highway feasibility study

Boughton Aluph and Eastwell Parish Council

April 2014

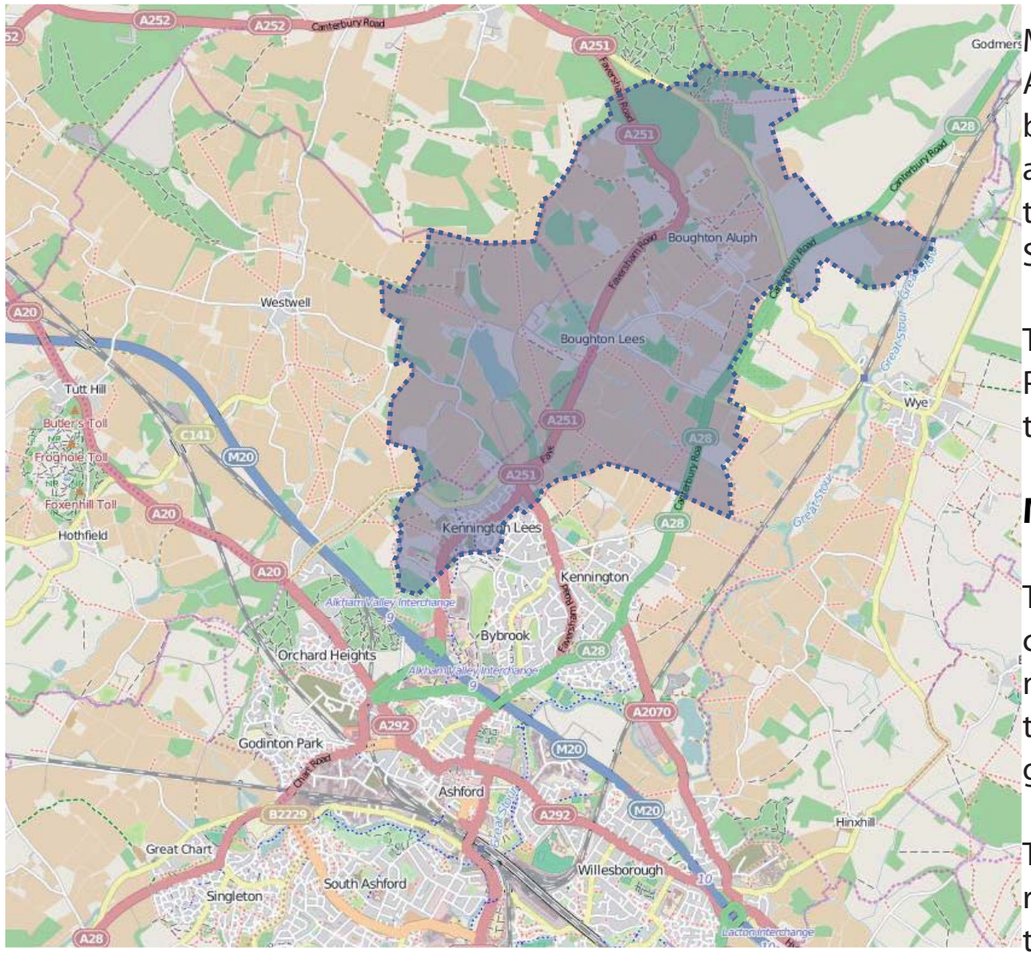
dha transport
integrated transport & travel planning

contents

introduction and methodology

Introduction

The Parish of Boughton Aluph and Eastwell is located just north of the urban envelope of Ashford with much of the land throughout the Parish set out for agriculture.



Above: Location Plan of Boughton Aluph and Eastwell (Courtesy Openstreetmap.org)

Main vehicle access routes to Ashford from north east Kent (including Faversham and Ashford) are accommodated within the boundaries of the Parish. The A251 provides a link between Ashford and Faversham is located to the west of the parish with the A28 providing a link between Canterbury and Ashford located to the east of the parish. To connect between these routes are a number of rural roads. Other notable roads within the parish include Sandyhurst Lane and Trinity Road located to the south west of the parish.

The purpose of this study is to highlight the existing transport related problems in the Parish, and provide potential solutions which could be further investigated to ameliorate these concerns.

Methodology

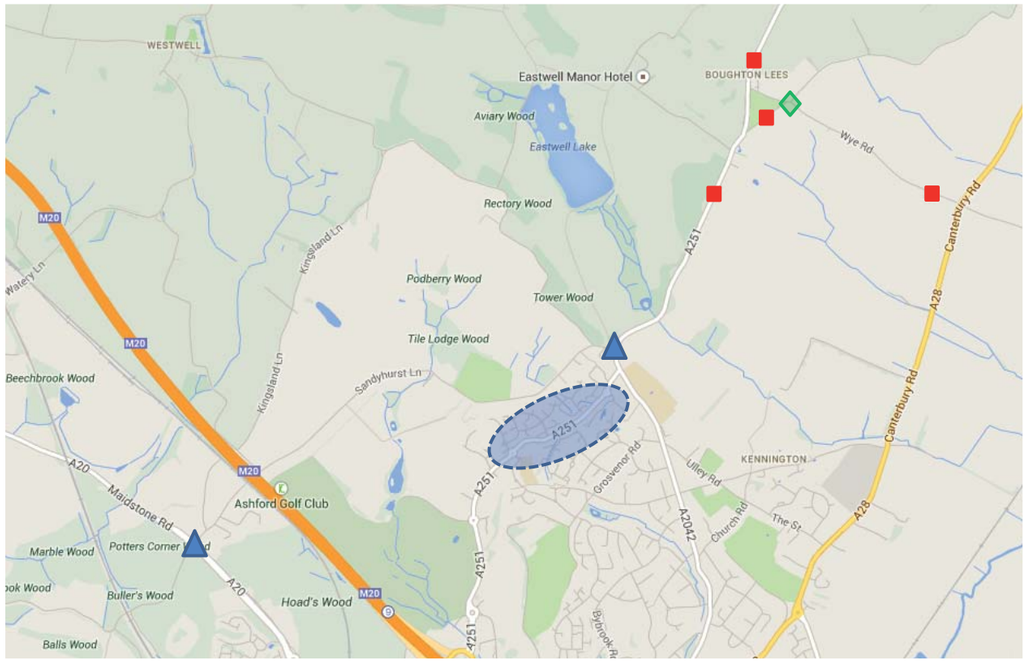
To ascertain the existing transport problems in Boughton Aluph, the Parish Council consulted with its households within the parish through questionnaire surveys and public meetings in the latter half of 2013. The information gathered was subsequently presented to DHA Transport to ascertain what issues are present within the parish and which are of the greatest importance to address.

The meetings and surveys highlighted a wide range of issues; however, five main issues were raised relating to specific locations. These issues have subsequently been taken forward as the points in need of address and are as follows:

- Speeding on Wye Road
- Conflicts on the corner of Wye Road, Pilgrims Lane and Lees Road
- Speeding on the A251 Faversham Road
- Loss of residential parking amenity at Goat Lees
- Rat-running through Sandyhurst Lane

Left: Boughton Aluph and Eastwell Village Sign on the Village Green.

Below: Survey Locations (Courtesy Google Maps)



To ascertain the extent to which each of the above is occurring, a number of different methodologies were employed in respect of each issue. To assess the extent to which speeding is occurring Automatic Traffic Count (ATC) surveys were undertaken for the week beginning Tuesday 14th March 2014 along Wye Road and Faversham Road. The purpose of these surveys is to ascertain the current volume of traffic along these roads and the vehicle speeds at each point.

To assess the extent to which parking was affected within Goat Lees, parking beat surveys were undertaken on the 26th November 2013 between 0530 and 1000 hours. Registration plates were noted at both times to establish the number of vehicles that would be associated with local residencies and the number that could be parked associated with the local business park or visitors.

Rat running on Sandyhurst Lane was assessed by means of noting vehicle number plates at either end of the link across the morning and evening peak hours (0730-0930 hours and 1600-1800 hours). Number plates could then be matched once the surveys were completed and those which were recorded at both ends of the link within a certain time would most probably be using the road as a 'rat-run'.

Personal Injury Accident (PIA) data has been sourced for the latest 5 year period up to 30th June 2013 covering each of the roads where issues had been presented previously within the parish. The accidents located within the locations examined were identified and studied to establish the possible hazards to road safety in Boughton Aluph, and this will assist in the development of potential solutions.

Registration Plate Survey

Parking Beat Survey

ATC Locations

Junction Observation

Above: View looking west on Wye Road
Below: Lees Road junction with Wye Road taken from Lees Road

Speeding on Wye Road

Wye Road, although narrow in width and small in size, is a link road between the A251 Faversham Road and the A28 Canterbury Road and as such accommodates for traffic linking between western Ashford and Wye or Canterbury and vice versa.

The road is subject to a 7.5 tonne weight restriction (except for access) and is subject to a 40mph speed limit from the junction with the A28 Canterbury Road for approximately 800 metres (taken 'as the crow flies'). At this point the speed limit lowers to 30mph in light of reduced width of carriageway and the location of residential dwellings. The speed limit then reverts to 40 mph at the Wye Road and Lees Road junctions with the A251 Faversham Road.

ATC surveys were undertaken at two locations along the length of the road – along Lees Road close to the junction with Wye Road and along the 40mph section of Wye Road (approximately 350 metres from the junction with Canterbury Road).

The ATC data for the survey on Wye Road (subject to a 40mph speed limit) shows that the 85th percentile speeds are 40.1mph eastbound and 39.4mph westbound, which are both in line with the speed limit.

The survey undertaken along Lees Road (subject to a 30mph speed limit) shows that the 85th percentile speeds are 33.7mph northeast bound and 30.7mph southwest bound which are both slightly above the speed limit. However both of these speed recordings are within an acceptable degree of the speed limit and not excessive.

The above would suggest that vehicles are travelling at or within the speed limit; however they may be travelling above an appropriate speed to negotiate the corner adjacent to Pilgrims Lane safely. This could subsequently justify the perceived speeding danger highlighted by local residents.

Above: View looking east Wye Road from Pilgrims Lane
Below: Wye Road junction with A28 Canterbury Road

Speeding on Wye Road Continued...

Although the road is subject to a 7.5 tonne weight restriction along its route, a number of HGVs were counted. Across an average 24 hour period, as many as 8 HGVs were recorded in both the northeast and southwest directions (taken from the ATC on Wye Road). It is noted that this is not inclusive of public service vehicles (buses) that route along the road as although they exceed the 7.5 tonne weight restriction, they require access to collect passengers.

A review of accidents which occurred in the area highlights that not a single incident occurred along the length of Wye Road or Lees Road. However, seven incidents were recorded at the junction between Wye Road and the A28 Canterbury Road. Although all the incidents were recorded to be slight in severity, the accident description for an accident suggests that the junction could be particularly difficult to pull out of due to limited visibility.

It is therefore considered that the number of vehicles that use Wye Road to cut across to and from the A251 may have a small potential to lead to collisions at the junction. It is understood that the occurrence of three incidents over a three year period is a typical level at a priority junction as considered by Kent County Council. The incidence of seven accidents in five years, although higher, is not considered to create significant safety concerns.

Nevertheless, the Highway Authority is known to have spent considerable time and money on this junction within recent years with the implementation of automatic warning lights, for example. Significant upgrades to this junction are most likely unfeasible due to the requirement for additional land and associated costs.

Above: Visibility looking west along Wye Road from opposite Lees Road
Below: View looking east along Wye Road from Pilgrims Lane

Conflicts on the corner of Wye Road, Pilgrims Lane and Lees Road

Observations were undertaken at the junction across the morning and evening peak hour periods (0800-0900 hours and 1700-1800 hours) on 26th March 2014 when the weather was recorded as fair and there were no ongoing construction or road works undertaken in the local area. This would suggest that the observations were taken on a typical day and was therefore representative of normal use of the junction. Furthermore, the observations were undertaken within 4 days of the completion of the ATC surveys along Wye Road and Faversham Road and would therefore validate the data collected.

The ATC data collected along Wye Road recorded an average of 1360 vehicles per day northeast bound and 1330 vehicles per day southwest bound (when considering a 24 hour day across the entire week). Across the peak hours, the greatest number of vehicles observed was on Wednesday 19th March when 226 vehicles were counted travelling northeast bound and 161 vehicles were counted travelling southwest bound between 0800 and 0900 hours. This therefore resulted in an average of approximately four vehicles per minute or one vehicle every fifteen seconds on average in either direction.

Notwithstanding the above, no severe congestion was observed within the area of the junction. At times vehicles were forced to give way to one another which required waiting for as many as a dozen vehicles at any one time for no more than ten seconds which only occured a couple of times across the hour. This was a consequence of the narrow carriageway width at the bend coupled with larger vehicles (notably buses and coaches) and the relatively high traffic flow.

Wye Road across the junction measures between 5 and 5.5 metres in width, with reduced forward visibility in both directions due to the high level of vegetation located on the southern side of the carriageway on the inside of the corner. Visibility from the Pilgrims Lane junction was noted to be good eastbound and forward along Lees Road; however it is poor to the west along Wye Road with very limited visibility provided. Although visibility is poor, it is not considered to be a cause for safety concern as very few vehicles egressed from the junction in either of the peak hours. In the morning peak hour (0800-0900 hours) only 6 vehicles egressed from the junction whilst only 9 egressed from the junction in the evening peak hour (1700-1800 hours).

Above: View looking southwest from Pilgrims Lane to Lees Road and Wye Road

Below: View looking West at Pilgrims Lane junction

Conflicts on the corner of Wye Road, Pilgrims Lane and Lees Road Continued...

The converse is true of the junction geometry for Lees Road whereby vehicles are afforded good visibility westbound along Wye Road; however visibility is very low eastbound because of the aforementioned visibility constraint. This can therefore create a perceived danger for vehicles egressing the junction as vehicles continuing westbound along Wye Road regularly travel at speeds of approximately 30mph which leads to very short braking distances and reduced driver reaction times.

In addition, the geometry of the junction allows vehicles travelling westbound along Wye Road to enter Lees Road with little impediment and therefore vehicle speeds are slightly reduced. This results in an unsafe use of the junction as vehicles are regularly parked along the south eastern side of the Lees Road carriageway within a short distance of the junction. This therefore narrows the carriageway to only allow a single vehicle in either direction at one time which may therefore lead to reduced stopping and breaking distances for vehicles travelling at speed entering Lees Road from Wye Road.

Despite the perceived dangers present with the junction as a consequence of reduced visibility no accidents were recorded within the most recent 5 year period. Although no instances were recorded, there is evidence to suggest that the junction is perceived as unsafe. Within recent years, corner protection has been upgraded at the verge adjacent to the property on the eastern side of the Pilgrims Lane junction (known as Fairview). This suggests that vehicle speeds are potentially too high around the corner with this issue potentially coupled with poor visibility and narrow carriageway widths.

Above: View looking north on A251 faversham Road within 40mph speed limit
Below: Approach to Boughton Aluph village from north on A251 Faversham Road

Speeding on the A251 Faversham Road

The A251 Faversham Road is the main link road between Ashford and Faversham and as such can accommodate for reasonably large volumes of traffic each day.

The road is subject to varying speed limits throughout its length with the stretch of road through the residential area of Boughton Aluph (through the village of Boughton Lees) subject to a 40mph speed limit. Reduced speed limits have recently been implemented on the A251 between Challock and Faversham.

ATC surveys were undertaken at two locations along the length of the road with both within the stretch covered by the 40mph speed limit. The surveys were undertaken on either side of the junctions with Wye Road. The first was located approximately 50 metres north of the Wye Road junction (known as Site 2) and the other was located approximately 350 metres south of the junction with Lees Road (known as Site 1).

The ATC data for Site 1 shows that the 85th percentile speeds are 45.3mph in the northbound direction and 47.5mph in the southbound direction. At Site 2, the 85th percentile speeds were recorded at an average of 44.2mph across the week in the northbound direction and 43.8mph across the week in the southbound direction.

It is therefore identifiable that vehicles regularly exceed the speed limit along the A251 Faversham Road. The ATCs were located well within the 40mph speed limit which would have given drivers more than enough time to be aware of the change in speed limit and opportunity to reduce their speeds.

Automatic speed signs have been implemented within the 40mph zone which provides drivers with a flashing warning if they are travelling above the speed limit. The ATCs were located so that drivers could take heed of the warning and adjust their speed; however they appear to have reduced benefit, although this is not uncommon with regular use and functionality.

Above: View looking northeast from A251 towards the junction with Lees Road (courtesy Google)
Below: View looking southwest from Lees Road towards the junction with the A251

Speeding on the A251 Faversham Road Continued...

A review of accident data procured from the most recent five years has highlighted that the road is the location for the vast majority of accidents within the parish. Nearly three quarters of all accidents recorded on the main roads through the parish occurred along the A251 between the Towers School and the junction with the A252 at Challock including all but one of the serious accidents and the single fatality. It is neither conclusive nor evident from a review of the accident data whether speed was a cause for any of the accidents.

It is also noted that as many as six incidents have occured within the section of the A251 through Boughton Lees within the most recent five year period. of these incidents, four have occured at the junction between Lees Road and the A251. It is understood that the occurrence of three incidents over a three year period is a typical level at a priority junction as considered by Kent County Council. The incidence of four in five years would not normally require junction improvements by the Council.

However, it is noted that the four incidents were recorded as rear-shunt incidents where vehicles were hit when waiting to turn right into Lees Road from the A251. This could be a consequence of the nature of the junction which allows for quick entry onto Lees Road and vehicles travelling northbound on the A251 may be required to brake harshly to avoid colliding with a vehicle travelling southbound that they were not expecting. As such, the exploration of options to highlight the nature of the junction to address the aforementioned HGV use of the road may provide some benefit with regard to this potential issue.

Above: View looking north on Aylesbury Road
Below: View looking east on Dunnock Road

Loss of Residential Parking Amenity at Goat Lees

The residential area known locally as Goat Lees served by Trinity Road is a newly built area located on the northern edge of Ashford's urban envelope but is located within the southernmost boundary of Boughton Aluph Parish.

In recent years the Eureka Business Park has been constructed on the south western corner of the residential area and has been attracting a greater number of businesses, and subsequently generated a need for more employees in recent years. It is understood that additional parking has recently been provided by the developer, and that parking overspill was an issue prior to this. This overspill parking in the local residential area has been cause for concern with local residents.

Consequently, a parking beat survey was taken in the morning of Tuesday 26th November 2013 whereby the number plates of all vehicles parked on the roads within Goat Lees were recorded at 0530 hours. This is assumed to then represent the number of vehicles associated with the residents only as it is before the vast majority will travel to work and before anyone will have arrived to work in the adjacent business park. Although some of these cars may be associated with visitors to the residential properties, it is unlikely considering the time of day and location adjacent to the business park.

An identical survey was then undertaken at 1000 hours with all number plates recorded. This survey would therefore pick up all those who were not parked before (i.e who were not residents) as this would have given enough time for people to arrive and park to go to work in the adjacent business park. The survey would also identify the number of residential vehicles no longer there.

It was counted that a total of 105 cars were parked on the roadside within Goat Lees at 0530 hours and 45 remained parked when the second survey was conducted. It was counted that 42 vehicles which were not parked at the time of the first survey were parked at the time of the second survey.

	Number of Cars Parked		Number of cars matched	Number of cars unmatched
ZONE	05:30	10:00	(05:30 & 10:00)	(Not parked at 05:30 / parked at 10:00)
Aylesbury Drive	6	12	3	9
Dunnock Rd - Aylesbury Dr to Siskin Close	5	8	1	7
Siskin Close	5	5	3	2
Dunnock Rd - Siskin Close to Muskovy Rd	1	8	0	8
Dunnock Rd - East of Muskovy Rd	2	1	1	0
Muskovy Rd - North of Dunnock rd	0	3	0	3
Muskovy Rd - South of Dunnock Rd to A251	0	1	0	1
Snipe Close	2	3	1	2
Guernsey Way (East to 77-93)	6	5	4	1
Guernsey Way (South to Alderney Way)	6	3	2	1
Alderney Way	24	14	14	0
Angus Drive	9	6	5	1
Hurst Rd (A251 to Bloomsbury Way)	26	8	4	4
Bloomsbury way	2	2	1	1
Portland Close	5	4	3	1
Hurst Rd (Bloomsbury Way to Roundabout)	6	4	3	1
	105	87	45	42

Loss of Residential Parking Amenity at Goat Lees Continued...

However, across the entire Goat Lees area, there was a net reduction of 18 vehicles between the two surveyed times. This would suggest that overall residential parking amenity was not affected across the entire residential area.

Nevertheless, weight must be given towards the locations at which people will park when working at the business park. It is highly unlikely that employees will park as far as Alderney Way and Guernsey Way as the distance is too great and there are no direct pedestrian routes. This is reflected in the data collection with 24 of the additional 42 vehicles parked on Ayelsbury Drive and Dunnock Road. This would suggest that appropriate measures would be required in the roads closest to the business park to prevent staff overspill parking without creating a detrimental effect upon residential parking amenity. Measures may not necessarily be required in the roads further afield as this may have little effect and thus have a greater impact upon residential parking amenity than unwanted overspill parking.

Rat-running through Sandyhurst Lane

Residents of the parish expressed concern regarding the high number of vehicles which use Sandyhurst Lane as a 'rat run' so as to bypass the Junction 9 / Drover's roundabout junction which is noted as a point of congestion. It is perceived that the increased traffic creates congestion in both the morning and evening peak hours (0800-0900 hours and 1700-1800 hours) along Sandyhurst Lane and at the junctions located at either end of the road. Although many of the residencies served by Sandyhurst Lane benefit from off-street parking, a number of cars park on the carriageway which could create issues of congestion.

Rat running was assessed by means of a number plate survey on Friday 14th March 2014. Vehicle number plates were noted by surveyors at either end of Sandyhurst Lane (at the junction with the A20 and the junction with the A251). This was undertaken across both the morning and evening peak hours (0730-0930 hours and 1600-1800 hours). Number plates could then be matched once the surveys were completed and those which were recorded at both ends of the link would most probably be using the road as a 'rat-run' as all other vehicles will have used the road for access. It was noted that on the afternoon of the survey, a road traffic incident occurred at the Drover's Roundabout which would increase the potential for vehicles to use Sandyhurst Lane.

The table below displays the total number of vehicles that enter Sandyhurst Lane and the number of vehicles that exit the road with respect to each direction that they travel in both the morning and evening peaks. It is evident that between a half and three quarters of the traffic travelling along Sandyhurst Lane were recorded at both ends of the road and could therefore be considered as 'rat running'. Although the proportion of those using Sandyhurst Lane as a 'rat-run' is high; the total number of vehicles is relatively low with an average of no more than 4 vehicles per minute when considering the maximum 513 vehicles that entered Sandyhurst Lane from the A251 Faversham Road in the evening peak (when coinciding with the traffic problem at the Drover's roundabout).

Time	A251 to A20			A20 to A251		
	In	Out	Through	In	Out	Through
AM (0730-0930)	222	333	137	278	254	118
PM (1600-1800)	513	431	299	363	317	211

Above: Table showing total number of vehicles entering and exiting Sandyhurst Lane via the A20 Maidstone Road and the A251 Faversham Road. Also displays the number of vehicles idenrified as 'rat-running' in either direction.

Right: View looking west onto Sandyhurst Lane from junction with A251 Faversham Road (courtesy Google).

Above: View looking north along Sandyhurst Lane (courtesy Google)
Below: View looking south onto Sandyhurst Lane

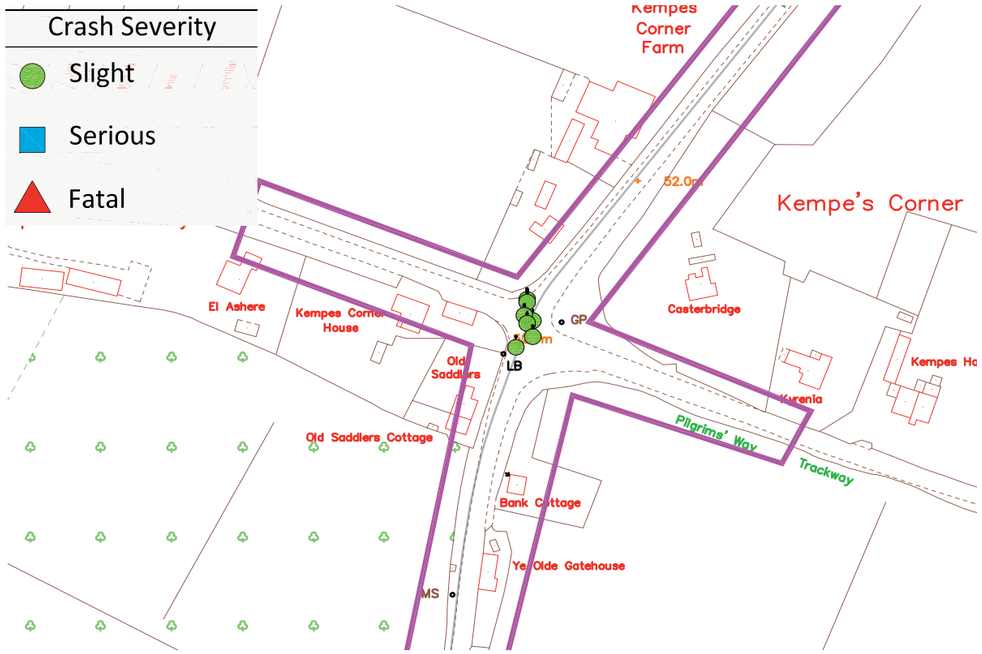
It is clearly evident that across all times and in both directions, over half of the vehicles entering and leaving Sandyhurst Lane are using it as a 'rat run' which is probably a consequence of attempting to avoid the congestion at the Junction 9 / Drover's Road roundabout. The number of vehicle movements considered to be using the road as a 'rat-run' effectively double the level of traffic that would be otherwise observed. This could therefore have a impact upon the capacity of the junctions at either end of the road and the congestion along its length.

However, multiple visits to Boughton Aluph and Eastwell were undertaken through April 2014 in the morning and evening peak hours to undertake empirical observations of how the road operates. It was found that there were no severe issues of congestion along the length of the road, despite the presence of gas works. At the junction between Sandyhurst Lane and the A251 Faversham Road, the queue was no greater than 4 vehicles in length. It is therefore considered that the road operates well with no issues of congestion on a normal day, even through the morning and evening peak hours.

When incidents occur on the wider highway network, whether it be a road traffic collision or road closures, vehicles will inevitably reroute to avoid severe congestion. This will lead to the use of Sandyhurst Lane as it provides a direct link between the A20 Maidstone Road and the A251 Faversham Road which are identified as main arterial routes between Ashford and other local towns.

A total of four PIAs were recorded along the length of Sandyhurst Lane across the most recent 5 year period and were all considered to be slight in severity. Each of the incidents involved a single vehicle where they lost control and came off the carriageway or collided with parked vehicles. These incidents occurred at a variety of locations and were a consequence of varying underlying factors including a range of weather conditions.

In addition to the above, three incidents were recorded at the junction between the A251 and Sandyhurst Lane across the most recent 5 year period. Two of these incidents occurred when vehicles turned right out of Sandyhurst Lane onto the A251 towards Ashford and were hit by vehicles travelling Faversham-bound and were left with too little time to react. With only 7 incidents recorded across the length of Sandyhurst Lane and at the junction with the A251 across a five year period, there is no reason to suggest that there are significant issues with regard to safety.



Above: Extract from PIA plot for Wye Road /A28 Canterbury Road junction (courtesy Kent County Council)

Below: Summary table of road accidents in specified locations.

Latest 5 years up to 30/06/2013

Junction / Link	Accident Type			Light Conditions		Weather Conditions		Road Surface		
	Slight	Ser.	Fatal	Light	Dark	Fine	Other	Dry	Wet	Ice
Wye Road / A28 junction	7	0	0	5	2	3	4	3	4	0
Wye Road	0	0	0	0	0	0	0	0	0	0
A251 North of Wye Road junction towards Challock	17	4	1	16	6	12	10	8	11	3
A251 across Wye Road / Lees Road Junction	4	2	0	5	1	5	1	4	0	2
A251 South of Lees Road junction towards Ashford	19	1	0	15	5	13	7	8	12	0
Sandyhurst Lane	4	0	0	0	4	3	1	3	0	1
Trinity Road	5	1	0	2	4	3	3	5	1	0
Totals	**56**	**8**	**1**	**43**	**22**	**39**	**26**	**31**	**28**	**6**

Summary of Road Accident Data

A summary of the road accident data for the latest 5 year period up to 30th June 2013 at the study locations shows over 80% of the total accidents recorded to have been classified as slight in severity. Although the greatest proportion of accidents were classified as slight, approximately 15% of the total number of accidents in the parish were either serious or fatal.

The greatest number of incidents occurred along the length of the A251 with 74% of all the incidents occurring along the entire length of road. The road was also the location for all but one of the serious incidents recorded and was the location of the single fatality.

The majority of incidents recorded on the A251 Faversham Road are spread throughout the length of the road which suggests that there are no specific accident 'black spots' evident. However, eight incidents, including three serious incidents did occur at a bend in the road approximately 1.5 kilometres north east of the Wye Road junction. This could suggest that vehicles are potentially travelling at too great a speed to negotiate the bend safely due to the geometry of the bend.

Furthermore, the majority occurred when the road surface was classified as being wet. Seven of the eleven recorded accidents which occurred to the north of the Wye Road junction when the road surface was wet were a consequence of vehicles leaving the carriageway after losing control. Although not noted, speed could well have been a contributing factor in their occurrence.

Five of the twelve incidents recorded in the wet on the A251 south of Lees Road involved pedestrians outside of the Towers School despite the pedestrian crossing.

There is not a significant pattern of accidents on the A251 within the 40mph section of the village.

ATC Data Summary: Daily Traffic Flows

Location / Direction		Daily Traffic Flow 24 Hour (All Vehicles)	HGV Traffic Flow (%)
A251 Faversham Road (north of Wye Road)	Northbound	3,949	2.10%
	Southbound	4,089	2.00%
A251 Faversham Road (south of Lees Road)	Northbound	4,643	2.00%
	Southbound	4,745	1.90%
Lees Road	Northeastbound	842	0.51%
	Southwestbound	908	0.62%
Wye Road	Eastbound	1,360	0.57%
	Westbound	1,330	0.58%

Traffic Survey Data

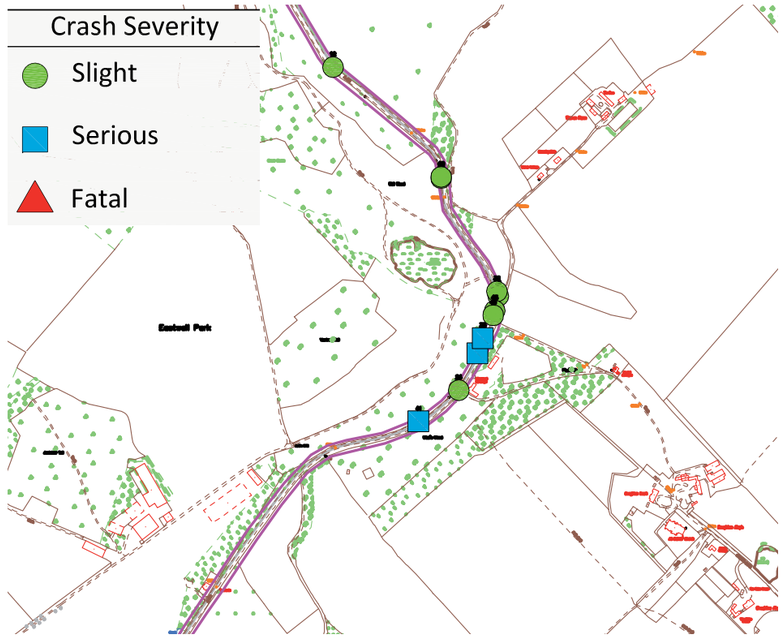
Overall the traffic survey data obtained from the ATC surveys shows relatively high volumes of traffic across an average 24 hour period both north and southbound along the A251 Faversham Road. It is apparent that nearly a quarter of the traffic flows along this road originate from or travel along Wye Road.

As a proportion of total traffic, HGVs account for less than 2% of the total traffic across the entire day. This would suggest that their impact upon the parish is minimal, particularly upon the A251 Faversham Road which is of a width to accommodate for this traffic without apparent problem. However, the presence of HGVs upon Wye Road is of concern as the road is signed such that vehicles greater than 7.5 tonnes in weight cannot use the road except for access. As is confirmed in the review of the road, the road is too narrow to accommodate for HGVs and other passing traffic.

Below: ATC placed upon 40mph section of A251 Faversham Road

Speed Survey Results

Location / Direction		Speed Limit	Recorded 85th %ile Speed
A251 Faversham Road (north of Wye Road)	Northbound	40mph	**44.2mph**
	Southbound		**43.8mph**
A251 Faversham Road (south of Lees Road)	Northbound	40mph	**45.3mph**
	Southbound		**47.5mph**
Lees Road	Northeastbound	30mph	**33.7mph**
	Southwestbound		**30.7mph**
Wye Road	Eastbound	40mph	**40.1mph**
	Westbound		39.4mph



Above: Extract from PIA plot for bend in road along A251 where high incidence of accidents were recorded (courtesy Kent County Council)
Below: View looking south along the A251 Faversham Road at approach to the bend

Reduce the Number of Accidents Along the A251 Faversham Road

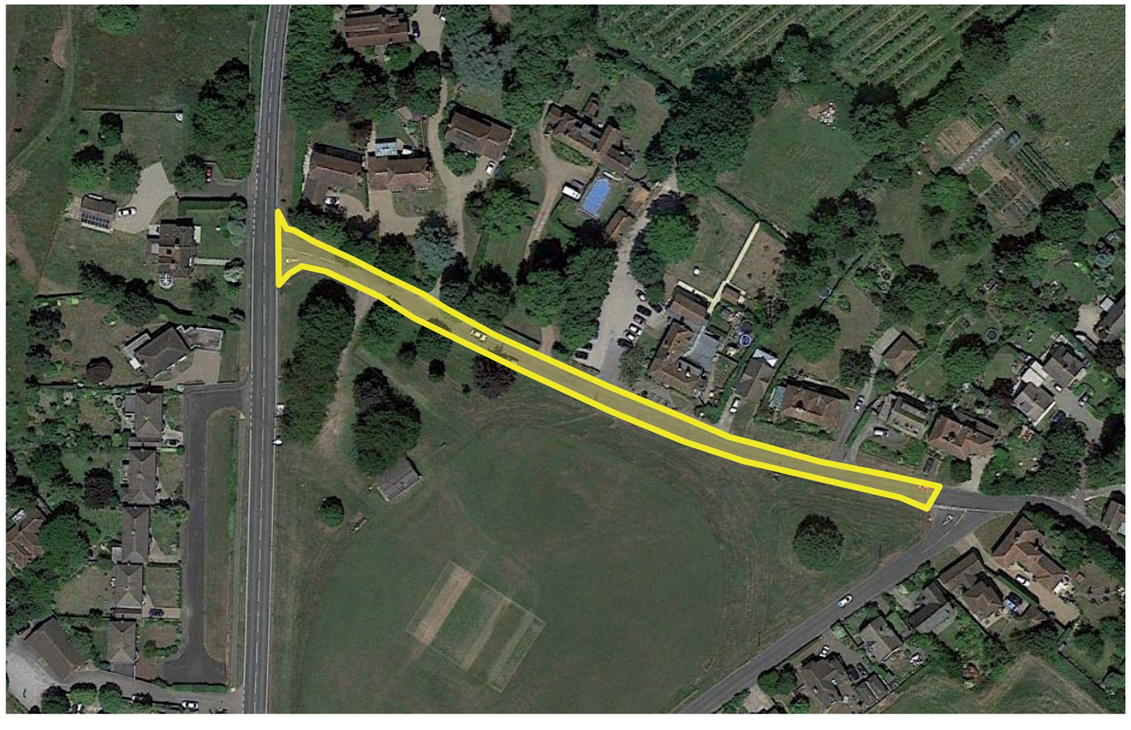
As was noted within the review of the accident data for the Parish, issues potentially attributed to speed and wet road surfaces were identified along the length of the A251 Faversham Road.

In an attempt to ameliorate the existing situation, Kent County Council should be consulted on the number of incidents recorded at the corner located approximately 1.5 kilometres north of the Wye Road junction. A reduction in the speed limit along the road between Wye Road and the roundabout junction in Challock may provide some benefit as has been achieved along the A251 north of Challock where the speed has been reduced to 50mph.

This may then advise drivers to approach bends at a more appropriate speed, particularly when the road surface is wet, which could lead to a reduction in the number of recorded incidents.

With regard to the incidents recorded south of the junction with Lees Road on the A251, a range of underlying factors have been identified. However, five of the twelve incidents recorded when the road surface was wet involved pedestrians crossing the road opposite the Towers School. It is understood that the school will be aware of the situation and will already have educational policies in place to reduce the potential conflicts between its pupils and vehicles, although the report summary for the accidents does not highlight whether any of the pedestrians were associated with the school. These measures will already be implemented and a reduction in the number of incidents of this nature could be seen in the future.

Above: Example view of shared surface concept looking north along Bank Street, Ashford
Below: Extent of area to be potentially covered by the shared space scheme



Redesign of Wye Road Across the Section Which is Fronted by the Flying Horse

To address the issue of vehicles continuing west along Wye Road at the Lees Road junction and the issue presented for potential conflicts with vehicles egressing out of Lees Road onto Wye Road because of limited visibility; changes could potentially be made to the section of Wye Road which fronts The Flying Horse.

It is proposed that the vertical alignment could be changed to create a shared surface concept this section of road. This could incorporate road surface treatment and will give the effect of no apparent priority for pedestrians or vehicles. This will require vehicles to reduce their speeds to enter the area and will require vehicles to further reduce their speeds when travelling across the Lees Road junction.

The change in road will accentuate the village green of Boughton Lees and create a focal point for the village. This could provide benefit to the village when community events are taking place including summer fayres. It is understood that this section of road is subject to an increased footfall at these times with many pedestrians crossing the road. The change in carriageway will give emphasis to the pedestrian and provide a safer overall environment.

A local example can be seen in the area of Bank Street in Ashford where the shared space concept has been constructed to provide greater priority to pedestrians. Although an example in an urban area, the fundamental concept is very similar to what could be adopted in Boughton Aluph. Vehicles will no longer be given priority which could change driver perception and reduce vehicle speeds.

Amendments to the Lees Road / Wye Road Junction

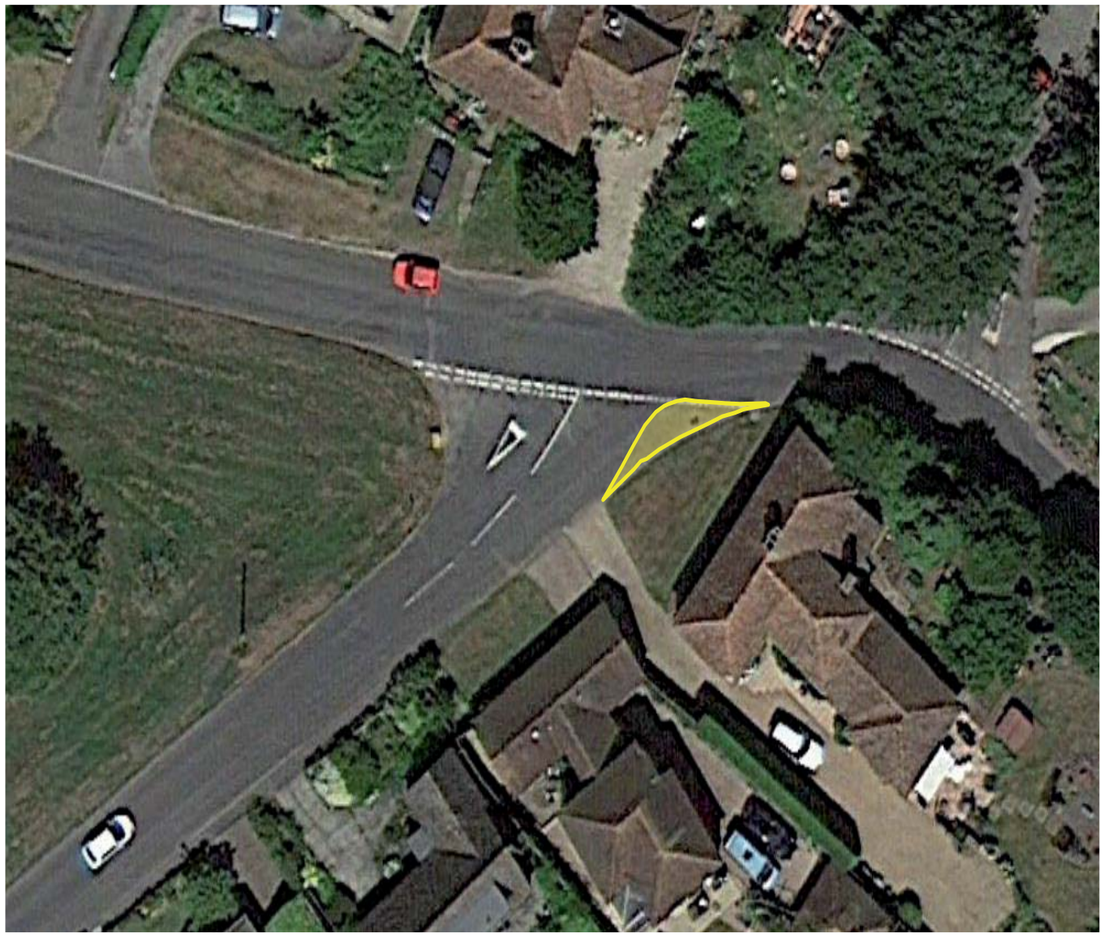
A number of issues were highlighted with regard to the junction between Lees Road and Wye Road. These were a consequence of the perceived speeding along Wye Road and the continuation of speed through the junction with Lees Road. As such two different options could be adopted going forward.

Option 1

The first option will be to decrease the size of the junction with associated kerb build-outs so as to reduce the kerb radii and alter the vehicle desire line. To enter Lees Road, vehicles will be required to reduce their speeds which they are not required to do so presently.

This would be subject to detailed design to ensure access to local houses is not adversely affected and that access onto Lees Road is retained for vehicles entering the road from the west.

Corner protection measures will most likely be required which will resemble those seen outside of the property adjacent to Pilgrims Lane.



Above: Indicitative view of the where the kerb could be extended (shown in yellow).
Left: Example of corner protection which may be required if proposed scheme is implemented. This example is located outside of the house adjacent to Pilgrims Lane.

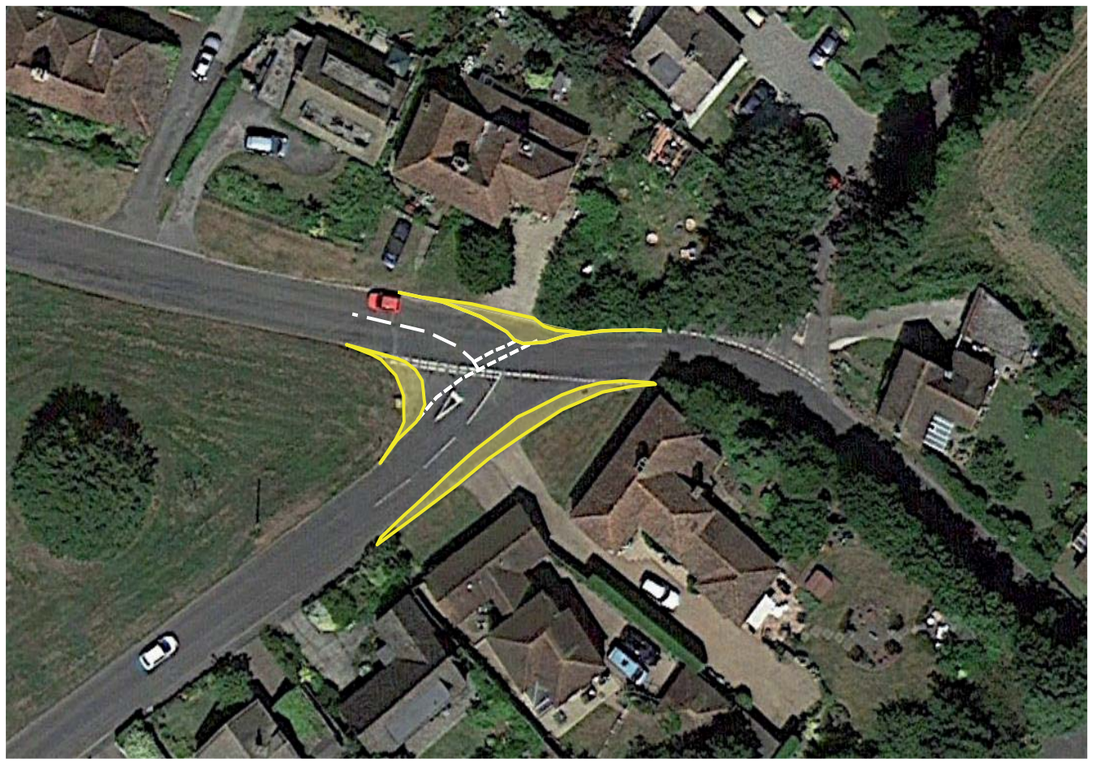
Option 2

The second option could be to to alter the alignment of the junction and change the priority for vehicles. It is evident, upon examining the ATC data, that the majority of vehicles travel along Lees Road and then Wye Road or vice versa. This would suggest that this is the main route and options could include adjusting the alignment of the carriageway to reflect the priority.

By changing the layout of the junction; issues presented previously concerning visibility splays could be effectively removed.

This option could be coupled with the aforementioned concept to alter the stretch of Wye Road which fronts The Flying Horse public house to create a shared space concept. This will accentuate the village green as the focal point of Boughton Aluph.

This concept would see the build out of kerbs to prevent vehicles cutting across the opposite carriageway and entering or leaving the junction in an unsafe manner. It is evident that this will cut across private driveways; however, access can be retained following appropriate engineering and design.



Above: Indicitative view of realignment of Wye Road / Lees Road subject to detailed design and engineering

Above: Existing aerial view of Lees Road / Wye Road junction

Above: View looking west along Wye Road which could be treated
Below: Example of white lining to emphaise narrow width of carriageway along Headcorn Road, Sandway, near Maidstone

Change in Road Layout on Wye Road Within 30mph Section

Consultation with the local residents of Boughton Aluph highlighted the perceived speeding along the length of Wye Road; particularly along the section to the east of Pilgrims Lane.

Although data obtained from the ATCs would suggest that vehicles are largely travelling within the speed limit, they may be travelling at too great a speed when consideration is given to the number of parked cars along the southern section of Wye Road and the narrow width of carriageway at the corner with Pilgrims Lane and Lees Road.

Due to the limited width of carriageway across this section of road, limited choices are afforded with regard to methods to reduce speeds. This is because access for emergency vehicles cannot be impeded and the implementation of speed bumps may therefore be unfeasible, notwithstanding issues with noise resulting from traffic calming.

Consequently, linage could be introduced along the length of this section of road so as to accentuate the percieved narrow width of the road. Thick white lines could be pained on either side of the carriageway close to the verge on either side on the approach to the corner where Pilgrims Lane is located. This will make the road appear even narrower than it already is and will therefore change driver perceptions of the road. This should result in an overall reduction in vehicle speeds which should incur little cost and does not require the construction of hard engineering measures. Furthermore, this measure could be adopted in conjunction with other outlined proposed measures for this section of carriageway.

In addition to the above, the speed roundel at the beginning of the 30mph zone could be repainted as it is noted that it has worn away in recent years. This will therefore further highlight the change in speed limit to reduce vehicle speeds through this section of the road.

An example of this white lining is shown along a section of Headcorn Road in the village of Sandway, near Maidstone. It is evident that the white lining emphasises the narrow nature of the road and can act to reduce vehicle speeds further.

Reduction of Speed on the A251 Faversham Road

To reduce the speed upon the A251, traffic islands could be constructed at relevant points within the residential section of the A251 which serves some of the local dwellings through the section that is subject to a 40mph speed limit. It is noted that the linear geometry of the road could be an underlying factor for the speeding which occurs along this length of road as confirmed by the ATC data.

This slight narrowing of the carriageway will impact upon the perception of drivers as they will feel required to lower their speed so as to navigate past the objects.

It is noted that this has been successfully implemented in the village of Challock, just north of Boughton Aluph, where vehicle speeds have been understood to be effectively reduced through their implementation.

In Challock, where the traffic islands have been installed, the overall carriageway width has not been altered. Therefore the introduction of the islands effectively reduces the overall carriageway width by approximately 1.5 metres. These measures are known to effectively reduce vehicle speeds without impeding access for HGVs or emergency service vehicles.

The traffic islands have been complemented with other speed reduction measures including speed repeater signs on the edge of the carriageway and speed roundels laid on top of changes in carriageway colouring through the island. These measures could also be adopted if implemented through Boughton Aluph.

However, the implementation of traffic islands is subject to the location of private drives. Access to private properties cannot be hindered by their implementation.

Right: Aerial view of the A252 through Challock with a traffic island in view (courtesy Google)

Below: View looking east along A252 Canterbury Road showing traffic island (courtesy Google)

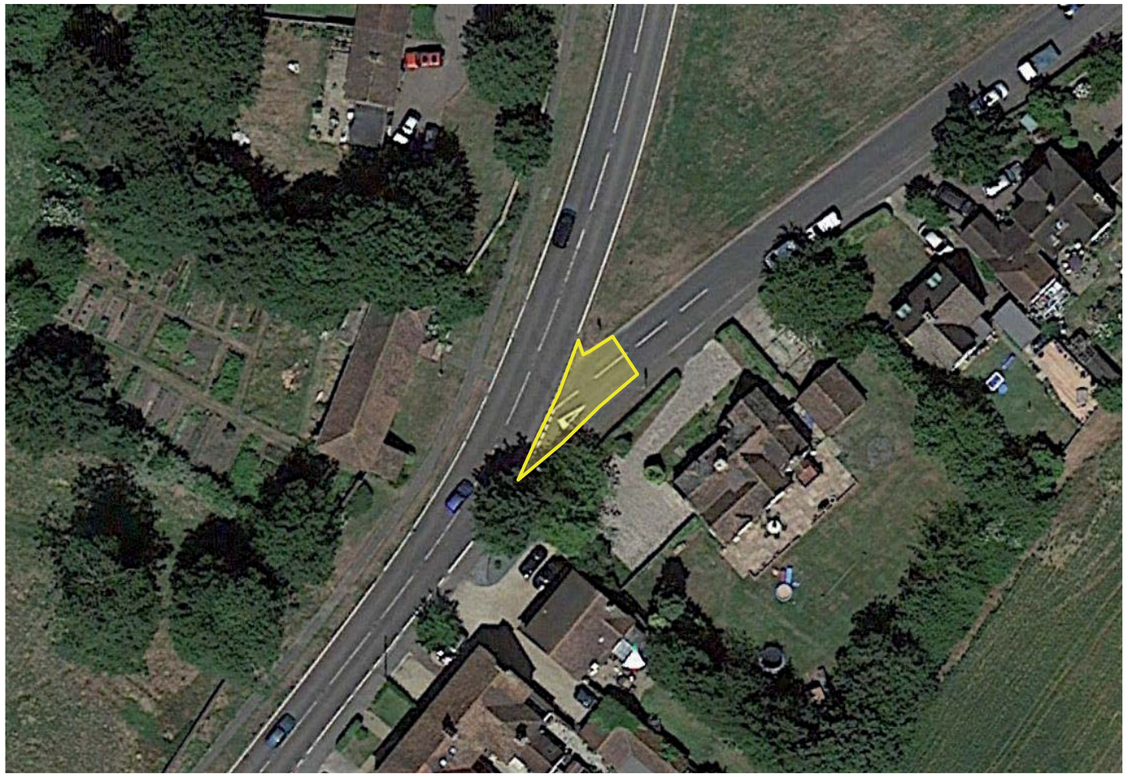
Redesign of the A251 Faversham Road / Lees Road Junction

Results from the ATC data highlighted that a number of HGVs continue to use Lees Road and Wye Road despite the 7.5 tonne weight restriction. Consideration could then be given towards changing the design of the junction so that it accentuates the rural nature of Lees Road.

This could be achieved by constructing a raised table junction at Lees Road. This may also reduce vehicle speeds for those leaving Lees Road to travel towards Ashford on the A251.

The introduction of a raised table junction will incorporate a change in the vertical alignment of the road across a short section at the junction and will therefore effectively form a large speed bump. The road surface will be coloured differently which will further increase the prominence of the junction and its classification as a rural road. The increased prominence of the junction may also act to reduce the number of accidents that occured at this location which may be linked to the perceived fast entry of the junction.

It is noted that this work will not require amendments to the realignment of the adjacent footway or to access to private dwellings located at this section of Lees Road.



Above: Example of raised table junction (courtesy Google)

Left: Indicitative view of area changed by proposed raised table junction at the Lees Road / A251 Faversham Road junction

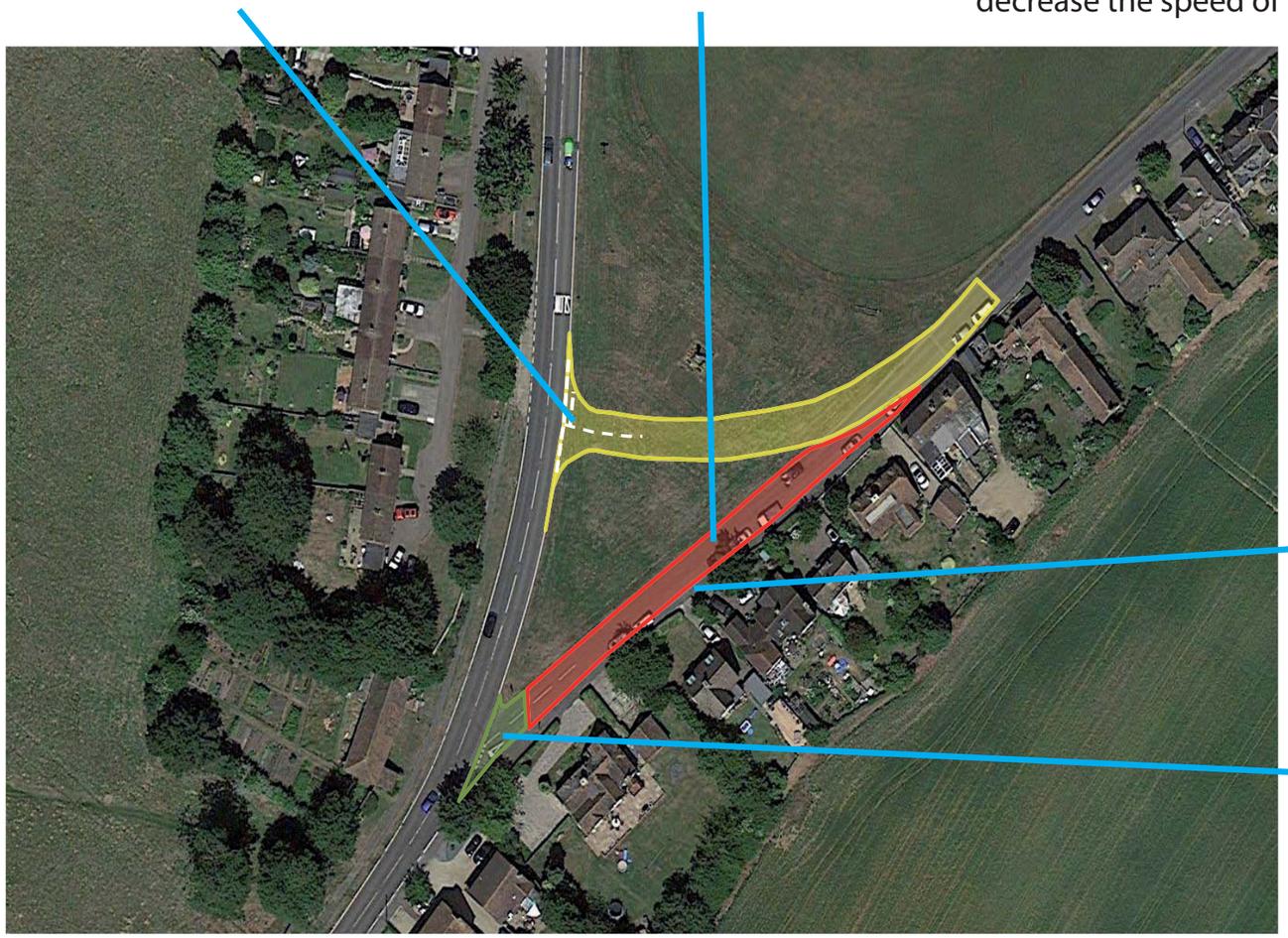
Re-align Lees Road Junction With A251 Faversham Road

The junction could be relocated approximately 70 metres further north along the A251 with the corresponding changes made to the alingment of the A251. This will reduce the kerb radii of the junction and will reduce vehicle speeds for those entering and leaving the junction. It is understood that adequate visibility splays will be achievable from this location. This change will also have no effect upon the use of the village green as a cricket field.

The area highlighted red could become a shared private drive to provide access to the properties which it binds. This will be of a different colour and material to the present road as this will excentuate the difference in the road surfaces to prevent vehicles accidentally continuing straight ahead when travelling southbound on Lees Road.

It is evident that the existing layout of the junction between Lees Road and the A251 Faversham Road resembles a slip-road. The geometry of the junction could act to increase vehicle speeds for vehicles entering the junction from the A251 northbound and those egressing from the junction from Lees Road to travel southbound on the A251. In addition, despite the signage at the junction entrance to deter HGVs, there is potential that the junction geometry could be misinterpreted by HGV drivers as Lees Road appears to be a main road.

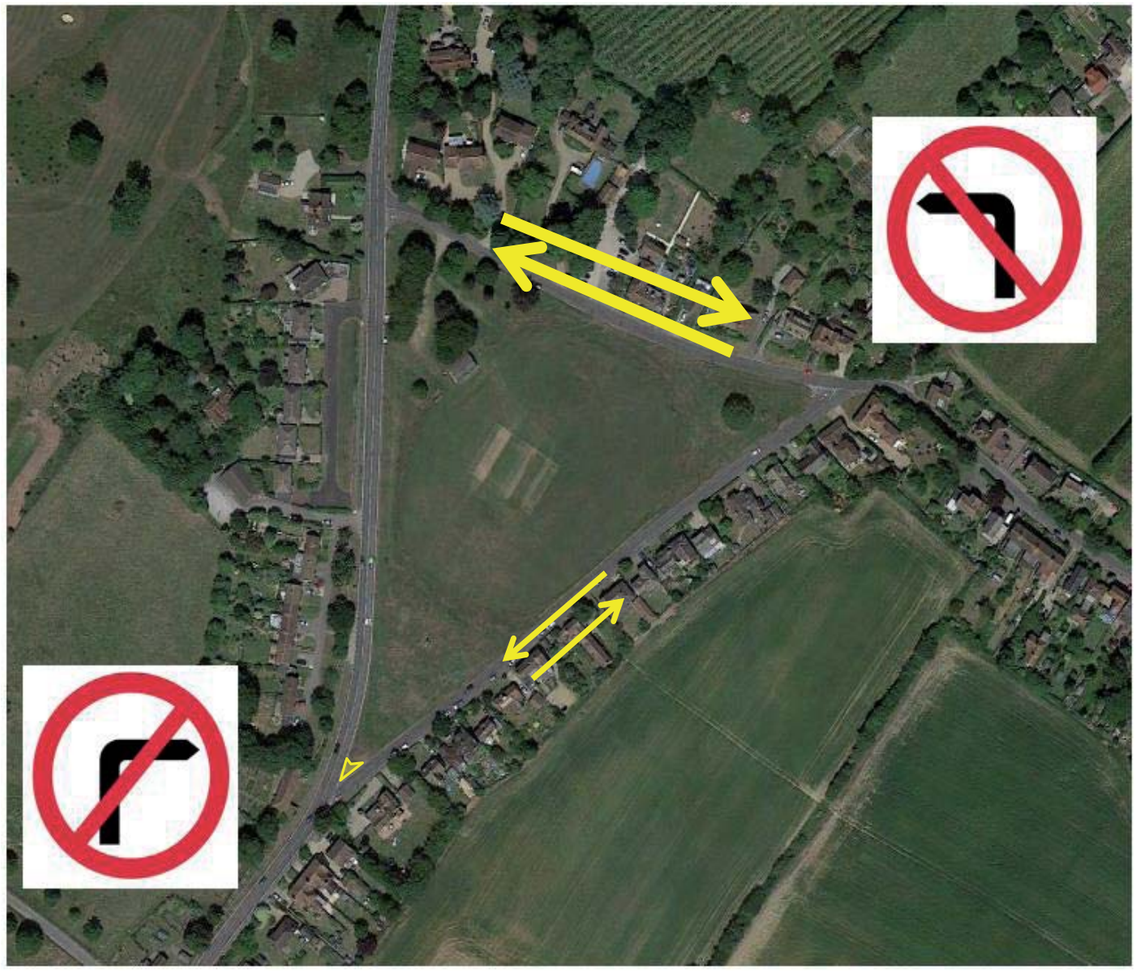
With consideration to the above, there may be benefit from redesigning the junction so as to accord with modern standards stipulated by the Design Manual for Roads and Bridges and to decrease the speed of vehicles using the junction.



The image shown opposite is an indicative view of how the junction could be reconfigured and is therefore subject to detailed design and engineering. Nevertheless, the image highlights how the junction could be reshaped to create a more conventional junction design which could reduce speeds which could reduce the number of vehicle collisions at the junction and act to dissuade HGVs from using the unsuitable road.

Retain the footpath located on the south-eastern edge of the carriageway to ensure pedestrian amenity is protected

The area shown in green could be transformed into a grassed area to extend the village green and create a natural barrier between the A251 and access to the properties on Lees Road.



One-Way Gyratory Around Boughton Lees Village Green

Consultation with the Parish Council has led to the concept of introducing a one-way gyratory arrangement around Boughton Lees village green. The main outcomes of the concept are as follows:

1: Vehicles cannot turn left onto Lees Road from Wye Road (i.e. westbound to southwest bound vehicle movements are prevented).
2: Vehicles cannot turn right onto Lees Road from the A251 Faversham Road (i.e. northbound to northeast bound vehicle movements are prevented).

This will therefore require the vast majority of vehicles travelling between the A28 Canterbury Road and the A251 Faversham Road to travel along the length of Wye Road with access only to the residential dwellings along Lees Road. To access Lees Road, vehicles will be required to turn in right from Wye Road eastbound or in left from the A251 Faversham Road Southbound.

This therefore should alleviate the aforementioned perceived safety issue at the corner of Lees Road, Wye Road and Pilgrims Lane and will prevent the majority of vehicles from travelling at speed potentially into and out of Lees Road at the A251 Faversham Road junction. Furthermore, the vast majority of vehicles will be required to egress onto the A251 from Wye Road where better visibility splays can be achieved and vehicles will be required to stop completely. However, it should be noted that this will greatly increase the number of vehicles travelling across the frontage of the Flying Horse on a daily basis. This could lead to potential conflicts as the road attracts a high pedestrian footfall when village events are being held. In addition, to facilitate vehicles turning into Lees Road from the A251 Faversham Road, the junction size will have to be increased with a build-out into the village green (shown opposite) as a consequence of the existing oblique junction angle.

The image opposite is an indicative view of the concept with the larger arrows denoting heavier traffic flows.

Above: Example of HGV prevention gates at Commissioner's Road, Strood
Below: Passive design to prevent HGV access in an urban environment

Prevention of HGVs along Wye Road

It is evident that despite Wye Road and Lees Road being access only to HGVs, a number were recorded to travel along its length each day. As such, methods to prevent the vehicles entering the road have been explored. These physical measures would not be allowed to prevent access to buses, farm traffic and emergency services vehicles.

To prevent HGVs entering Wye Road, a gated access to the road could be installed at the entrance to Wye Road, in close proximity to the A28 Canterbury Road junction. As can be seen in the example photos opposite, smaller vehicles such as cars and minibuses will be provided with unimpeded access along the length of the road; however, it will require these vehicles to slow down below the 30mph speed limit.

Access to larger vehicles including all HGVs, larger emergency vehicles (e.g. fire engines) and agricultural traffic will be prevented passively (e.g. the below right example) or enforced with no vehicles passing unless the driver is in possession of the necessary key (as seen in the Commissioner's Road example).

For either option to be achieved, it is noted that the road will require widening at that point to effectively achieve a road width to accommodate three vehicles. In addition, it is required that a turning area is provided for vehicles that accidentally travel into Wye Road but are unable to continue. Vehicles will not be permitted to reverse back onto the A28 to turn around. Therefore, third party land will be required to construct this concept and will be subject to detailed design. In addition, appropriate width restriction signage will be required along the A28 Canterbury Road to further prevent HGVs.

This measure will effectively only prevent as many as 8 HGVs travelling along the length of road on an average 24 hour period which may well be associated with agricultural uses. Furthermore, this has the potential to prevent the safe and efficient access of large emergency service vehicles and their use could require appropriate consideration if taken forward. Therefore, it is considered that this would unduly affect access for farm related traffic and buses when only as many as 8 HGVs were recorded to use the road each day (which may well have been associated with agricultural purposes anyway).

Above: View looking north west along Roman Way, Park Farm to illustrate alternative speed bump design
Below: View looking north west along Ulley Road, Kennington with speed bumps installed

Measures to Deter 'Rat Running Along Sandyhurst Lane

Although it was identified that the issue of 'rat-running' along the length of Sandyhurst Lane does not create severe issues of congestion or safety; the perceived problem could be alleviated through deterrents which make the road undesirable for vehicles except for access.

Speed bumps could be introduced throughout Sandyhurst Lane along the sections which are covered by a 30 mph speed limit. It is understood that very little on street parking occurs along the length of the road as many properties are provided with off-street parking. Therefore speed bumps are unlikely to have an adverse impact upon residential parking amenity.

Speeding is not an issue that has been raised following residents responses to highway issues in Boughton Aluph and this proposal does not seek to achieve a reduction in speed on safety grounds. The introduction of speed bumps will make the road undesirable for drivers who wish to use the road as a quick shortcut and will therefore lead to drivers using main routes such as the Drover's roundabout junction. The introduction of speed bumps may also improve accessibility to private drives along the length of the road and improve the overall perceived safety of the road.

It is noted that speed bumps have been used in a similar manner along the length of Ulley Road and The Street in nearby Kennington. It is understood that implementation of the speed bumps may have led to reduced 'rat running' between the A28 Canterbury Road and the A251 Faversham Road without impeding emergency vehicle access.

Right: View looking north on Aylesbury Road

Below: Extract of ABC Plans to introduce parking restrictions through Goat Lees. The red lines refer to proposed no waiting at any time controls and the green referes to proposed no waiting between specific hours parking controls.

Loss of Residential Parking Amenity at Goat Lees

To address the issue of parking amenity across Goat Lees, it is evident that a Traffic Regulation Order is being undertaken by Ashford Borough Council to potentially introduce parking restrictions across the residential areas of Goat Lees most affected by overspill parking from the business park.

This will incorporate the introduction of 'no waiting at any time' and 'limited waiting' restrictions in Aylesbury Road, Dunnock Road, Muscovy Road, Siskin Close and Snipe Close. This will provide a safety scheme to protect bends, junctions and pinch points where instances of nuisance and obstructive parking have been observed.

It is advised that no further assessment of this issue is undertaken until such time that the scheme is implemented and given time to settle down.

Left: View looking north east onto Aylesbury Road adjacent to Muscovy Road.

summary

A range of different issues have been raised by residents of Boughton Aluph and Eastwell with respect to highways by means of questionnaire surveys and points raised to the Parish Council. As such, a comprehensive analysis of the issues raised has been undertaken with a focus on the following points.

- Speeding on Wye Road
- Conflicts on the corner of Wye Road, Pilgrims Lane and Lees Road
- Speeding on the A251 Faversham Road
- Loss of residential parking amenity at Goat Lees
- Rat-running through Sandyhurst Lane

The study concluded that the issues identified were a combination of both percieved issues and justified highway concerns, and this is not uncommon. A range of survey methodologies including the use of traffic and speed data, have been employed to inform the study.

In response to these concerns, DHA Transport has provided some potential concept solutions. These range from smaller scale work, including the implementation of road lining to alter the perception of carriageway widths along Wye Road, to schemes of a larger scale. It is understood that the implementation of one or a combination of the solutions presented would benefit the parish with the focus set on the needs of the local residents as opposed to the road users.

The information and evidence contained in this report should assist the Boughton Aluph and Eastwell Parish Council in their discussions with local authorities on how to resolve some of the problems encountered.