

ECC Casualty Reduction Site Investigation 2012-13

Safety Scheme: 20

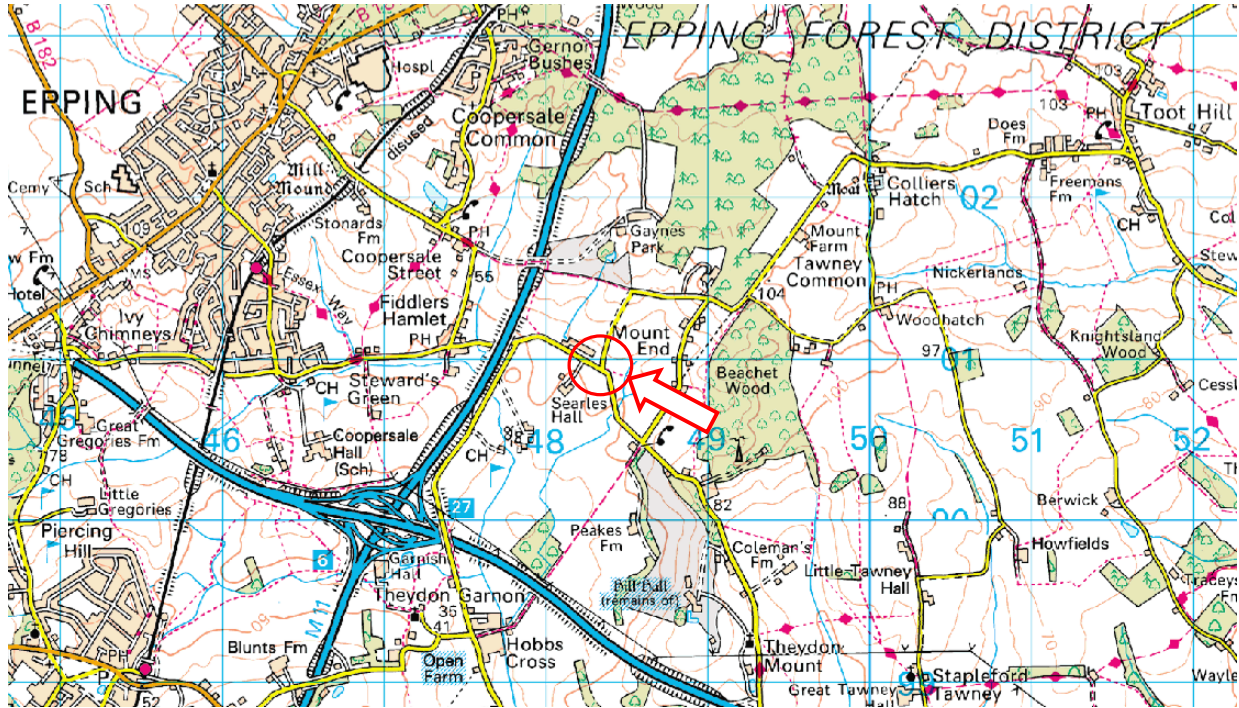
Mount Road j/w Banks Lane

District: Epping Forest

Investigation Period: 28/07/2008 to 27/07/2011

Grid Reference: 548314 200922

1.0 Site Location Plan



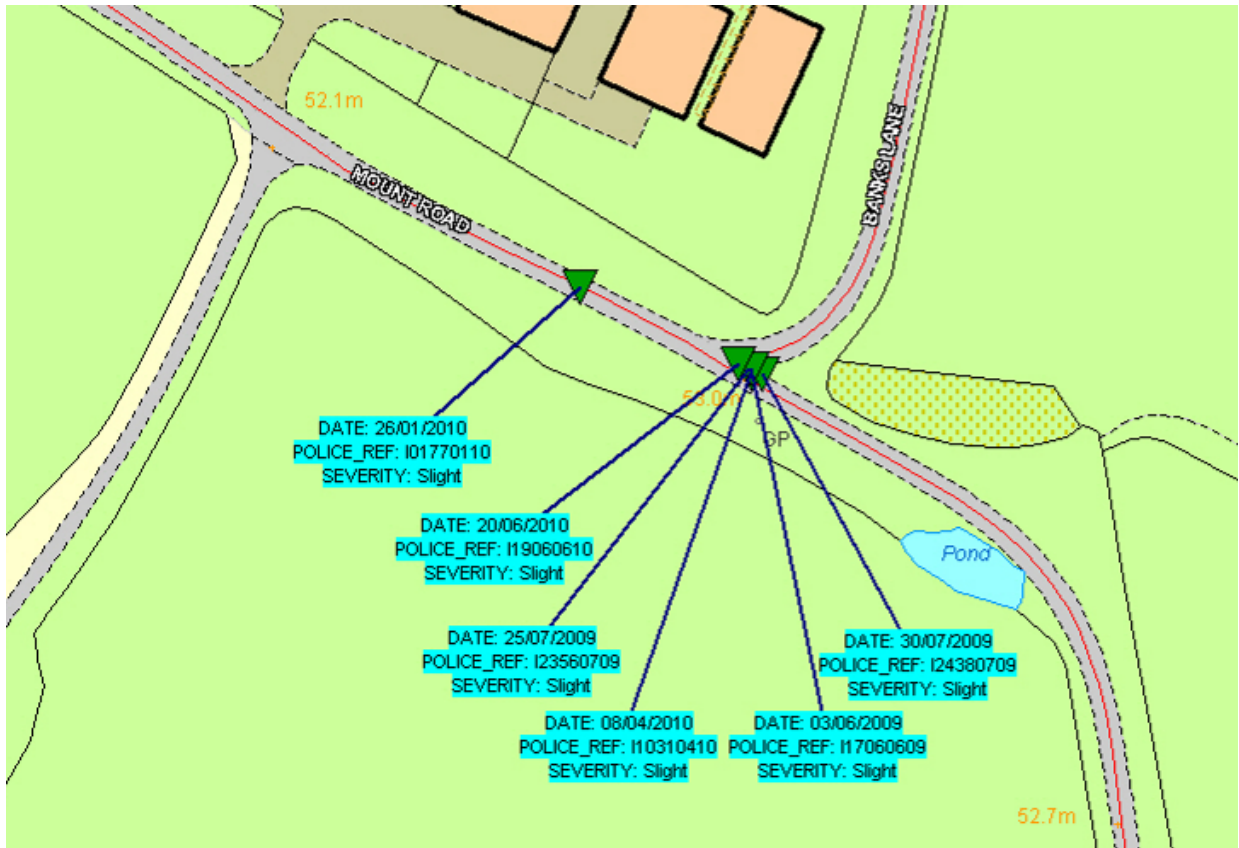
2.0 Aerial Photograph



3.0 Site Description

The subject of this investigation is a cluster of collisions at the junction of Banks Lane and Mount Road. Both roads are Secondary Distributors (PR2) and are of a rural character. Banks Lane bends to the right at its meeting with Mount Road which has priority traffic.

4.0 Personal Injury Collision Analysis (see AccsMap Data & attached stick diagrams)



A study of the recorded Personal Injury Collision data for the period from 28/07/2008 to 27/07/2011 at this location shows there have been 6 (slight) collisions:

03/06/2009: Car entering Mount Road from Banks Lane fails to stop and collides with westbound car and then an eastbound car on Mount Road.

- Careless/Reckless/In a hurry.
- Junction overshoot.
- Failed to look properly.

25/07/2009: Cyclist entering Mount Road from Banks Lane is unable to stop due to loose grit on the road surface and collides with an eastbound car on Mount Road.

- Deposit on road (eg oil, mud, chippings).

30/07/2009: Car entering Mount Road from Banks Lane pulls across Give Way lines and collides with an eastbound car on Mount Road.

- Inadequate/Masked signs or road markings.

26/01/2010: Goods vehicle, eastbound on mount Road, skidded on ice and overturned.

- Slippery Road (due to weather).
- Poor or defective road surface.

08/04/2010: Car entering Mount Road from Banks Lane fails to give way and collides with an eastbound car on Mount Road.

- Junction overshoot.
- Failed to look properly.
- Poor turn or manoeuvre.

20/06/2010: Car entering Mount Road from Banks Lane has hit a patch of gravel and has slid out of the junction, is unable to stop due to loose grit on the road surface and collides with an eastbound car on Mount Road.

- Deposit on road (eg oil, mud, chippings).
- Poor or defective road surface.

The predominant pattern of collisions at this location is vehicles entering entering Mount Road from Banks Lane and colliding with eastbound vehicles on Mount Road.

5.0 Site Observations and Photographs

Observations during a site inspection on 22/11/2011:

Because of the right hand bend on Banks Lane, when waiting to enter Mount Road, visibility to the left is restricted. This view is also further restricted by vegetation on Mount Road.

There is evidence of vehicles over running the verge on the outside of the bend on Banks Lane. This over running, most probably by vehicles turning left into Mount Road and occasionally right into Banks Lane, will spread gravel and mud onto the mouth of Banks Lane.

The road markings at the junction and the SLOW markings on the Mount Road approaches to the junction were faded and indistinct.

On Mount Road there were some holes along the carriageway edges and areas of worn road surface.

See photographs 1 to 6.

Photograph 1. On Banks Lane approaching the junction with Mount Road



Photograph 2. On Banks Lane at the junction with Mount Road



Photograph 3. On Banks Lane at the junction with Mount Road, looking right



Photograph 4. On Banks Lane at the junction with Mount Road, looking left



Photograph 5. Eastbound on Mount Road approaching the junction



Photograph 6. Eastbound on Mount Road at the junction



Photograph 7. Westbound on Mount Road approaching the junction



Photograph 8. Westbound on Mount Road at the junction



6.0 Recommendations

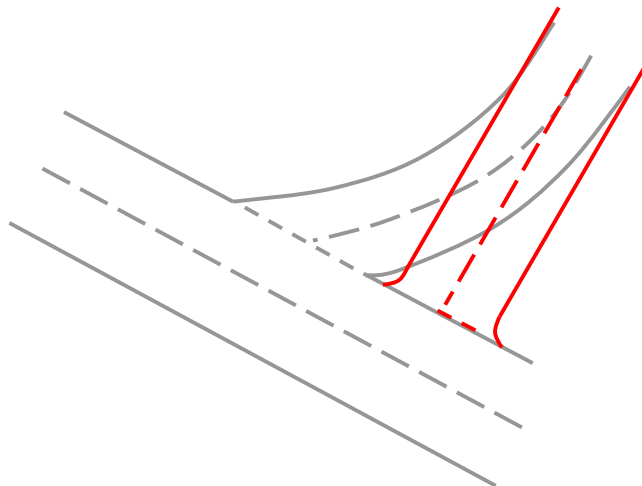
The predominant pattern of collisions caused by vehicles from Banks Lane colliding with eastbound vehicles on Mount Road is probably due to the imbalance of visibility left to right for drivers entering Mount Road from Banks Lane. Drivers give a quick glance to the right where visibility is clear, then while taking a much longer look to the left where visibility is obscured, they are caught unawares by a vehicle approaching from their right.

The collision data also suggests that gravel at the mouth of Banks lane can reduce skid resistance there.

Improve visibility for drivers entering Mount Road from Banks Lane and reduce the potential for gravel spreading by:

- Straightening the Banks Lane approach to Mount Road.

This will require the diagram 602 GIVE WAY sign and the finger post direction sign to be relocated.



- Clearing obscuring vegetation on Mount Road.

Make drivers on both roads more aware of the junction by:

- Refreshing the road markings at the junction and the SLOW road markings on the Mount Road approaches to the junction.
- Installing Diagram 506.1 Side Road ahead on both Mount Road approaches to the junction.

It is also recommended that an examination of the road surface be carried out at this location by the Maintenance Activity to determine if any repairs/resurfacing are required.

First Year Rate of Return (FYRR) Calculation

Mount Road j/w Banks Lane - EPPING FOREST

$$\% \text{ FYRR} = \frac{\text{Annual Accident Savings} \times 100}{\text{Scheme Cost}}$$

Assumptions:

| | |
|-----------------------------------|-----------------------|
| Average annual accident cost (£) | £96,706.00 (DfT 2007) |
| Accidents treated | 5 |
| Casualties treated | 6 |
| Investigation time period (years) | 3 |

Estimated cost of recommended remedial measures:

| | |
|-------------------------------------------------------------------|------------|
| Estimated cost by Safety Engineering for the recommended measures | |
| Straighten Banks Lane approach and relocate signs | |
| Clear vegetation | |
| Refresh Road markings | |
| Install Diagram 506.1 signs | £30,000.00 |
| Repair/resurface if necessary | |

Accident saving produced by proposed treatment (%) 44 RoSPA*

%FYRR 236

*Junction improvement

Number of accidents that would not have occurred had the remedial actions been implemented at the start of the five-year accident period

2.2 or **0.73** each year

Number of casualties that would not have occurred had the remedial actions been implemented at the start of the five-year accident period

2.64 or **0.88** each year

8.0 Scheme Approval & Authorisation

| Approvals | | | |
|--------------------------------------------------|----------------|------------------|-------------|
| Name/role | Tel No. | Signature | Date |
| <i>Lead Safety Engineer:</i> Barry Fix | | | |
| <i>Senior Safety Engineer:</i> Chris Whinney | | | |
| <i>Safety Engineering Manager:</i> Nicola Foster | | | |

| Discussed/Agreed with Area Contact | | | |
|-------------------------------------------|----------------|------------------|-------------|
| Name/role | Tel No. | Signature | Date |
| | | | |

| Financial Authorisation Code | Date of Authorisation |
|-------------------------------------|------------------------------|
| | |

| Contacts | |
|-----------------------------------------------------------|-------------------------------|
| Name/role | Address and/or Tel No. |
| <i>Essex Police Representative:</i> Trevor Stubbington | |
| <i>County Councillor:</i> | |
| <i>Other:</i> | |

| Comments |
|-----------------|
| |

References

See ACCSMAP Interpreted Listing for accidents between dates 28/07/2008 to 27/08/2011
Run on: 09/08/2011.

ECC Casualty Reduction Site Investigation 2012-13

Safety Scheme: 21

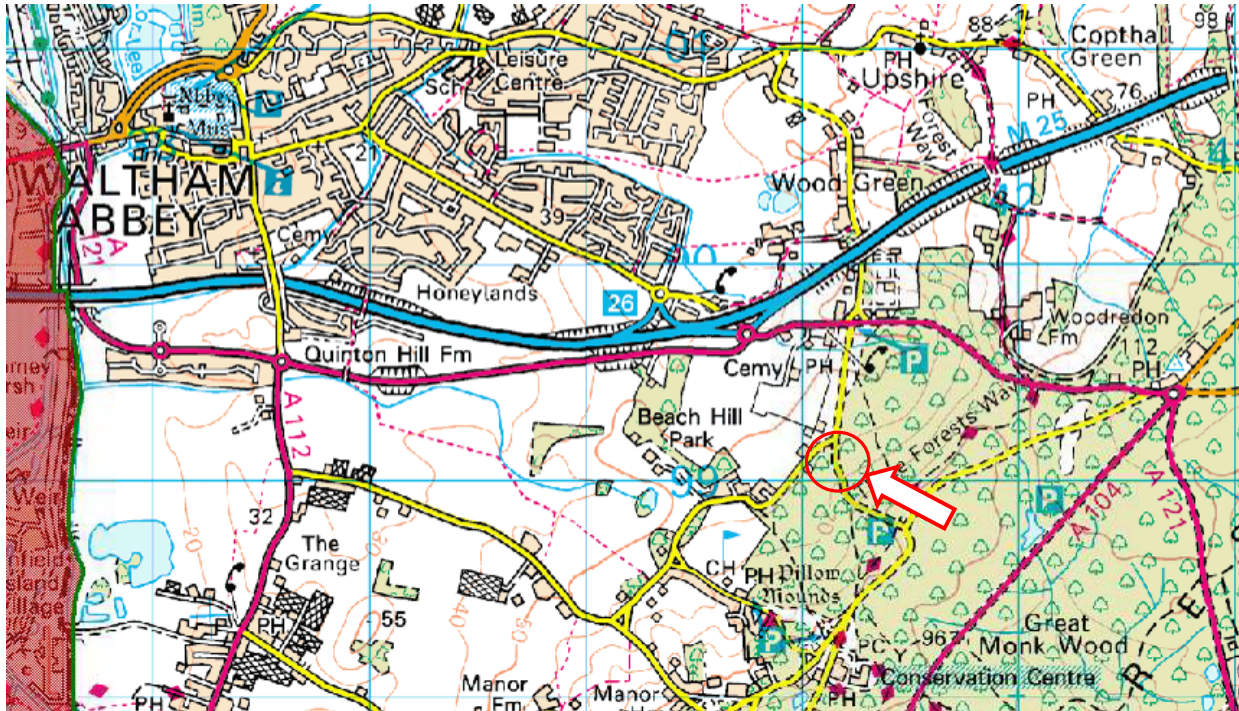
Claypit Hill

District: Epping Forest

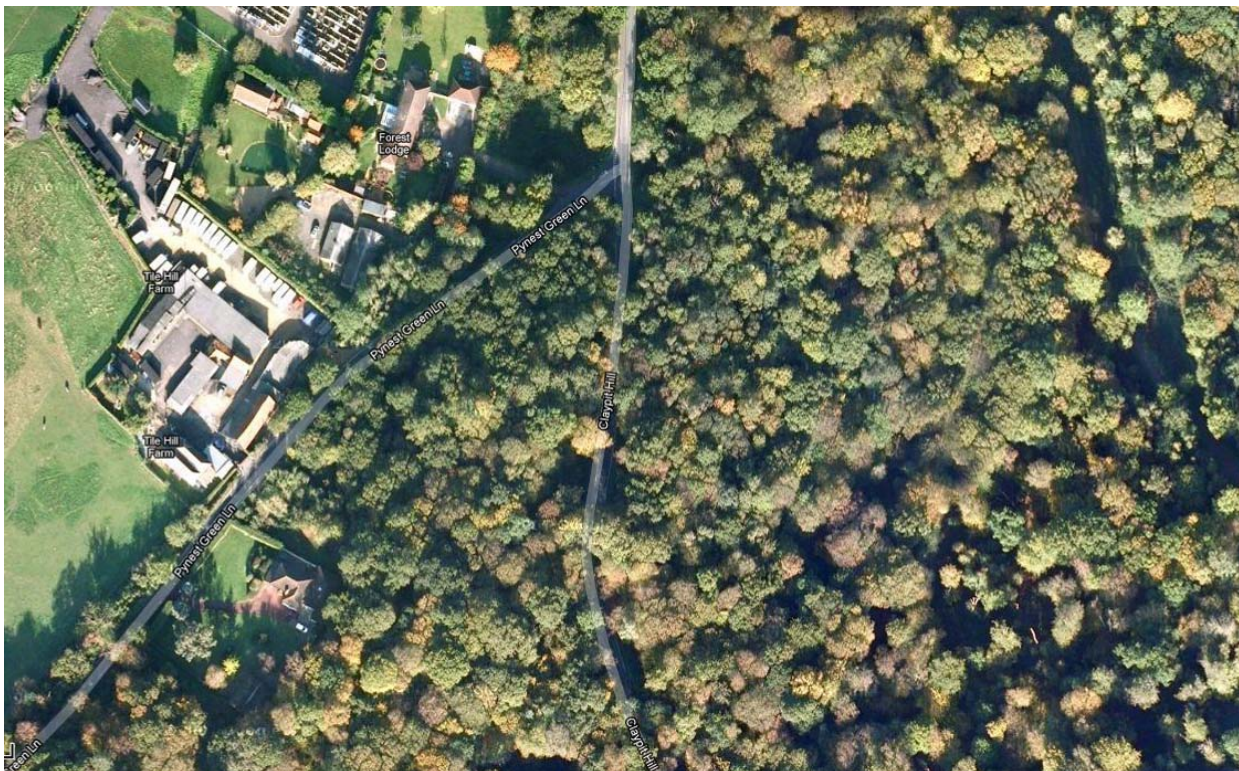
Investigation Period: 29/07/2008 to 28/07/2011

Grid Reference: 541163 199080

1.0 Site Location Plan



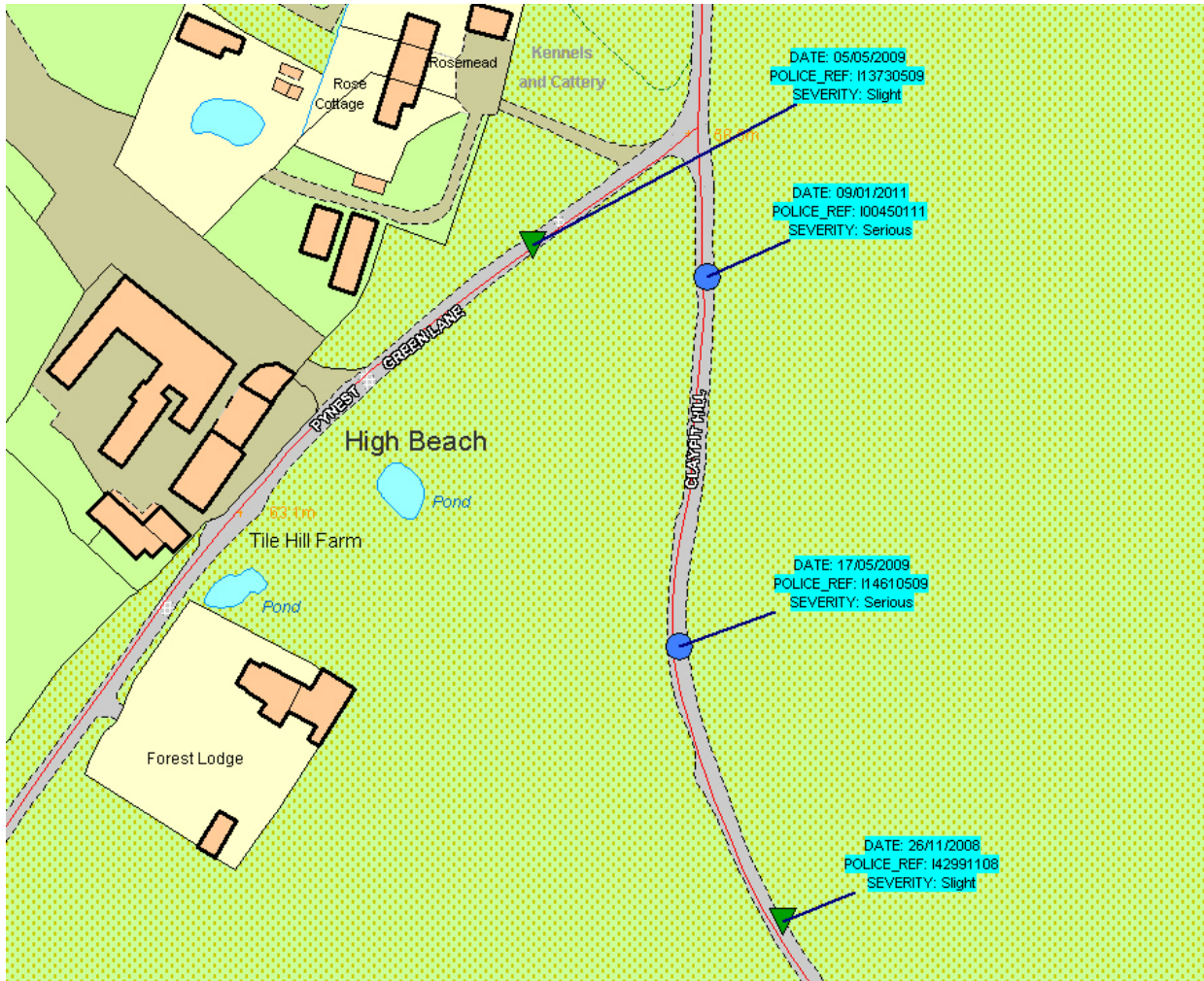
2.0 Aerial Photograph



3.0 Site Description

The subject of this investigation is a cluster of collisions on a length of Claypit Hill south of its junction with Pynest Green Lane. The subject length of Claypit Hill is sinuous and northwards, slopes downhill and is subject to a 30mph speed limit.

4.0 Personal Injury Collision Analysis (see AccsMap Data & attached stick diagrams)



A study of the recorded Personal Injury Collision data for the period from 29/07/2008 to 28/07/2011 at this location shows there have been 2 serious and 2 slight collisions. One of these collisions occurred on Pynest Green Road on 05/05/2009 and will not be included in this analysis.

26/11/2008 (Slight): Driver of a northbound car lost control on right hand bend and slid into the nearside verge.

- Travelling too fast for conditions.
- Slippery road (due to weather).

17/05/2009 (Serious): Driver of a southbound car lost control on a left hand bend and left the road, colliding with a tree and overturned.

- Impaired by alcohol (positive breath test).
- Loss of control.
- Inexperienced or learner driver.

09/01/2011 (Serious): Rider of a southbound motor cycle has lost control on black ice.

- Slippery road (due to weather).

5.0 Site Observations and Photographs

Observations during a site inspection on 21/11/2011:

The road surface of the subject length of Claypit Hill appears to be in serviceable condition and the edges of the carriageway are clearly marked. Although the road is sinuous, the start and severity of each bend is clear enough not to require warning signs or delineation by Chevrons or verge markers.

Although an exceptional 30mph speed limit is set for the subject length of Claypit Hill, due to signing restrictions within Epping Forest no 30mph repeaters are present. Two 30mph roundel road markings, one for each direction were present

See photographs 1 to 4.

Photograph 1. Claypit Hill northbound



Photograph 2. Claypit Hill northbound



Photograph 3. Claypit Hill southbound



Photograph 4. Claypit Hill southbound



6.0 Recommendations

Measures at this location are very limited. If the 30mph had been observed by the drivers of the errant vehicles, it is likely that their collisions would have been avoided. Improved observance of the speed limit could be encouraged by:

- Clear terminal signing of the 30mph speed limit.
- More frequent 30mph roundel road markings.
- Increased Police presence and enforcement.

First Year Rate of Return (FYRR) Calculation

Claypit Hill - EPPING FOREST

$$\% \text{ FYRR} = \frac{\text{Annual Accident Savings} \times 100}{\text{Scheme Cost}}$$

Assumptions:

| | |
|-----------------------------------|------------|
| Average annual accident cost (£) | £96,706.00 |
| Accidents treated | 3 |
| Casualties treated | 5 |
| Investigation time period (years) | 3 |

Estimated cost of recommended remedial measures:

Estimated cost by Safety Engineering for the recommended measures

Clear terminal signing of the 30mph speed limit

More frequent 30mph roundal road markings

Increased Police presence and enforcement

£2,000.00

Accident saving produced by proposed treatment (%)

10 *

%FYRR 484

*30mph roundals

Number of accidents that would not have occurred had the remedial actions been implemented at the start of the five-year accident period

0.3 or **0.10** each year

Number of casualties that would not have occurred had the remedial actions been implemented at the start of the five-year accident period

0.5 or **0.17** each year

8.0 Scheme Approval & Authorisation

| Approvals | | | |
|--------------------------------------------------|----------------|------------------|-------------|
| Name/role | Tel No. | Signature | Date |
| <i>Lead Safety Engineer:</i> Barry Fix | | | |
| <i>Senior Safety Engineer:</i> Chris Whinney | | | |
| <i>Safety Engineering Manager:</i> Nicola Foster | | | |

| Discussed/Agreed with Area Contact | | | |
|-------------------------------------------|----------------|------------------|-------------|
| Name/role | Tel No. | Signature | Date |
| | | | |

| Financial Authorisation Code | Date of Authorisation |
|-------------------------------------|------------------------------|
| | |

| Contacts | |
|-----------------------------------------------------------|-------------------------------|
| Name/role | Address and/or Tel No. |
| <i>Essex Police Representative:</i> Trevor Stubbington | 01245 240604 |
| <i>County Councillor:</i> | |
| <i>Other:</i> | |

| Comments |
|-----------------|
| |

References

See ACCSMAP Interpreted Listing for accidents between dates 29/07/2008 to 28/07/2011
Run on: 08/08/2011.

ECC Casualty Reduction Site Investigation 2012-13

Safety Scheme: 22

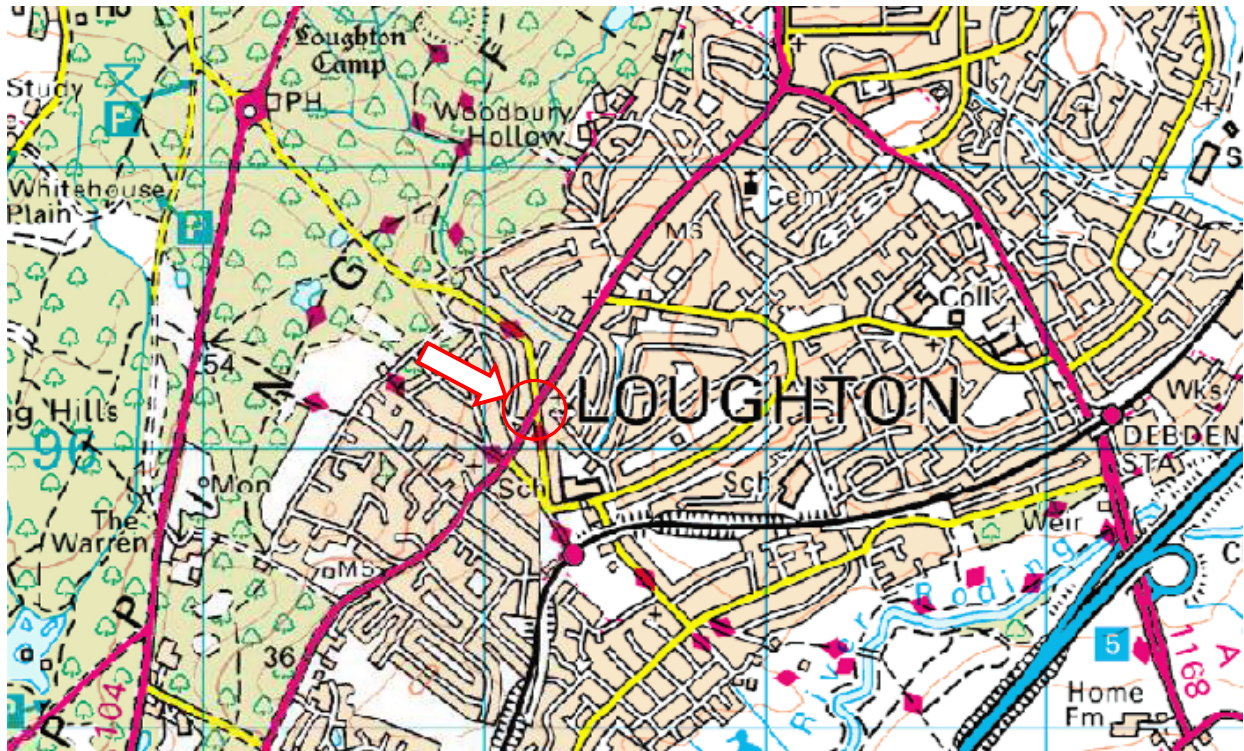
Church Road j/w Forest Road

District: Epping Forest

Investigation Period: 09/08/2008 to 08/08/2011

Grid Reference: 542195 196141

1.0 Site Location Plan



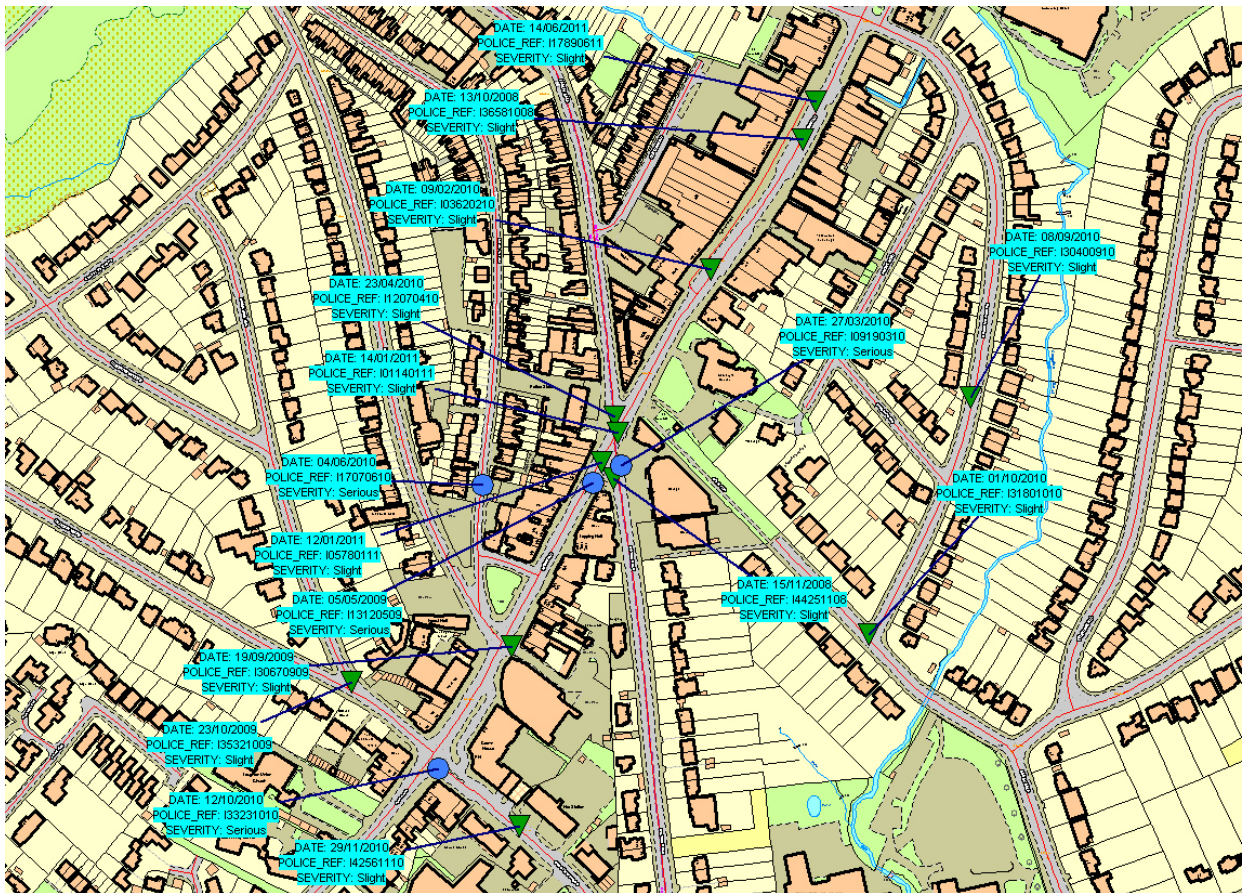
2.0 Aerial Photograph



3.0 Site Description

The subject of this investigation is a cluster of collisions on Loughton High Road at and to the north east of its junction with Forest Road (heading north) and Station Road (heading south). Loughton High Road is a section of the Radial Feeder (PR1) A121 which is a connection between Epping, Waltham Abbey and Harlow to the northeast and Woodford and Central London the southwest. Loughton High Road is also the main shopping street for the area. The speed limit is set at 30mph for this section of road.

4.0 Personal Injury Collision Analysis (see AccsMap Data & attached stick diagrams)



A study of the recorded Personal Injury Collision data for the period from 09/08/2008 to 08/08/2011 at this location shows there have been 4 serious and 12 slight recorded personal injury collisions. Of these, 11, including the 4 serious, have involved pedestrians.

Because of the high number of collisions involving pedestrians, this report will only address these collisions:

13:10/2008 (slight): A pedestrian ran out from behind a parked car into the side of a southwest bound car. High Road, 200m northeast of j/w Forest Road

- Crossed road masked by stationary vehicle (pedestrian).
- Failed to look properly (pedestrian).
- Stationary or parked vehicle.

15/11/2008 (slight): Driver of a northbound car stopped a indicated to a pedestrian to cross, then drove on and hit the pedestrian.
Station Road at j/w High Road.

- Failed to look properly (pedestrian).

05/05/2009 (serious): A pedestrian ran from a shop into the side of a northeast bound car.

Careless,Reckless/In a hurry (pedestrian).

19/09/2009 (slight): A car turning into a car park has clipped the toes of a wheelchair passenger.
High Road junction to turn into M&S car park.

- Failed to signal/Misleading signal.
- Failed to look properly.
- Failed to judge other persons path or speed.
- Failed to look properly (pedestrian).
- Disability or illness, mental or physical (pedestrian).

09/02/2010 (slight): Pedestrian has crossed the road between stationary rush hour traffic into the path of a slowly filtering motor cycle.
High Road, 97m northeast of j/w Forest Road

- Failed to look properly (pedestrian).
- Careless,Reckless/In a hurry (pedestrian).

27/03/2010 (serious): A car entering Old Station Road from the High Road collided with a northbound pedestrian.
Old Station Road approx 10m East of j/w the High Road.

- Failed to look properly.
- Impaired by alcohol.
- Impaired by alcohol (pedestrian).

04/06/2010 (serious): A southbound car on Smarts Lane clipped a drunken pedestrian.
Smarts Lane 60m from j/w the High Road.

- No factors listed.

12/10/2010 (serious): A pedestrian has walked into the road into the path of a northwest bound car.
Old Station Road approx. 50m from j/w the High Road.

- Failed to look properly (pedestrian).

29/11/2010 (slight): A northbound car swerved across the road and hit 2 pedestrians.
Old Station Road approx. 100m from j/w the High Road.

- Disability or illness, mental or physical.

12/01/2011 (slight): A goods vehicle entering Station Road from the High Road collided with a pedestrian.
J/w High Road and Station Road.

- Failed to look properly.
- Failed to judge vehicles path or speed (pedestrian).

14/06/2011 (slight): A car hit a pedestrian on a pedestrian crossing.

Outside New Look shop on the High Road.

- Junction overshoot.
- Crossed road masked by stationary vehicle (pedestrian).

The descriptions and the factors listed suggest that a degree of carelessness by the pedestrians is a factor in 10 of the 11 reported personal injury collisions.

5.0 Site Observations and Photographs

Observations during a site inspection on 22/11/2011:

There is a pedestrian controlled crossing on the High Road to the northeast of the junction with Forest Road/Station Road. There are lengths of guard rail on both sides to guide pedestrians to the crossing point. To the south west of the junction there is an uncontrolled crossing point with a central refuge.

Along the High Road single and double yellow lines mark parking restrictions which are regularly ignored by shoppers. It should be noted that a factor in two of the collisions involving pedestrians was "Crossed road masked by stationary vehicle".

On Station Road, which has a wide entrance divided by solid white island markings, there is an uncontrolled pedestrian crossing. 3 of the collisions involving pedestrians have occurred at or in the vicinity of this crossing point.

On Forest Road there is an uncontrolled pedestrian crossing with guard rail on its south side extending into the High Road. The opening of Forest Road is less wide than that of Station Road. No casualties involving pedestrians have been recorded on this part of Forest Road during the period of study.

See photographs 1 to 4.

Photograph 1. Crossing point on Station Road (also see Google Earth inset)



Photograph 2. Crossing point on Forest Road



Photograph 3. Pedestrian controlled crossing on High Road north of junction



Photograph 4. Crossing point on High Road south of junction



6.0 Recommendations

Affordable remedial measures at this location are very limited.

On the High Road:

- Increase the levels of parking restriction enforcement to improve visibility between drivers and pedestrians.

At the uncontrolled crossing at the entrance to Station Road, the road marked island gives the appearance of a refuge for pedestrians who tempted to cross in two stages between which they are in the centre of the road and vulnerable to turning vehicles.

- If swept paths allow, the road marked island should be converted to a solid island that will provide a real rather than an imaginary refuge.

An Education, Training and Publicity (ETP) campaign here may also be beneficial. There is a courtyard and a paved area outside the Police Station on the corner of Forest Road/High Road, St. Mary's Parish Centre and an M&S store on the High Road where ETP could set up their stall.

First Year Rate of Return (FYRR) Calculation

High Road j/w Forest Road - EPPING FOREST

$$\% \text{ FYRR} = \frac{\text{Annual Accident Savings} \times 100}{\text{Scheme Cost}}$$

Assumptions:

| | |
|-----------------------------------|------------|
| Average annual accident cost (£) | £96,706.00 |
| Accidents treated | 9 |
| Casualties treated | 11 |
| Investigation time period (years) | 3 |

Estimated cost of recommended remedial measures:

| | |
|--------------------------------------------------------------------|-----------|
| Estimated cost by Safety Engineering for the recommended measures | |
| Increase the levels of parking restriction enforcement | |
| If swept paths allow, convert road marked island to a solid island | |
| ETP engagement | |
| | £5,000.00 |

Accident saving produced by proposed treatment (%) 10 *

%FYRR 580

*ETP engagement

Number of accidents that would not have occurred had the remedial actions been implemented at the start of the five-year accident period

0.9 or **0.30** each year

Number of casualties that would not have occurred had the remedial actions been implemented at the start of the five-year accident period

1.1 or **0.37** each year

8.0 Scheme Approval & Authorisation

| Approvals | | | |
|--------------------------------------------------|----------------|------------------|-------------|
| Name/role | Tel No. | Signature | Date |
| <i>Lead Safety Engineer:</i> Barry Fix | | | |
| <i>Senior Safety Engineer:</i> Chris Whinney | | | |
| <i>Safety Engineering Manager:</i> Nicola Foster | | | |

| Discussed/Agreed with Area Contact | | | |
|-------------------------------------------|----------------|------------------|-------------|
| Name/role | Tel No. | Signature | Date |
| Adrian Tidbury | | | |

| Financial Authorisation Code | Date of Authorisation |
|-------------------------------------|------------------------------|
| | |

| Contacts | |
|-----------------------------------------------------------|-------------------------------|
| Name/role | Address and/or Tel No. |
| <i>Essex Police Representative:</i> Trevor Stubbington | |
| <i>County Councillor:</i> | |
| <i>Other:</i> | |

| Comments |
|-----------------|
| |

References

See ACCSMAP Interpreted Listing for accidents between dates 09/08/2008 to 08/08/2011
Run on: 17/08/2011.

ECC Casualty Reduction Site Investigation 2011/12

Safety Scheme: 23

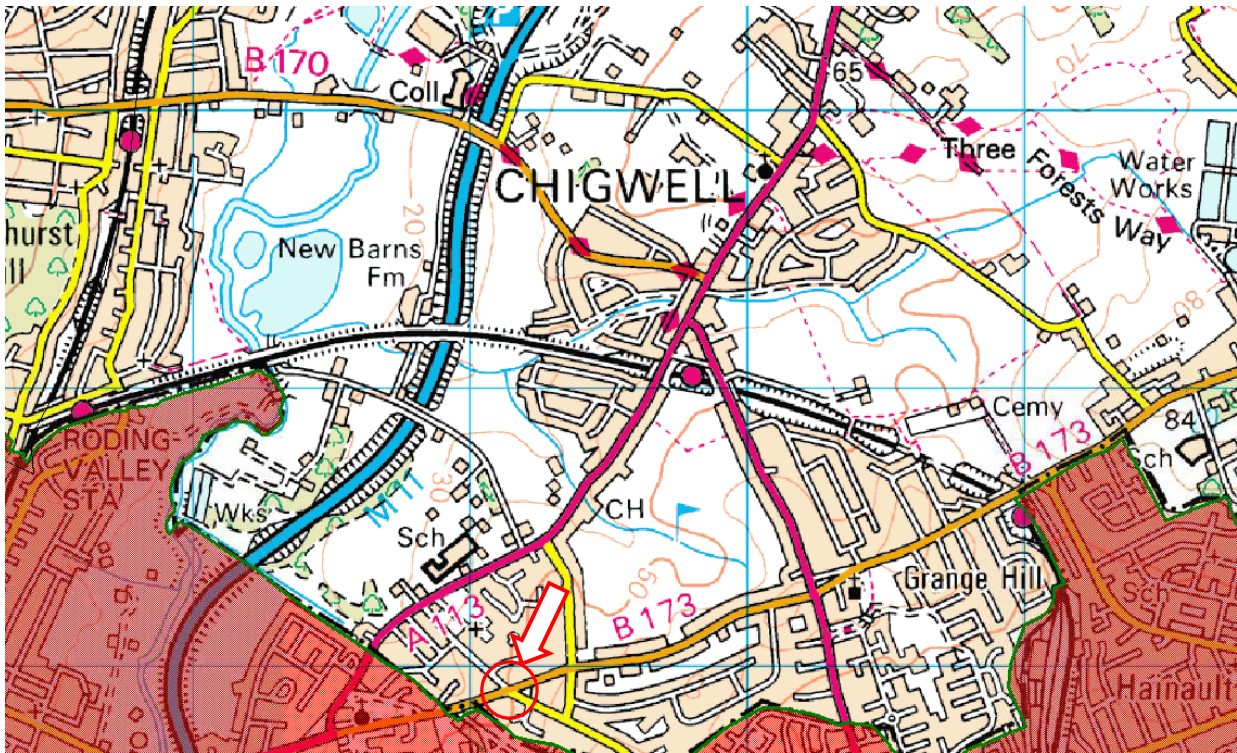
Manor road j/w Tomswood Road

District: Epping Forest

Investigation Period: 01/04/2007 to 24/02/2011

Grid Reference: 543144 191896

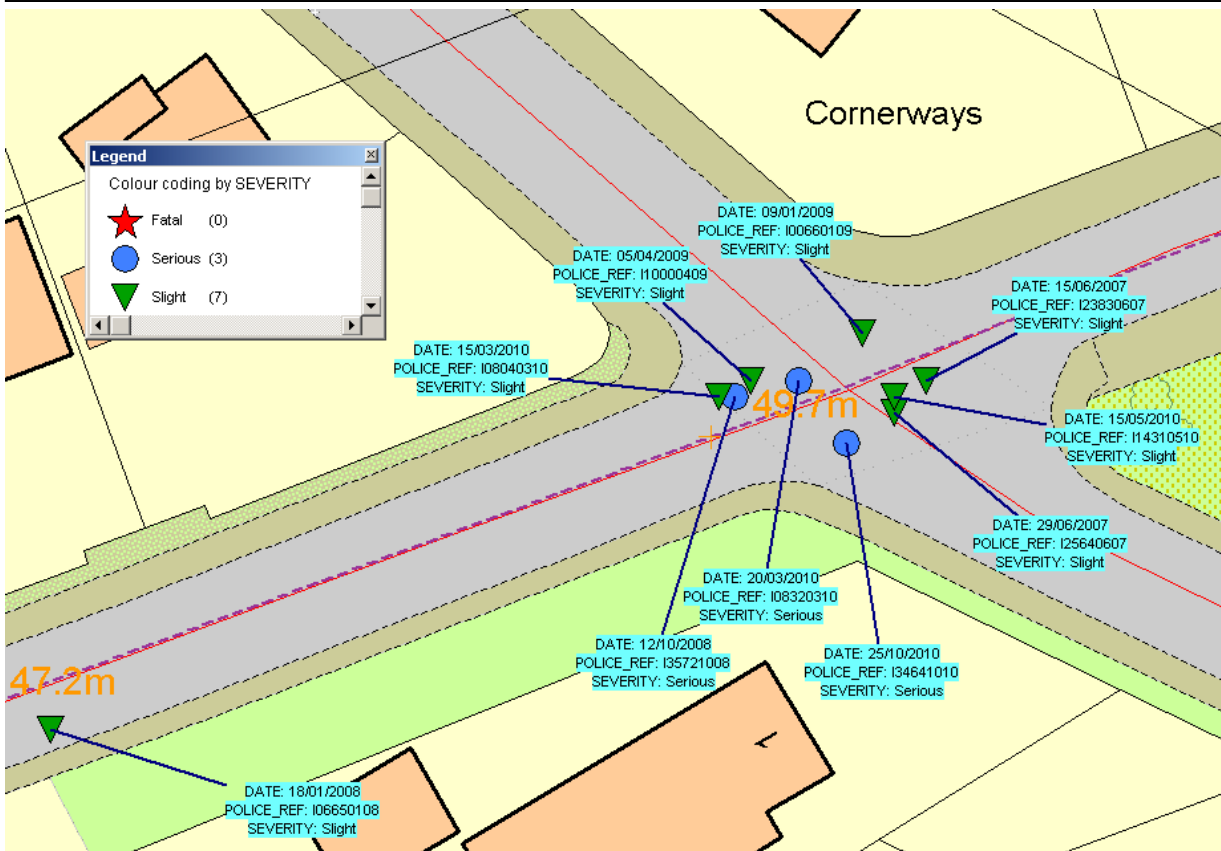
1.0 Site Location Plan



2.0 Aerial Photograph



Collision cluster (see AccsMap Interpreted listing & attached collision stick diagrams)



3.0 Site Description

The subject site is a cross road with the B173 Manor Road which is a Secondary Distributor (PR2) as the northeast/southwest priority axis with Tomswood Road from the southeast and Turpins Lane from the northwest.

There is high friction surfacing on all four approaches and central hatching on and SLOW road markings on both Manor Road approaches.

See photographs

4.0 Personal Injury Collision Analysis (see AccsMap Data & attached stick diagrams)

During the period 01/04/2007 to 31/03/2010 there have been 2 serious and 3 slight collisions all involving vehicles exiting Tomswood Road into the path of northeast bound vehicles on Manor Road. Also during this period there has been 1 slight collision involving a vehicle turning right towards Tomswood Road across the path of a southwest bound motorcycle on Manor Road, 1 slight southwest bound nose to tail collision on Manor Road south west of the crossroad and 1 slight collision on Manor Road between a northeast bound vehicle and a south bound pedestrian (who suffered a fainting episode) .

As this site was a late starter in the programme, the opportunity was taken to update the collision record by including collisions recorded during the period 31/03/2010 to 09/03/2011. During this period there has been 1 serious collision involving a vehicle exiting Tomswood Road into the path of a southwest bound motorcycle on Manor Road and 1 slight northwest bound nose to tail collision on Tomswood Road.

The stick diagrams suggest that 5 of the 10 collisions involved vehicles entering Manor Road from Tomswood Road into the path of northeast bound vehicles on Manor Road. In fact a near miss of this type was witnessed during the site visit. The 5 remaining collisions have separate, disparate circumstances.

See the attached stick diagrams and AccsMap interpreted listing.

5.0 Site Observations and Photographs

All four approaches are straight with unobstructed visibility to the upcoming junction. However the junction is featureless and its presence, especially from the Manor Road approaches is not immediately apparent.

Road users on Tomswood Road waiting to enter Manor Road have an unobstructed view to their left whilst their view to the right is somewhat reduced by roadside vegetation on Manor Road. This imbalance of visibility may be a contributory factor to the 5 of the 10 collisions involving vehicles entering Manor Road from Tomswood Road and the nose to tail collision on Tomswood Road. The road user entering Manor Road looks to the left and sees a clear road, then looks longer to the right and enters when it is clear, during which time a vehicle has arrived from the left. Another factor in these collisions may be the attention of road users entering Manor Road from Tomswood Road being distracted (wondering who should go first) by vehicles waiting to enter Manor Road from Turpin's Lane.

See photographs 1. to 10.

Photograph 1. Northeast bound on Manor Road, approaching the junction



Photograph 2. Northeast bound on Manor Road, at the junction



Photograph 3. Southwest bound on Manor Road, approaching the junction



Photograph 4. Southwest bound on Manor Road, approaching the junction



Photograph 5. On Tomswood Road, approaching the junction



Photograph 6. On Tomswood Road, at the junction, looking to the right



Photograph 7. On Tomswood Road, at the junction, looking to the left



Photograph 8. On Turpins Lane, approaching the junction



Photograph 9. On Turpins Lane, at the junction, looking to the right



Photograph 10. On Turpins Lane, at the junction, looking to the left



6.0 Recommendations

Improve visibility to the right for road users entering Manor Road from Tomswood Road by:

- Clearing away as much obscuring vegetation as possible.
- Move the give way line forward on Tomswood Road by increasing the width of the grass verge and footway on the southeast side of Manor Road and correspondingly decreasing the width of the footway on the northwest side.

Improve the conspicuity of the junction by:

- Placing traffic islands on both Manor Road approaches. This measure would also have the advantage of narrowing the carriageway and reducing speed on Manor Road through the junction.

Alternatively:

Signalise the junction. If this measure were to include a pedestrian phase it would have the added advantage of satisfying local residents' request for a pedestrian crossing on Manor Road.

First Year Rate of Return (FYRR) Calculation

Manor Road j/w Tomswood Road - EPPING FOREST

$$\% \text{ FYRR} = \frac{\text{Annual Accident Savings} \times 100}{\text{Scheme Cost}}$$

Assumptions:

| | |
|-----------------------------------|------------|
| Average annual accident cost (£) | £96,706.00 |
| Accidents treated | 9 |
| Casualties treated | 13 |
| Investigation time period (years) | 3 |

Estimated cost of recommended remedial measures:

Estimated cost by Safety Engineering based on SA2000 estimate.

£33,000.00 allocated in 2011-12 for design and feasibility

£179,000.00 allocated in 2012-13 to install

£179,000.00

Accident saving produced by proposed treatment (%)

67 RoSPA*

%FYRR 109

*Signalise junction

Number of accidents that would not have occurred had the remedial actions been implemented at the start of the five-year accident period

6.03 or **2.01** each year

Number of casualties that would not have occurred had the remedial actions been implemented at the start of the five-year accident period

8.71 or **2.90** each year

8.0 Scheme Approval & Authorisation

| Approvals | | | |
|--------------------------------------------------|----------------|------------------|-------------|
| Name/role | Tel No. | Signature | Date |
| <i>Lead Safety Engineer:</i> Barry Fix | | | |
| <i>Senior Safety Engineer:</i> Chris Whinney | | | |
| <i>Safety Engineering Manager:</i> Nicola Foster | | | |

| Discussed/Agreed with Area Contact | | | |
|-------------------------------------------|----------------|------------------|-------------|
| Name/role | Tel No. | Signature | Date |
| | | | |

| Financial Authorisation Code | Date of Authorisation |
|-------------------------------------|------------------------------|
| | |

| Contacts | |
|-----------------------------------------------------------|-------------------------------|
| Name/role | Address and/or Tel No. |
| <i>Essex Police Representative:</i> Trevor Stubbington | |
| <i>County Councillor:</i> | |
| <i>Other:</i> | |

| Comments |
|-----------------|
| |

References:

See ACCSMAP Interpreted Listing for accidents between dates 01/04/2007 to 31/03/2011
Run on: 07/03/2011.

ECC Casualty Reduction Site Investigation 2012-13

Safety Scheme: 24

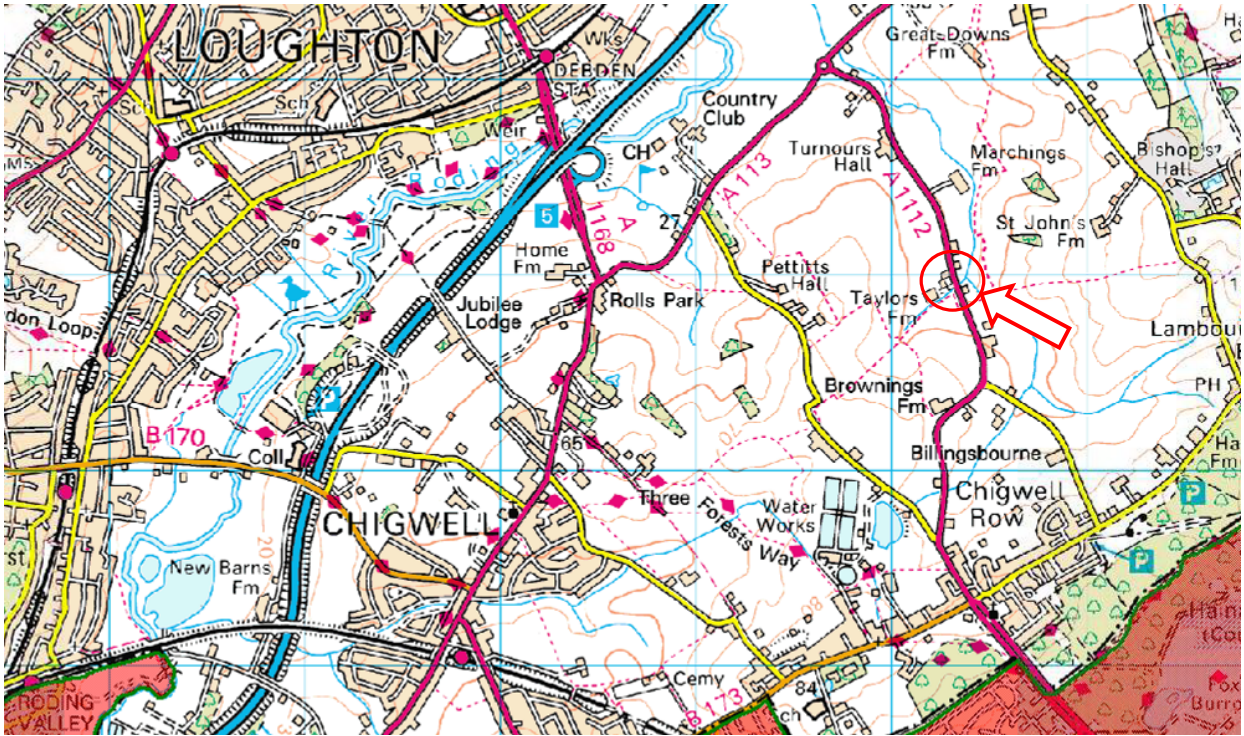
Gravel Lane

District: Epping Forest

Investigation Period: 01/11/2008 to 31/10/2011

Grid Reference: 546311 195042

1.0 Site Location Plan



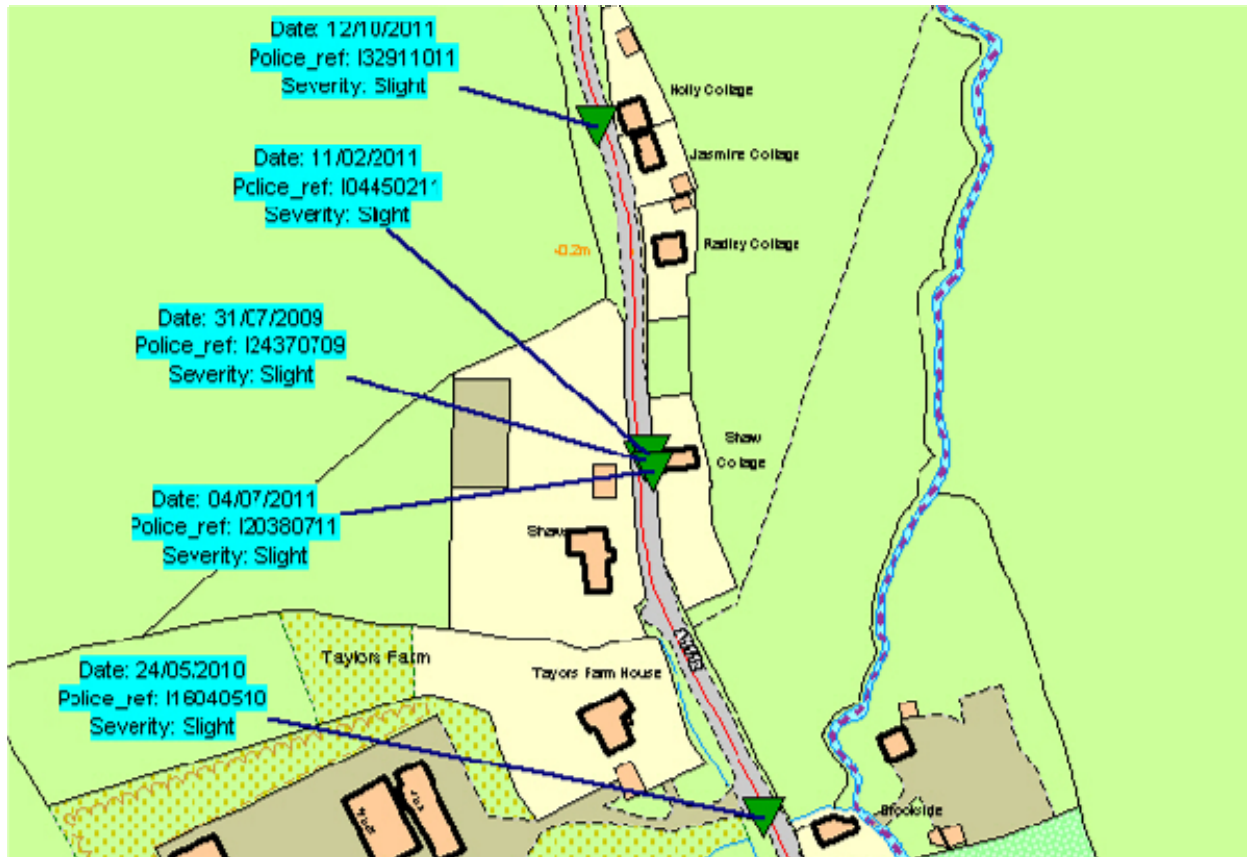
2.0 Aerial Photograph



3.0 Site Description

The subject of this investigation is a cluster of loss of control collisions on a double bend on the A1112 Gravel Lane which is a Main Distributor (PR1) connecting Collier Row, Romford and Chadwell Heath to the south and the A113 to Loughton, Theydon Bois and Epping to the north. Along the subject bend is a hamlet of around 8 properties on the east side and around 20 on the west side.

4.0 Personal Injury Collision Analysis (see AccsMap Data & attached stick diagrams)



A study of the recorded Personal Injury Collision data for the period from 01/11/2008 to 31/10/2011 at this location shows there have been 5 (slight) collisions:

31/07/2009: A southbound car attempted to turn right into an address has collided with a northbound car.

- Failed to judge other persons path or speed.
- Failed to look properly.
- Poor turn or manoeuvre.

24/05/2010: A northbound car has left the carriageway to the nearside and entered a ditch.

- Loss of control.
- Dazzling sun.

11/02/2011: A southbound car was directed past a crashed vehicle on the opposite side of the road. As it turned to the correct side of the road, it met with a northbound car that swerved off the road to avoid a head on collision.

- Under control and direction of a Constable in uniform.

04/07/2011: A northbound car, attempting to overtake another, has lost control avoiding an oncoming vehicle and collided with a fence.

- Aggressive driving.
- Loss of control.

12/10/2011: A northbound car swerved and hit a pothole, swerved again, rolled a came to rest in a ditch.

- Road layout (eg bend, hill etc.).
- Travelling too fast for conditions.
- Loss of control.
- Road layout (eg bend, hill, crest).

This double bend has also been the site of many damage only collisions that are causing much concern amongst the residents of the roadside houses.

Three of the 5 collisions have involved northbound vehicles losing control. This pattern is confirmed by the residents who have witnessed a number of damage only collisions on this bend.

5.0 Site Observations and Photographs

Observations during a site inspection on 22/11/2011:

Warning of the double bend on both approaches is given by yellow backed Diagram 513 Double bend ahead signs with Reduce speed now sub plates. There are red banded SLOW road markings adjacent to these signs and through the bend. There are also yellow backed Diagram 516 Road narrows on both sides ahead signs on both approaches.

On the North bound approach the most severe right hand bend is delineated with chevron boards and verge markers.

Work funded from localism sources is in progress to replace the black and white chevrons at this location with more conspicuous yellow backed chevrons.

The results of a grip test conducted on 27th. September 2011 indicate that the levels of Equivalent SCRIM Coefficient are below the Investigatory Level at Taylors Farm northbound and above the Investigatory Level southbound.

See photographs 1 to 4.

Photograph 1. Northbound, approaching the right hand bend



Photograph 2. Northbound, approaching the right hand bend



Photograph 3. Northbound, at the right hand bend



Photograph 4. Northbound, after the right hand bend



6.0 Recommendations

The pattern of collisions and the evidence from residents suggests road users are negotiating the right hand bend on the northbound approach at inappropriate speeds. The Grip Test also indicates that the road surface on this approach should be investigated.

This particular bend is already delineated with chevron boards which will be yellow backed and a number of verge markers.

Enhance the delineation by:

- Increasing the extent of the verge markers on the outside of the bend to a point approximately 15m northwards past Shaw Cottage and approximately 15m southward of the entrance to Shaws.

In view of the level of development through the subject bend an assessment was made to determine if a local reduction in speed would be within ECC policy. The assessment determined that the speed limit should be reduced to 40mph.

- After due legal process, install the appropriate 40mph terminal and repeater signs.

Check the road surface:

- The Maintenance Activity should check the road surface to determine if any repairs/resurfacing are necessary.

First Year Rate of Return (FYRR) Calculation

Gravel Lane - EPPING FOREST

$$\% \text{ FYRR} = \frac{\text{Annual Accident Savings} \times 100}{\text{Scheme Cost}}$$

Assumptions:

| | |
|-----------------------------------|------------|
| Average annual accident cost (£) | £96,706.00 |
| Accidents treated | 4 |
| Casualties treated | 4 |
| Investigation time period (years) | 3 |

Estimated cost of recommended remedial measures:

Estimated cost by Safety Engineering for the recommended measures

Increase extent of verge markers

Install appropriate 40mph terminal and repeater signs

£3,000.00

Accident saving produced by proposed treatment (%)

41 RoSPA*

%FYRR 1762

*Markings and signs

Number of accidents that would not have occurred had the remedial actions been implemented at the start of the five-year accident period

1.64 or **0.55** each year

Number of casualties that would not have occurred had the remedial actions been implemented at the start of the five-year accident period

1.64 or **0.55** each year

First Year Rate of Return (FYRR) Calculation

Gravel Lane - EPPING FOREST

$$\% \text{ FYRR} = \frac{\text{Annual Accident Savings} \times 100}{\text{Scheme Cost}}$$

Assumptions:

| | |
|-----------------------------------|------------|
| Average annual accident cost (£) | £96,706.00 |
| Accidents treated | 4 |
| Casualties treated | 4 |
| Investigation time period (years) | 3 |

Estimated cost of recommended remedial measures:

| | |
|-------------------------------------------------------------------|------------|
| Estimated cost by Safety Engineering for the recommended measures | |
| Increase extent of vegre markers | |
| Install appropriate 40mph terminal and repeater signs | |
| Repair/resurface if necessary | |
| | £30,000.00 |

Accident saving produced by proposed treatment (%) 41 RoSPA*

%FYRR 176

*Markings and signs

Number of accidents that would not have occurred had the remedial actions been implemented at the start of the five-year accident period

1.64 or **0.55** each year

Number of casualties that would not have occurred had the remedial actions been implemented at the start of the five-year accident period

1.64 or **0.55** each year

8.0 Scheme Approval & Authorisation

| Approvals | | | |
|--------------------------------------------------|----------------|------------------|-------------|
| Name/role | Tel No. | Signature | Date |
| <i>Lead Safety Engineer:</i> Barry Fix | | | |
| <i>Senior Safety Engineer:</i> Chris Whinney | | | |
| <i>Safety Engineering Manager:</i> Nicola Foster | | | |

| Discussed/Agreed with Area Contact | | | |
|-------------------------------------------|----------------|------------------|-------------|
| Name/role | Tel No. | Signature | Date |
| | | | |

| Financial Authorisation Code | Date of Authorisation |
|-------------------------------------|------------------------------|
| | |

| Contacts | |
|-----------------------------------------------------------|-------------------------------|
| Name/role | Address and/or Tel No. |
| <i>Essex Police Representative:</i> Trevor Stubbington | |
| <i>County Councillor:</i> | |
| <i>Other:</i> | |

| Comments |
|-----------------|
| |

References

See ACCSMAP Interpreted Listing for accidents between dates 01/11/2008 to 31/10/2011
Run on: 15/11/2011.

ECC Casualty Reduction Site Investigation 2012-13

Safety Scheme: 25

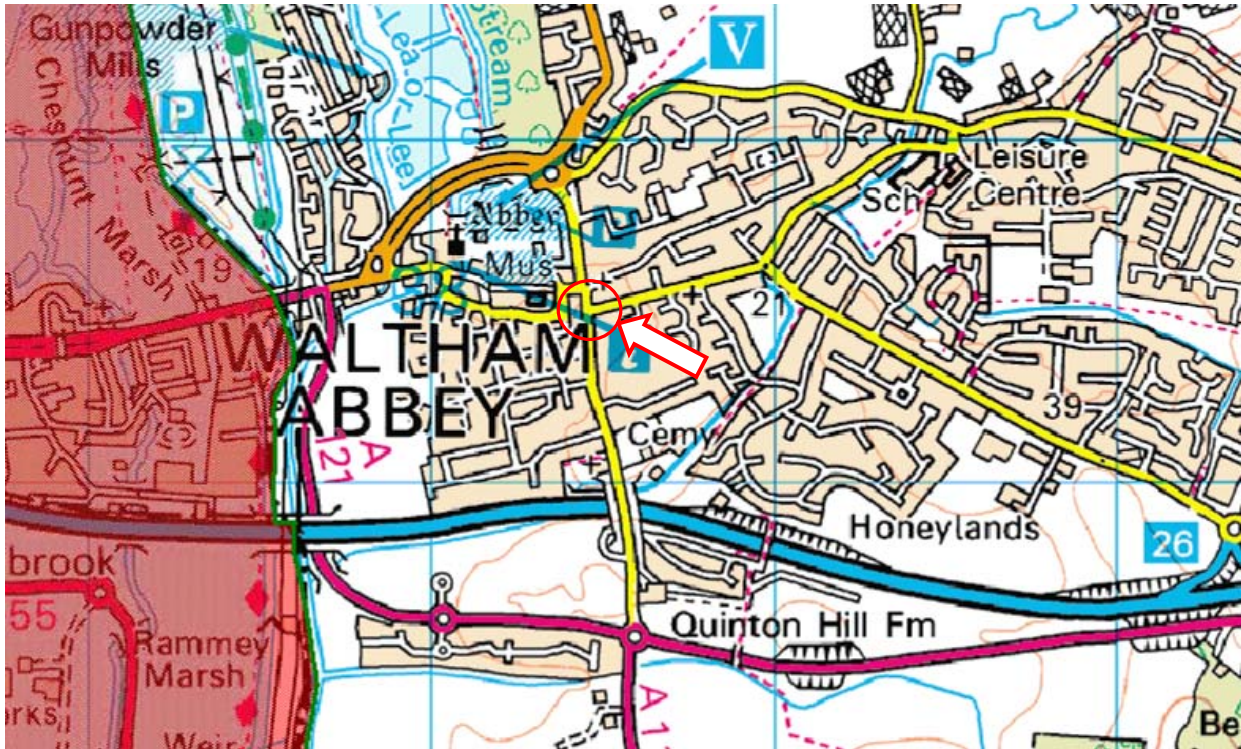
Sewardstone Road j/w Quaker Lane

District: Epping Forest

Investigation Period: 13/09/2008 to 12/09/2011

Grid Reference: 544290 195648

1.0 Site Location Plan



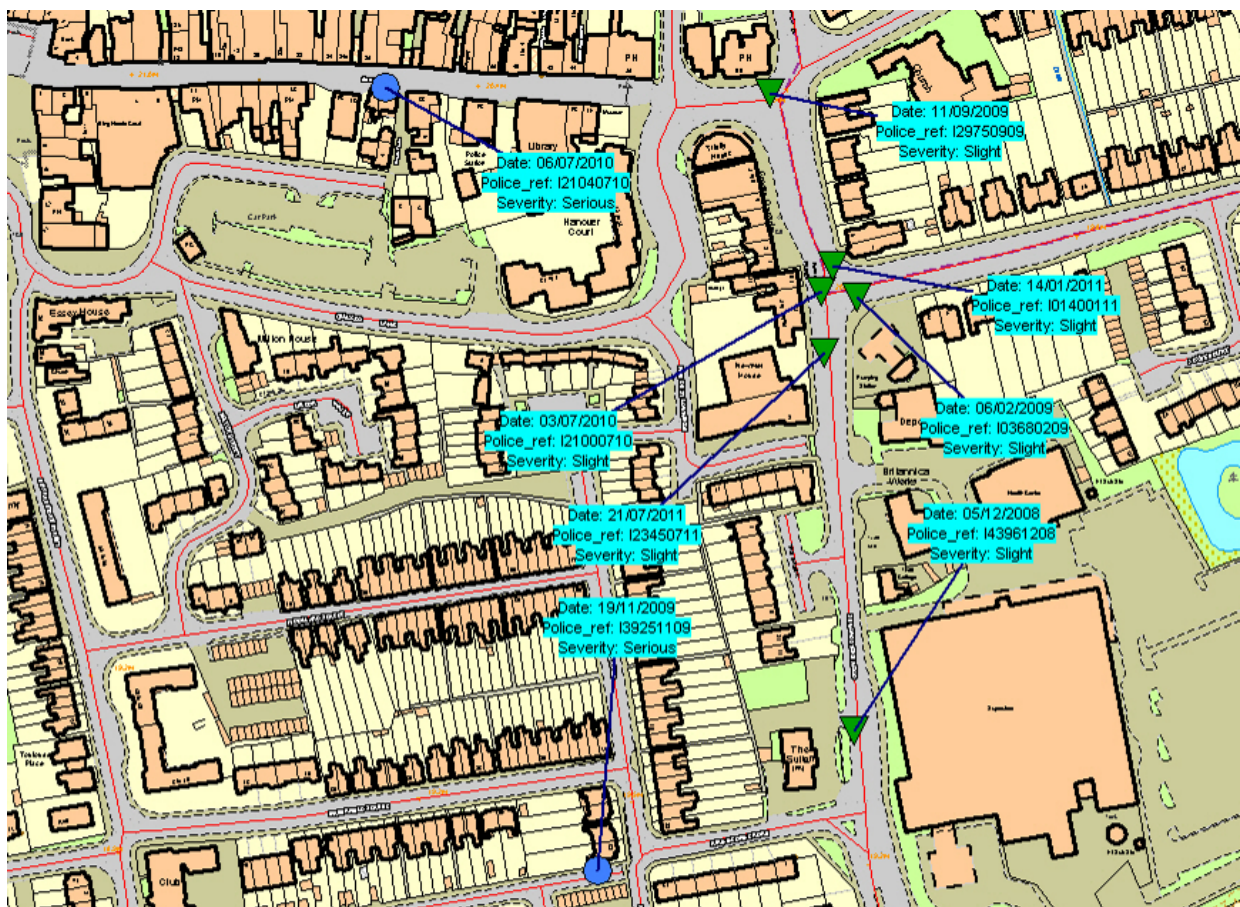
2.0 Aerial Photograph



3.0 Site Description

The subject of this investigation is a number of collisions along Sewardstone Road in the centre of Waltham Abbey. The majority of these collisions are clustered around the junction of the Secondary Distributors (PR2) Sewardstone Road and Farm Hill Road. The junction is signalised and there are pedestrian crossing points on all three arms. The speed limit for Sewardstone Road and Farm Hill Road is set at 30mph.

4.0 Personal Injury Collision Analysis (see AccsMap Data & attached stick diagrams)



A study of the recorded Personal Injury Collision data for the period from 13/09/2008 to 12/09/2011 at this location shows there have been 6 (slight) collisions along the subject length of Sewardstone Road and that 4 of these have involved pedestrians.

There have also been 2 (serious) disparate collisions involving pedestrians at two other, unrelated locations, these 2 collisions will not be included in this analysis.

Of the collisions along the subject length of Sewardstone Road, 4 are clustered around the junction of Sewardstone Road and Farm Hill Road. Of these 4 collisions, 3 have involved pedestrians.

05/12/2008: Pedestrian ran out in front of a northbound car.

- Failed to look properly (pedestrian).
- Careless/Reckless/In a hurry (pedestrian).

06/02/2009 (Slight): Car, stationary on Farm Hill Road at traffic signals was hit in the back by a car.

- No factors listed.

11/09/2009: Northbound car on Sewardstone Road was hit by a car turning right from Sewardstone Road into Sun Street.

- Impaired by alcohol (positive breath test).
- Failed to look properly.

03/07/2010: Southbound car clipped a male pedestrian on Sewardstone Road j/w Farm Hill Road.

- Failed to judge other persons path or speed.

14/01/2011: Southbound car on green traffic signal on Sewardstone Road, pedestrian ran across the road and made contact with drivers door and mirror. (Sewardstone Road 50yds west j/w Farm Hill Road?).

- Failed to look properly (pedestrian).
- Careless/Reckless/In a hurry (pedestrian).
- Failed to judge vehicles path or speed (pedestrian).

21/07/2011: Pedestrian has run out from side of Sewardstone road and struck by a northbound car. (Sewardstone Road 20m south of j/w Farm Hill Road).

- Crossed road masked by stationary vehicle (pedestrian).
- Failed to look properly (pedestrian).
- Careless/Reckless/In a hurry (pedestrian).

5.0 Site Observations and Photographs

Observations during a site inspection on 01/12/2011:

There are pedestrian crossing points on each arm of the signalised junction of Sewardstone Road and Farm Hill Road. There are no pedestrian phases within the traffic signal sequence. This can result in pedestrians whilst crossing in front of stationary vehicles coming into conflict with those turning right and left into the road the pedestrians are crossing. There are pedestrian controlled crossings on Sewardstone Road approximately 45m to the north and south of its junction with Farm Hill Road.

See photographs 1 to 5.

Photograph 1. Pedestrian controlled crossing on Sewardstone Rd south of junction



Photograph 2. Pedestrian crossing at Sewardstone Rd signals south of junction



Photograph 3. Pedestrian crossing at Farm Hill Rd signals east of junction



Photograph 4. Pedestrian crossing at Sewardstone Rd signals south of junction



Photograph 5. Pedestrian controlled crossing on Sewardstone Rd north of junction



6.0 Recommendations

Affordable remedial measures at this location are very limited. Ideally, a pedestrian phase should be added to the signal sequences on each of the three crossing points at the junction of Sewardstone Road and Farm Hill Road. This measure however, is considered to increase congestion to an unacceptable level at this already very busy junction.

- A less effective alternative would be to determine if the inter green timings could be increased to give pedestrians more time to cross without excessive delay to traffic flows.
- An ETP campaign here may also be beneficial. There is a supermarket and a market place nearby where ETP could set up their stall as well as local schools.

7.0 Economic Analysis

8.0 Scheme Approval & Authorisation

| Approvals | | | |
|----------------------------------------|----------------|------------------|-------------|
| Name/role | Tel No. | Signature | Date |
| <i>Lead Safety Engineer:</i> Barry Fix | | | |

| | | | |
|--------------------------------------------------|--|--|--|
| <i>Senior Safety Engineer:</i> Chris Whinney | | | |
| <i>Safety Engineering Manager:</i> Nicola Foster | | | |

| Discussed/Agreed with Area Contact | | | |
|-------------------------------------------|----------------|------------------|-------------|
| Name/role | Tel No. | Signature | Date |
| | | | |

| Financial Authorisation Code | Date of Authorisation |
|-------------------------------------|------------------------------|
| | |

| Contacts | |
|-------------------------------------|-------------------------------|
| Name/role | Address and/or Tel No. |
| <i>Essex Police Representative:</i> | |
| <i>County Councillor:</i> | |
| <i>Other:</i> | |

| Comments |
|-----------------|
| |

References

See ACCSMAP Interpreted Listing for accidents between dates 13/09/2008 to 12/09/2011
Run on: 11/10/2011.

ECC Casualty Reduction Site Investigation 2012-13

Safety Scheme: 26

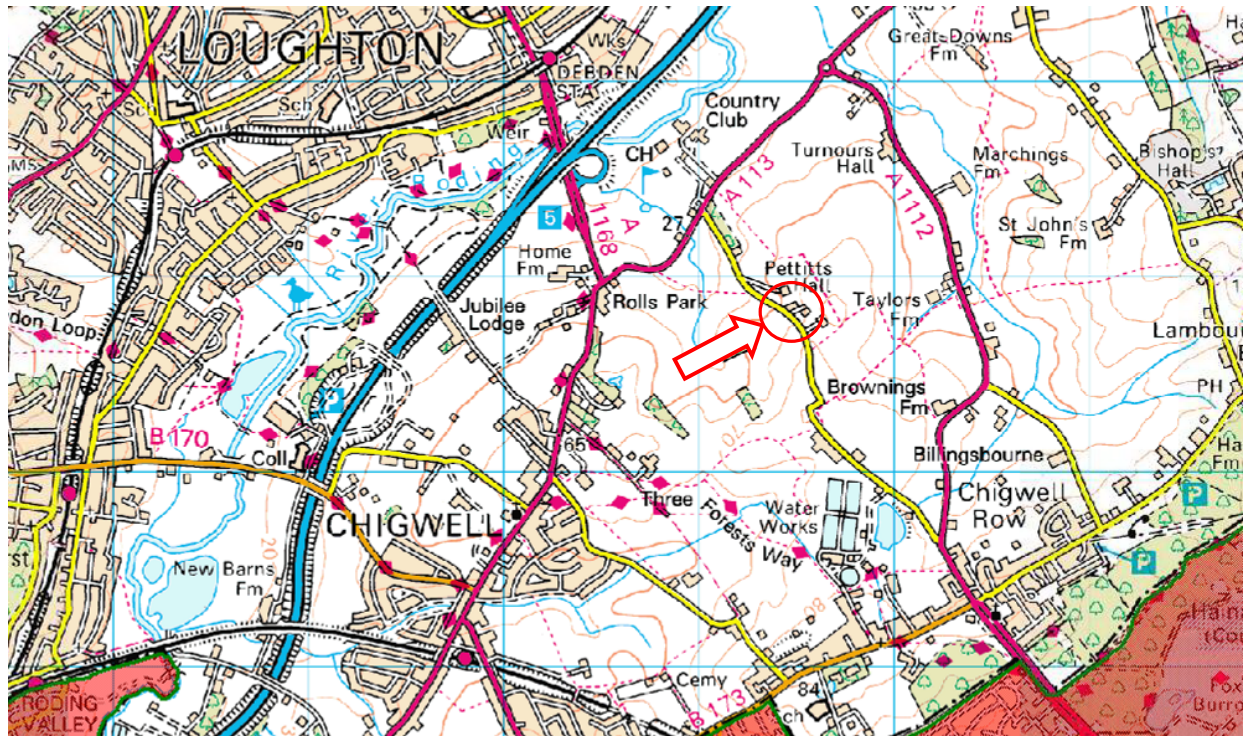
Outside Patsalls, Pudding Lane

District: Epping Forest

Investigation Period: 29/07/2008 to 28/07/2011

Grid Reference: 545441 194815

1.0 Site Location Plan



2.0 Aerial Photograph

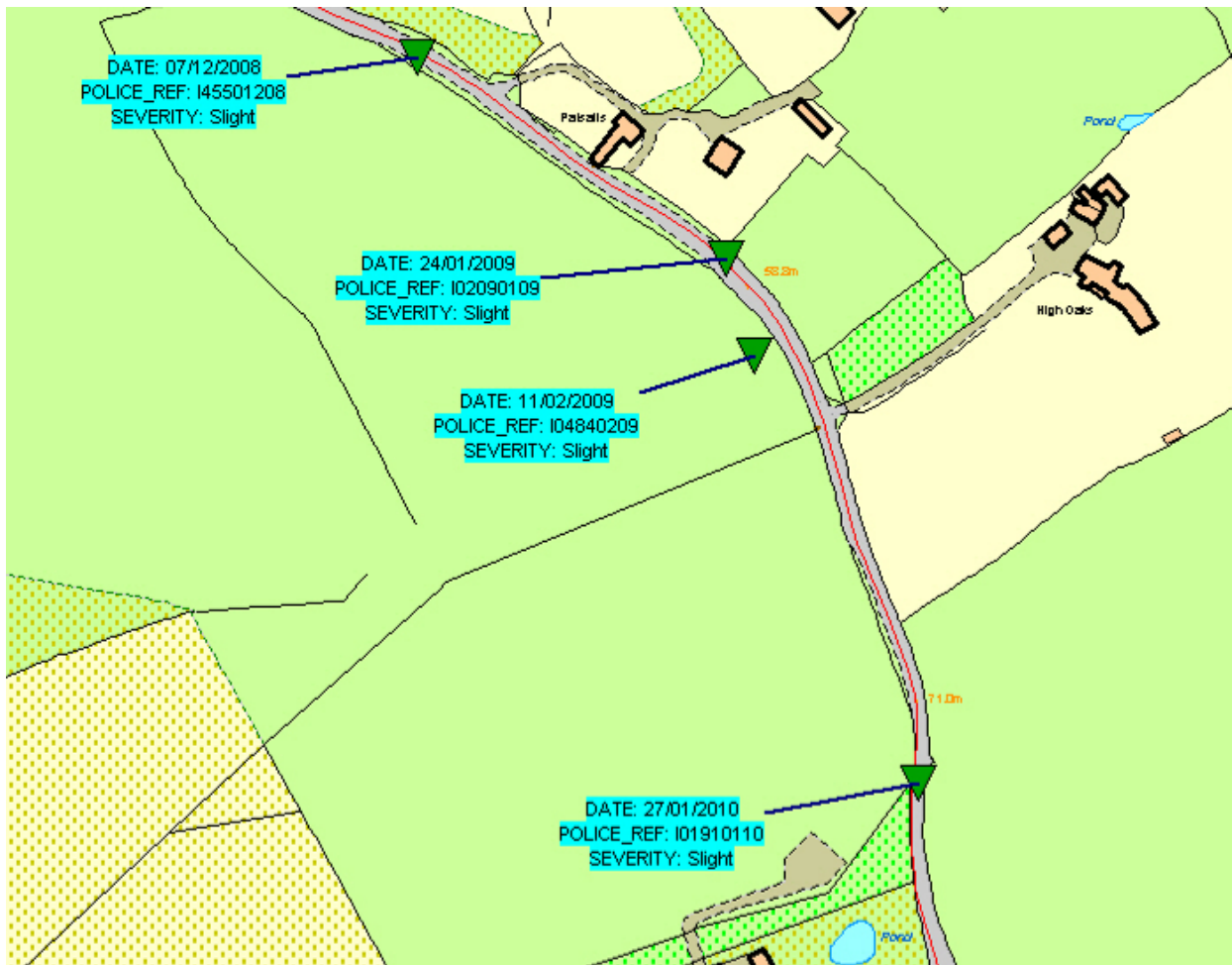


3.0 Site Description

The subject of this investigation is a cluster of collisions along a length of Pudding Lane in the vicinity of a house called "Patsalls".

Pudding Lane is an unclassified road that is used as an alternative to the A1112 as a route from Chigwell Row in the South to the A113 to the north. Pudding Lane was the subject of a Collision Investigation report in 2010 as a result of which, measures were implemented to make the lane less attractive as an alternative to the A1113, bend warning signs and chevrons were upgraded and an outside of policy 30mph speed limit was set.

4.0 Personal Injury Collision Analysis (see AccsMap Data & attached stick diagrams)



There have been 4 slight collisions at the subject site, all have involved loss of control on a Frost/Ice road surface.

07/12/2008: A northbound car, by avoiding a vehicle in front that was sliding on ice, mounted the nearside verge, collided with a tree and overturned.

- Slippery road (due to weather).
- Poor or defective road surface.

23/01/2009: A northbound car slid on black ice, hit a bank and overturned.

- Impaired by alcohol. (positive breath test).
- Slippery road surface (due to weather).

11/02/2009: Five car northbound collision on ice, one driver got out to check another driver and was injured during the series of collisions.

- Travelling too fast for conditions.
- Loss of control.
- Slippery Road (due to weather).

27/01/2010: Southbound and northbound car, travelling slowly, have collided head on on black ice.

- Deposit on road (eg oil, mud, chippings)
- Slippery road (due to weather).

5.0 Site Observations and Photographs

Observations during a site inspection on 22/11/2011:

Northbound, the subject section of Pudding Lane is narrow, downhill and sinuous. In places, the roadside verges slope towards the carriageway such that rainwater together with mud and gravel will flow into the carriageway. There are no drainage gullies, grips or ditches to carry water away from the carriageway. Parts of the carriageway edges are undercut and broken – possibly due to water flowing down the edges of the carriageway.

See photographs 1 to 8.

Photograph 1. Northbound on Pudding Lane



Photograph 2. Northbound on Pudding Lane



Photograph 3. Northbound on Pudding Lane, approaching Patsalls



Photograph 4. Northbound on Pudding Lane, past Patsalls



Photograph 5. Southbound on Pudding Lane



Photograph 6. Southbound on Pudding Lane



Photograph 7. Southbound on Pudding Lane, approaching Patsalls



Photograph 8. Southbound on Pudding Lane, past Patsalls



6.0 Recommendations

The road condition for all four of the subject collisions is “Frost/Ice”. Its narrow, downhill and sinuous nature and especially the lack of drainage make this section of Pudding Lane particularly challenging for drivers in freezing weather.

It is recommended that:

- Where possible, drainage should be improved.
- Pudding Lane (with a daily vehicle flow of around 1,700 each way) is included in the winter gritting programme
- That the carriageway be inspected by the Maintenance activity to determine if repairs/resurfacing is necessary.

First Year Rate of Return (FYRR) Calculation

Outside Patsalls, Pudding Lane - EPPING FOREST

$$\% \text{ FYRR} = \frac{\text{Annual Accident Savings} \times 100}{\text{Scheme Cost}}$$

Assumptions:

| | |
|-----------------------------------|-----------------------|
| Average annual accident cost (£) | £96,706.00 (DfT 2007) |
| Accidents treated | 4 |
| Casualties treated | 4 |
| Investigation time period (years) | 3 |

Estimated cost of recommended remedial measures:

| | |
|-------------------------------------------------------------------|------------|
| Estimated cost by Safety Engineering for the recommended measures | |
| Where possible, improve drainage | |
| Include Pudding Lane in winter gritting programme | |
| Repair/resurface if necessary | £30,000.00 |

Accident saving produced by proposed treatment (%) 75 *

%FYRR 322 *Gritting

Number of accidents that would not have occurred had the remedial actions been implemented at the start of the five-year accident period

3 or **1.00** each year

Number of casualties that would not have occurred had the remedial actions been implemented at the start of the five-year accident period

3 or **1.00** each year

8.0 Scheme Approval & Authorisation

| Approvals | | | |
|--------------------------------------------------|----------------|------------------|-------------|
| Name/role | Tel No. | Signature | Date |
| <i>Lead Safety Engineer:</i> Barry Fix | | | |
| <i>Senior Safety Engineer:</i> Chris Whinney | | | |
| <i>Safety Engineering Manager:</i> Nicola Foster | | | |

| Discussed/Agreed with Area Contact | | | |
|-------------------------------------------|----------------|------------------|-------------|
| Name/role | Tel No. | Signature | Date |
| | | | |

| Financial Authorisation Code | Date of Authorisation |
|-------------------------------------|------------------------------|
| | |

| Contacts | |
|-----------------------------------------------------------|-------------------------------|
| Name/role | Address and/or Tel No. |
| <i>Essex Police Representative:</i> Trevor Stubbington | |
| <i>County Councillor:</i> | |
| <i>Other:</i> | |

| Comments |
|-----------------|
| |

References

See ACCSMAP Interpreted Listing for accidents between dates 29/07/2008 to 28/07/2011
Run on: 05/08/2011.

Route Study, Pudding Lane, March 2009.

ECC Casualty Reduction Site Investigation 2012-13

Safety Scheme: 27

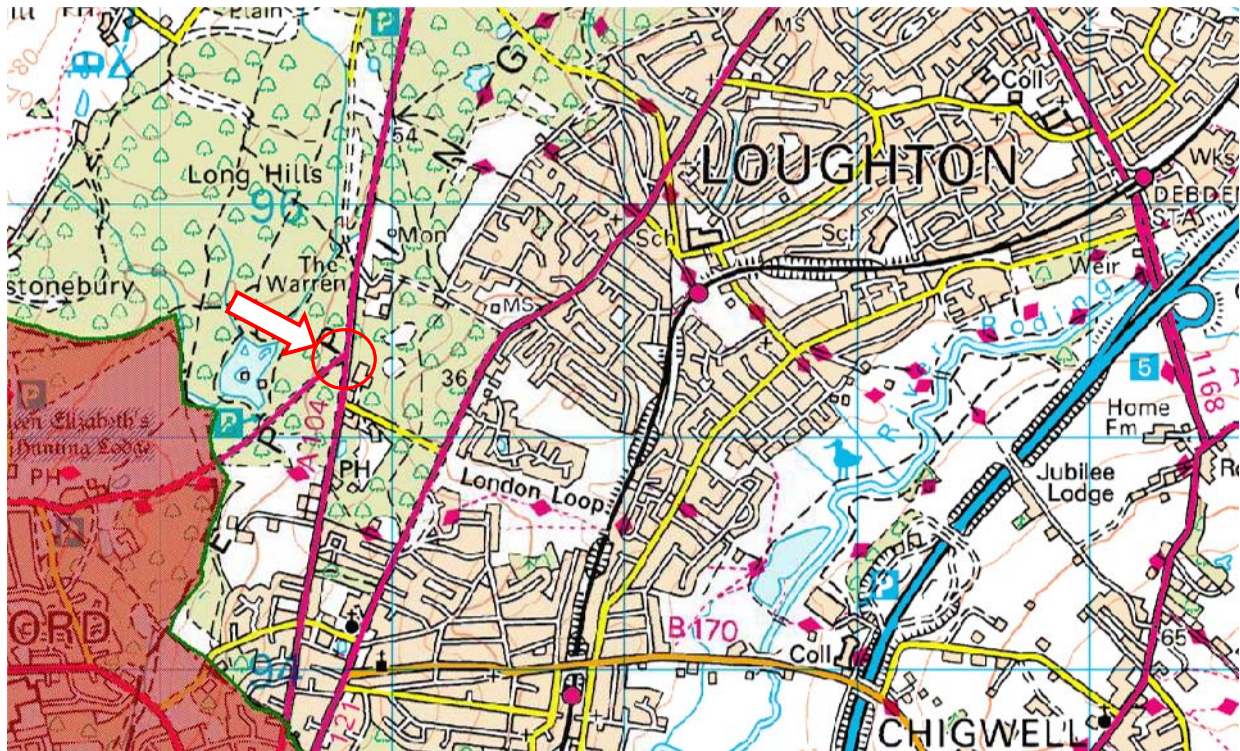
A104 j/w Rangers Road

District: Epping Forest

Investigation Period: 13/09/2008 to 12/09/2011

Grid Reference: 540821 195325

1.0 Site Location Plan



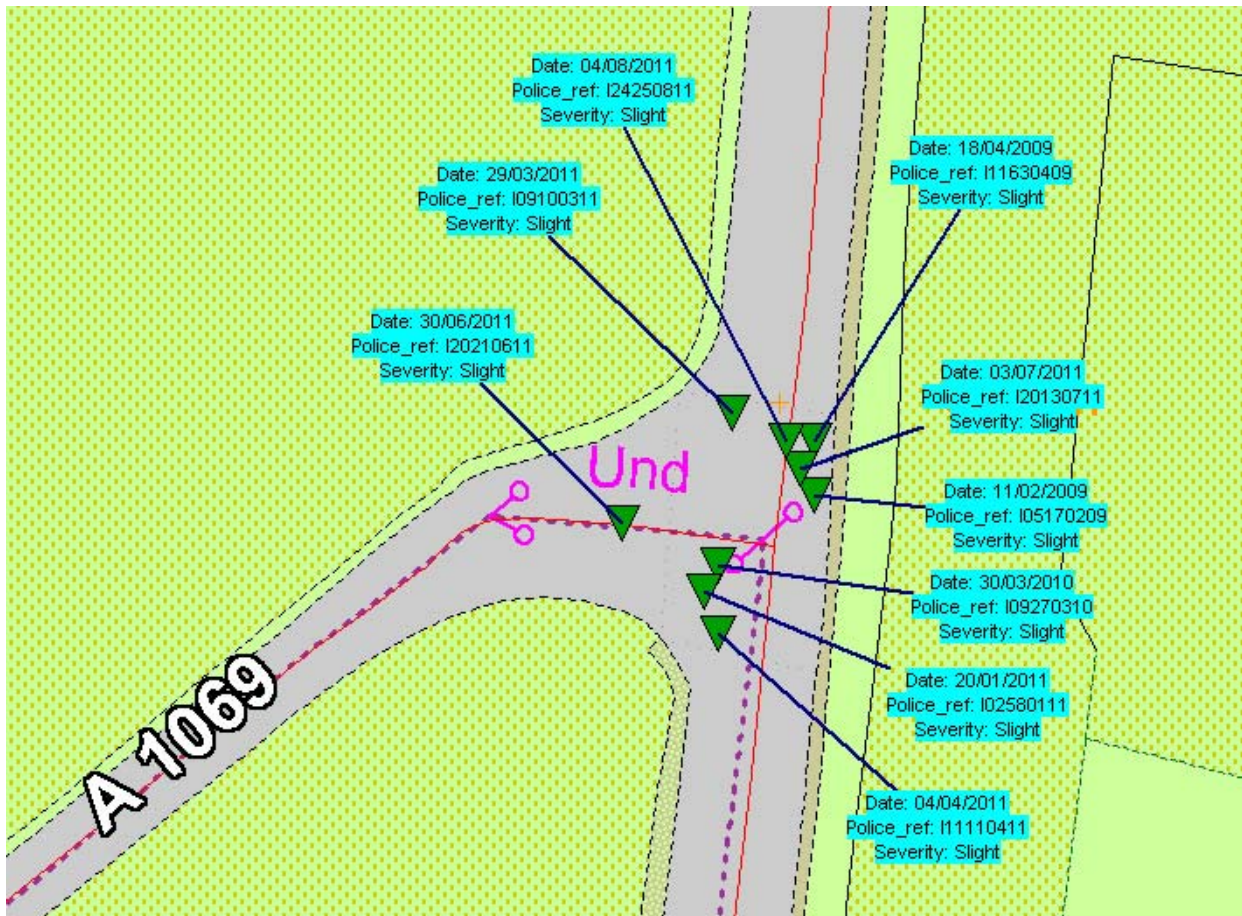
2.0 Aerial Photograph



3.0 Site Description

The subject of this investigation is a cluster of 9 slight collisions at the junction of the main distributors (PR1) A1069 Rangers Road with the A104 Epping New Road. The A104 connects the Wake Arms roundabout (A121/B1393/B172) to Woodford and London to the south. From the A104, Rangers Road leads south west to Chingford. A 40mph speed limit is in force on both roads.

4.0 Personal Injury Collision Analysis (see AccsMap Data & attached stick diagrams)



A study of the recorded Personal Injury Collision data for the period from 13/09/2008 to 12/09/2011 at this location shows of the 9 collisions in the cluster. The predominant pattern is vehicles leaving Rangers Road and colliding with vehicles on the A104, 4 northbound and 2 southbound.

11/02/2009: A van fails to give way on Rangers Road and collides with northbound van on the A104.

- Junction overshoot.
- Poor turn or manoeuvre.
- Failed to look properly.
- Loss of control.

18/04/2009: A car turning right from Rangers Road fails to give way and collides with northbound car on the A104.

- Poor turn or manoeuvre.
- Failed to look properly..
- Failed to judge other persons path or speed.

30/03/2010: A car fails to give way on Rangers Road and collides with northbound car on the A104.

- Failed to look properly.
- Following too close.
- Careless/Reckless/In a hurry.
- Failed to judge other persons path or speed.
- Slippery Road (due to weather).

20/01/2011: Car on the A104 turning right into Rangers Road collides with a northbound motor cycle.

- Careless/Reckless/In a hurry.

29/03/2011: A car turning left from Rangers Road fails to give way and collides with northbound car on the A104.

- Failed to look properly.

04/04/2011: Car turning right from the A104 into Rangers Road collides with a northbound car.

- Poor turn or manoeuvre.

30/06/2011: Southbound car struck central island.

- Impaired by alcohol.

03/07/2011: A bicycle turning right from Rangers Road fails to give way and collides with a southbound car on the A104.

- No factors recorded.

04/08/2011: A car turning right from Rangers Road fails to give way and collides with a northbound motor cycle on the A104.

- Rain, sleet, snow or fog.
- Failed to look properly.

5.0 Site Observations and Photographs

Observations during a site inspection on 22/11/2011:

On Rangers Road at the junction with the A104, visibility to the left is very clear whilst visibility to the right is somewhat obscured by roadside vegetation and a Beware Cattle sign. It is possible that Drivers wishing to enter the A104 give a quick glance to the left where visibility is clear, then while taking a much longer look to the right where visibility obscured, they are caught unawares by a vehicle approaching from their left.

The buff anti-skid surfacing on the A104 at the junction is very worn.

The road markings at the junction are faded and indistinct.

The map type direction signs on both A104 approaches to the junction are partially obscured by vegetation and the diagram 506.1 Side road ahead sign on the southbound approach is leaning and misaligned.

The Keep left bollard on the northbound approach is damaged.

The brown direction sign opposite Rangers Road is leaning and misaligned and other sign/s may be missing from this location.

See photographs 1 to 11.



Photograph 2. On Rangers Road at the junction with the A104, looking to the right



Photograph 3. On Rangers Road at the junction with the A104, looking to the left



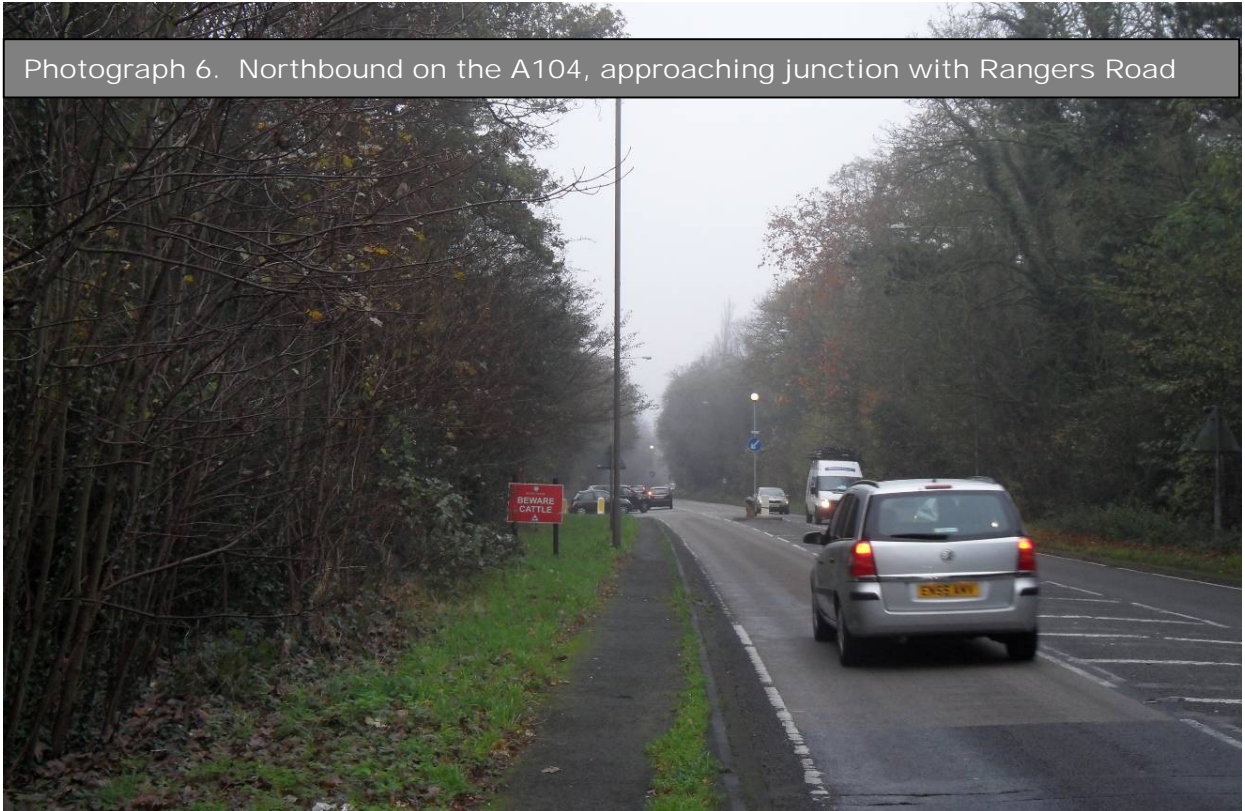
Photograph 4. Northbound on the A104, approaching junction with Rangers Road



Photograph 5. Northbound on the A104, approaching junction with Rangers Road



Photograph 6. Northbound on the A104, approaching junction with Rangers Road



Photograph 7. Northbound on the A104, at the junction with Rangers Road



Photograph 8. Southbound on the A104, approaching junction with Rangers Road



Photograph 9. Southbound on the A104, approaching junction with Rangers Road



Photograph 10. Southbound on the A104, at the junction with Rangers Road



Photograph 11. Sign opposite Rangers Road



6.0 Recommendations

Improve visibility to the right by:

- Cutting back the roadside vegetation.
- Relocating the Beware Cattle sign.

Prevent or reduce the severity of collisions at the junction by:

- Replacing the buff anti-skid surfacing.

Improve the conspicuity of the junction by:

- Clearing the vegetation away from the map-type direction signs on both approaches.
- Realigning the diagram 506.1 Side road ahead sign on the southbound approach.
- Refreshing the road markings at the junction.
- Realigning the brown direction sign opposite Rangers Road.
- Adding prominent north and southbound direction signs opposite Rangers Road.
- Replacing the damaged Keep Left bollard on the northbound approach to the junction.

First Year Rate of Return (FYRR) Calculation

A104 j/w Rangers Road - EPPING FOREST

$$\% \text{ FYRR} = \frac{\text{Annual Accident Savings} \times 100}{\text{Scheme Cost}}$$

Assumptions:

| | |
|-----------------------------------|------------|
| Average annual accident cost (£) | £96,706.00 |
| Accidents treated | 6 |
| Casualties treated | 10 |
| Investigation time period (years) | 3 |

Estimated cost of recommended remedial measures:

Estimated cost by Safety Engineering for the recommended measures

Clear vegetation

Realign diagram 506.1 sign

Refresh road markings

Realign brown direction signs

Add prominent north and southbound direction signs

Replace damaged keep left bollard

Replace worn anti skid surfacing

£25,000.00

Accident saving produced by proposed treatment (%)

27 RoSPA*

%FYRR 209

*Visibility improvement

Number of accidents that would not have occurred had the remedial actions been implemented at the start of the five-year accident period

1.62 or **0.54** each year

Number of casualties that would not have occurred had the remedial actions been implemented at the start of the five-year accident period

2.7 or **0.90** each year

8.0 Scheme Approval & Authorisation

| Approvals | | | |
|--------------------------------------------------|----------------|------------------|-------------|
| Name/role | Tel No. | Signature | Date |
| <i>Lead Safety Engineer:</i> Barry Fix | | | |
| <i>Senior Safety Engineer:</i> Chris Whinney | | | |
| <i>Safety Engineering Manager:</i> Nicola Foster | | | |

| Discussed/Agreed with Area Contact | | | |
|-------------------------------------------|----------------|------------------|-------------|
| Name/role | Tel No. | Signature | Date |
| | | | |

| Financial Authorisation Code | Date of Authorisation |
|-------------------------------------|------------------------------|
| | |

| Contacts | |
|-----------------------------------------------------------|-------------------------------|
| Name/role | Address and/or Tel No. |
| <i>Essex Police Representative:</i> Trevor Stubbington | |
| <i>County Councillor:</i> | |
| <i>Other:</i> | |

| Comments |
|-----------------|
| |

References

See ACCSMAP Interpreted Listing for accidents between dates 13/09/2008 to 12/09/2011
Run on: 24/10/2011.