor condition (see Images 1 & 3). There are

	a couple of reflector posts on the northern verge near the bend which indicates there were previously more (see Image 2). There are no chevron signs to highlight the bend to motorists.
Road Markings	There are edge of carriageway and centre lining along Coopersale Street however they are extremely faded around the bend.
Visibility	Visibility of the bend ahead is partially reduced by road alignment and adjacent vegetation.
Vegetation	See above – the bend warning signs require cutting back so that they are fully visible.
Other	

### 3.0 Personal Injury Collision Analysis

Collision details	Number
Total no. of Collisions	3 (all slight)
Total no. of Casualties	3 (all slight)
Number of collisions in hours of darkness	2 (66%)
Number of collisions in wet/damp conditions	3 (100%)
Collisions involving vulnerable road users	0 (0%)

Identified Collision Pattern(s)	No of Collisions
Loss of control collisions on bend near South Lodge (one single vehicle, 2 head on).	3 (100%)

### 4.0 Site Photographs



Image 1 – View travelling eastbound along Coopersale Street, bend sign obscured (adjacent to Theydon Oak PH)



Image 2 – View travelling south eastbound on Coopersale Street at bend near South Lodge





Image 3 – View travelling northbound on Coopersale Street before bend. Bend warning sign is in poor condition.

## 5.0 Recommendations

### Remedial Measures

- 1) Renew the existing northbound 'bend ahead' with 'reduce speed now' sub-plate signs.
- 2) Install new chevron signs for both directions at the bend.
- 3) Renew remaining reflector posts and install further ones around the sweeping bend to highlight it to motorists. Cut verge back to ensure the reflector posts are visible.
- 4) Carry out resurfacing of the carriageway around the bend and the approaches to it.
- 5) Remark the centre and edge of carriageway lining throughout the bend.

The overgrown bend warning signs on both approaches have been reported to the Maintenance team to arrange for them to be cut back.

## 6.0 Estimated Costs

Estimated Construction Costs	£23,000
Survey Design and project management	£4,000
Total	£27,000

## 7.0 Scheme Approval

Safety Engineering Team:	Tel No.	Date
Senior Safety Engineer: Jenny Hill	01245 342902	30/10/2014