

Newton Green – Pedestrian Crossing Feasibility



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Background

Newton Parish Council and County Councillor Finch have long standing concerns over pedestrian safety when attempting to cross the A134. Most of the housing development within Newton Green is on the northern side of the carriageway, and many of the local amenities such as the village hall, children’s playground, pub, golf course and Sudbury bound bus stop, are on the southern side. There is only a footpath on the northern side of the carriageway throughout the village. The A134 is the main strategic A road through the south of Suffolk and is a designated HGV route.

The local councillors have stated that the village is in need of a controlled pedestrian crossing and that the volume of traffic and risk has risen in recent years. In February 2024, a consultation was carried out by Newton Parish Council with the residents, the two main highway priorities were the need for a controlled pedestrian crossing and traffic calming measures to reduce speeds.

Methodology

Following an initial desk-top study, a site meeting was arranged with County Councillor Finch and Newton Parish Council.

Due to the layout of the village, there is no ideal location to situate a crossing as there is no clear desire line where pedestrians want to cross - instead pedestrians tend to cross at several locations throughout the village. Therefore, if a controlled crossing was installed at one particular site, it could be redundant for pedestrians crossing at other locations. For example, a crossing at the bus stop in the centre of the village, would be of no use to residents at the east end who want to access the village hall or playing fields.

The other issue is the road layout at any given location, for example, at the Saracen's Head public house, there is a bend in the carriageway and there is no place to situate a crossing due to the adjacent car parks and junction with Newton Green Golf Course. Locating a controlled crossing further east in the centre of the village is also problematic due to the adjacent land being part of the golf course.

Following on-site discussions, it was agreed that an assessment should be undertaken for a controlled crossing in the centre of the village adjacent to the junction with Rectory Road. Rectory Road is opposite to the junction with Church Road – an access road to many of the residential dwellings in Newton Green.

Controlled Crossing Assessment – Adj. Rectory Road

Road Geometry and Visibility

A controlled crossing could potentially be located adjacent to the junction with Rectory Road by removing the layby. The available distance between the junction and the driveway opposite is only 9m, this would make the crossing width limited but not below the recommended dimensions. A signalised crossing is not suitable, as the crossing equipment requires >20m to detect oncoming traffic - this would not be achievable due to the proximity of the Rectory Road junction.

The footpath on the northern side of the carriageway is only 1m wide which is insufficient for a controlled crossing. A footpath width of 1.5m is regarded as the minimum under most circumstances – this width gives sufficient space for a wheelchair user and a walker to pass one another. The carriageway adjacent to the layby is 6.5m wide, but the westbound lane is 3m and the eastbound lane 3.5m. Therefore, the

footpath of the northern side could potentially be built-out into the carriageway to widen the footpath at the crossing area. For the crossing to be easily accessible, footpaths would have to be created on the southern verge from the layby to the existing bus shelter, and ideally from Rectory Road to the junction to Newton Green Golf Course - this would require an agreement with the landowner.

Street Lighting / Electrical Power Supply

If a Zebra crossing was installed it would require Belisha beacons to highlight the crossing to approaching traffic, and streetlighting to illuminate the crossing point. Unfortunately, ducting a suitable power supply could prove challenging and expensive at this site, please find comments below from the Street Lighting Team:

“Looking at the UKPN stats, I wouldn’t say there is anything showing as a suitable supply being available anywhere close to the layby area, I think the closest available connection point would be the first pole located in Church Rd which would mean trenching to the A134, and a trench to your proposed location. This would start to get rather costly, but could be a possibility if the scheme were to go ahead, I would suggest further investigations would be required before any final decision is made as it is difficult to tell how far the LV mains services actually go without seeing a broader scope of the stats”

There are Anglian Water mains beneath the carriageway, layby, and southern verge, and a B.T. underground duct below the northern footpath. Trial holes are required to ensure these services are at an adequate depth, and to ensure that a street lighting column would not disturb the footings to the private wall on the northern footpath. There are B.T. overhead cables above the northern footpath and across the carriageway, these overhead cables would require a GS6 Assessment to ensure the installation or maintenance of the crossing is not affected.

Drainage

The drainage will need to be amended if the northern footpath is built-out into the carriageway. Currently, surface water on the northern channel drains into beany kerbs, which in turn drain into gullies. There is a gully adjacent to the Rectory Rd junction on the southern side. The drainage would have to be reviewed as part of the design so surface water did not pond at the crossing point nor the approaches to the stop lines.

Vehicle Tracking

The Rectory Road junction is angled which increases the turning angle required when turning east towards the proposed crossing point. The room available for turning would be further reduced if the northern footpath is built-out into the carriageway, so the tracking of various vehicles needs further investigation.

A full vehicle movement would not be possible between the driveway immediately east of the proposed crossing point and the westbound stop line. Unfortunately, it is not possible to alleviate this issue, but if a Zebra Crossing was installed, a vehicle exiting the driveway would still be able to see any pedestrians waiting at the crossing point.

Modified Quantitative Crossing Assessment

Traditionally, highways authorities use a quantitative measure to assess the need for a particular type of crossing facility. The assessment measures the degree of conflict between pedestrians and vehicles at the busiest times, and the calculation is then measured against threshold values stipulated by The Department for Transport.

Recent survey data from the Suffolk Highways Survey Team obtained in March 2023, showed a peak traffic volume of approx. 1600 No. vehicles/hour. There was also a consistent traffic volume throughout the day - approx. 1200 No. vehicles/hr.

It must be noted that the nearby Chilton housing estate is currently under construction which will increase vehicle numbers, especially at peak times. The first phase of the planning application was for 200 new homes (which went on sale in September 2021). A planning application for the second phase of 243 homes is currently with Babergh District Council for consideration, and there is a circulation for a third phase of 149 homes.

Suffolk Highways require robust data to measure pedestrian demand, this involves commissioning a CCTV survey to sample how many pedestrians cross the carriageway during peak periods. At the site meeting, it was noted that there is a significant 'suppressed demand' due to the difficulty crossing the carriageway. Highway Engineers define suppressed demand as the number of additional pedestrian crossing movements created as a result of a formal crossing being provided. It is difficult to quantify suppressed demand, but this will be considered when the quantitative assessment is analysed.

To comply with modern guidance, Suffolk Highways are currently developing a 'Modified Quantitative Assessment' that also takes into account other factors such as the; types of vehicle, the types of pedestrian, the traffic speeds, and the road width. Weightings are then applied to the raw data to better reflect the conflict between pedestrians and vehicles at peak periods.

The traffic speeds were also recorded during the March 2023 survey, but this data was taken at the west speed limit terminal and not within the centre of the village. GPS traffic speed data taken adjacent to Rectory Road, showed an average speed of 30.2mph, and an 85th percentile speed of 34.3mph. Despite the data above, a new traffic survey would have to be commissioned at the proposed crossing point to reflect the current vehicle numbers and the traffic speeds within the centre of the village. Please note, Zebra Crossings cannot be installed where the 85th percentile speed exceeds 35mph.

Conclusion

The desk-top study highlighted several issues including the layout of the highway, the private land adjacent to the highway, the pedestrian desire line, and the pedestrian demand at a given location. There is no ideal location to situate a crossing as there is

no clear desire line where pedestrians want to cross. It was agreed at the site meeting that a logical place for a controlled crossing would be in the centre of the village adjacent to the bus stop, where there are no bends in the carriageway and there is good visibility in both directions.

Controlled crossings should be situated to match the pedestrian desire line - there appears to be a pedestrian desire line adjacent to the junctions of Church Road and Rectory Road. A controlled crossing adjacent to the junction with Rectory Road would involve removing the layby to best match the pedestrian desire line. If the crossing was located further afield, for example, where the bus shelter currently resides, the crossing would be too far away from the pedestrian desire line. Locating a crossing against the pedestrian desire line causes a safety concern as pedestrians may attempt to cross the carriageway between traffic and not at the designated crossing point.

However, there is also a concern that a crossing between Rectory Road and the bus stop would not match the pedestrian desire line for residents trying to access the Saracen's Head pub & local shop. Also, although an abled person would have no trouble in walking across the top of the golf course during fine weather - this would not be acceptable during poor weather conditions or if a pedestrian has a disability/mobility issue. An alternative location could be between the Church Road junction and the Golf Course junction. Conversely, a crossing at this location would be against the pedestrian desire line between Church Road and Rectory Road (and the bus stop).

A crossing at either location would require a transfer of land to public highway and footpaths constructed from the crossing point to the adjacent junctions. It is recommended that Newton Parish Council engage with the landowners of the layby and the golf course at the earliest opportunity to assess if a scheme is feasible.

The crossing design and new footpaths would also be scrutinised by an independent Road Safety Audit, and would also need approval from Suffolk Highways Safety and Speed Management Team, and the Asset Maintenance Manager.

The feasibility of controlled crossings requires robust pedestrian and traffic data to assess the conflict between pedestrians and vehicles. Commissioning a CCTV survey is a good way of assessing the current demand for a controlled crossing. Ideally, a single camera would be mounted on the wooden directional sign for the church, but two cameras may be required if mounted on the warning signs adjacent to the layby (to capture pedestrians from both directions). It is noted that there is a suppressed demand for a controlled crossing due to the difficulty in crossing the carriageway. A traffic survey would also need to be commissioned to sample the current traffic flows during peak periods. It is recommended that the design of the crossing is only progressed after the quantitative data has been reviewed.

There are a number of design issues that require further investigation, for example, if a crossing is located within the layby adjacent to Rectory Road, the narrow footpath on the northern side needs to be built-out to improve the footpath width at the crossing point. Trial holes will be required so no underground utilities are affected during the construction or maintenance of the crossing, and so that the footings to the private wall are not affected. Further investigations are also required to identify how a suitable

power source is going to be obtained from the electrical infrastructure within Church Road.

Vehicle tracking will have to be undertaken to assess the path of vehicles exiting Rectory Road. Preliminary tracking has been undertaken, but this will require further analysis when the scheme is being designed. If a controlled crossing is situated within the layby, there may also be an issue with vehicles overtaking a waiting bus too close to the crossing point. This will have to be investigated during the design phase, if deemed too close, the bus stop kerbs (and possibly the bus shelter) may have to be relocated further east.

Locating a controlled crossing within the centre of the village may attract objections from nearby residents. Zebra Crossings are installed with Belisha beacons and fitted with shrouds to reduce the disturbance to the neighbouring properties. However, light or noise pollution resulting from the crossing may be a concern for those residents living nearby.

Summary

Consultation

- Parish to consult with local community concerning a proposed pedestrian crossing within the village. Due to the layout of the village, there is no ideal location to situate a crossing as there is no single desire line where pedestrians want to cross.
- Following on-site discussions, it was agreed that an assessment should be undertaken for a controlled crossing within the vicinity of the layby adjacent to the junction with Rectory Road.
- A controlled crossing adjacent to the layby would need to be a Zebra Crossing due to the proximity of the Rectory Road junction.

Private Land

- Local councillors to initiate discussions with landowners so a controlled crossing can be constructed, and so footpaths can be constructed from the layby to the existing bus shelter, and from the Rectory Road junction to the Newton Green Golf Course junction.
- The dedication of the private land to public highway would also incur legal fees.

Modified Quantitative Crossing Assessment

- A classification traffic survey is required to ascertain the current vehicle numbers and traffic speeds within the centre of the village. Please note, Zebra Crossings cannot be installed where the 85th percentile speed exceeds 35mph.

- A CCTV survey would need to be commissioned to sample how many pedestrians cross the carriageway throughout the day and during peak periods.

Electrical Power Supply

- Zebra crossings require a power supply for Belisha beacons and streetlighting to illuminate the crossing point.
- There is no power supply close to the proposed crossing point, so further investigations are required to ascertain how a power supply will be sourced and trenched from Church Road.

Northern Footpath

- The footpath on the northern side of the carriageway is only 1m wide which is insufficient for a controlled crossing. Therefore, the footpath of the northern side needs to be built-out into the carriageway.
- Trial holes are required to ensure that the underground services are at an adequate depth, and to ensure that a street lighting column would not disturb the footings to the private wall.
- A GS6 Assessment is required to ensure the installation or maintenance of the crossing is not affected by the overhead BT cables.
- The drainage would have to be reviewed as part of the design, so surface water does not pond at the crossing point nor the approaches to the stop lines.

Vehicle Tracking

- The Rectory Road junction is angled increasing the turning angle for vehicles exiting the junction when travelling towards the proposed crossing point.
- The room available for turning would be further reduced if the northern footpath is built-out into the carriageway, so the tracking of various vehicles needs further investigation.
- A full vehicle movement would not be possible between the driveway immediately east of the proposed crossing point and the westbound stop line.
- If a controlled crossing is situated within the layby, there may also be an issue with vehicles overtaking waiting buses too close to the crossing point. The bus stop (and possibly the bus shelter) may have to be relocated further east.

Environmental Impact

- Locating a controlled crossing within the centre of the village may attract objections from nearby residents.
- Zebra Crossings are installed with Belisha beacons and fitted with shrouds to reduce the disturbance to the neighbouring properties.
- Noise pollution resulting from cars braking and accelerating close to the crossing point may be a concern for those residents living nearby.
- A crossing situated at the layby would be partially secluded to members of the golf course by the mature trees.

Highway Safety and Asset Maintenance

- The crossing design and new footpaths would require approval from Suffolk Highways Safety and Speed Management Team, and the Asset Maintenance Manager.
- The final design would also be scrutinised by an independent Stage 2 Road Safety Audit.

Actions

- Confirmation from the parish council on the preferred location for a controlled crossing:
 - A Zebra Crossing could potentially be situated adjacent to the Rectory Road junction by removing the layby.
 - A signalised crossing could potentially be constructed further away from the junctions with Church Road and Rectory Road (but away from the pedestrian desire line for Rectory Road).
- Parish council to engage with private landowners and obtain an agreement in principle that the land can be dedicated to public highway, for the purposes of a controlled crossing, and for new footpaths linking the crossing point to the adjacent junctions.
- Local councillors to investigate how the scheme will be funded, including the footpaths linking the crossing point to the adjacent junctions.
- Commissioning of traffic and pedestrian surveys.
- Approval from the Safety and Speed Management Team, and the Asset Manager.
- Once the stages above are complete, we can progress with the design of the controlled crossing (funded by Cllr Finch's Local Highways Budget).