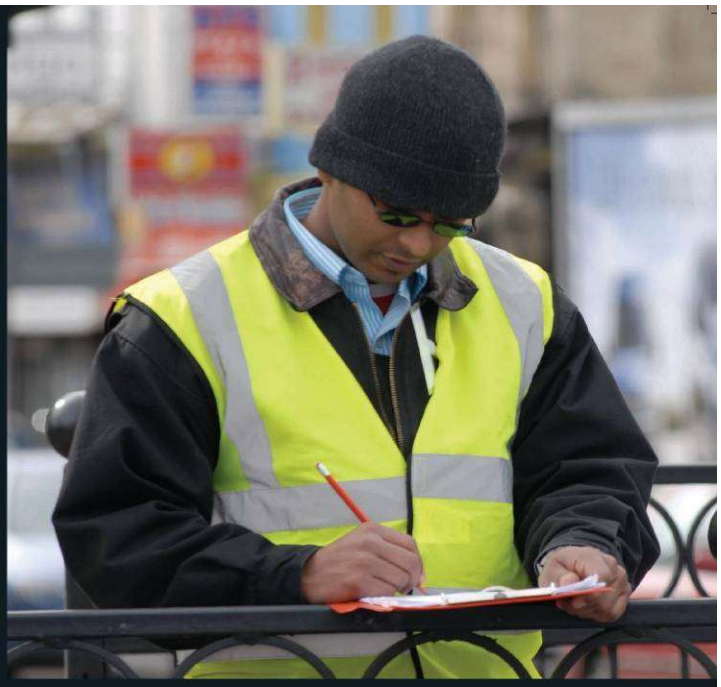

TRAFFIC + TRANSPORTATION

THE DATA COLLECTION SPECIALISTS

60324 – Longridge Road

Proposed Development Speed Survey and Transport Statement

May 2025

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Contents

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1. Introduction

CTS Traffic and Transportation have been appointed to assist with the highway aspects of proposals to develop land off Longridge Road.

Two developers were working together to provide an improved access, a glamping site to the south of the field plus a new agricultural building on the northern part of the site. Both applications began separately but proposed to make use of the same highway access.

However, on 10th April 2025 the agricultural element was refused as it was considered to intensify use of an access which did not have sufficient visibility.

This Report seeks to explain how the glamping site and re-designed access can overcome those issues following more detailed consideration including a site visit.

This Report is provided as a presentation of the results of a speed survey undertaken at the point of proposed access as well as drawing together various highway comments received as part of the two separate developments both of which originally sought to use the revised access onto Longridge Road and also drawing from a detailed site visit made.

2. Highway Location and background:

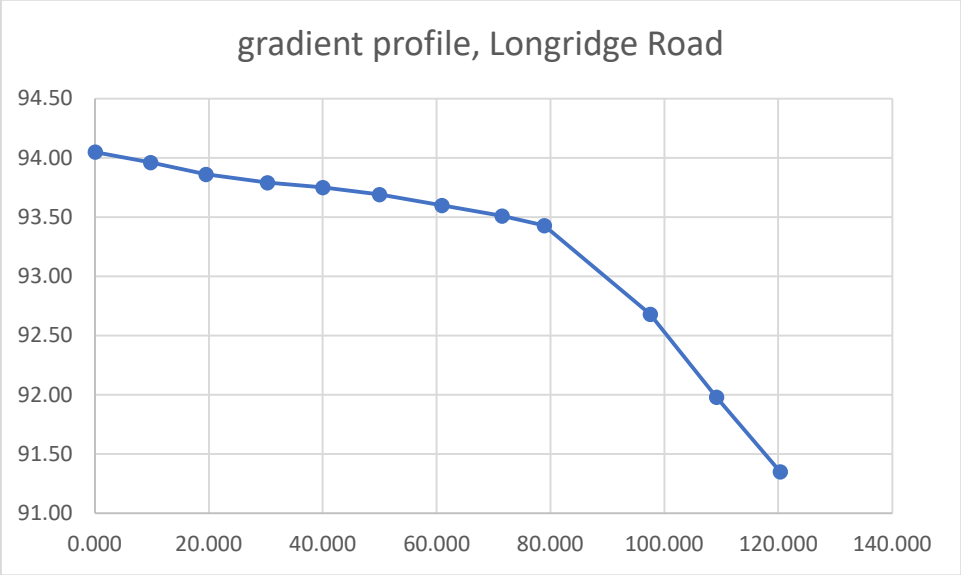
Longridge Road runs north eastwards from Hesketh Lane towards Chipping to the north of Longridge. It forms a priority junction with Hesketh Lane and is a national speed limit, 60mph, road. It is a single carriageway road with a marked centre line but only soft verges and no kerb. Along the section adjacent to the proposed development it has hedges either side. Some references title this section of road "Back Lane". It is also referenced as the C565.

The proposed entrance lies on the western side of the road at the point that it begins to drop more steeply down towards a small river (River Loud), which it crosses on a bridge just north of the edge of the land ownerships related to the developments. The access is currently gated and provides access to the large field adjacent to the road.

There are two sets of terraced houses along the northern side of Longridge Road either side of the junction with Hesketh Lane. The junction includes a stone bus stop, a former telephone box and a post box. Both sets of houses directly front onto Hesketh Lane with no front garden or footway. There is one single street lamp at the junction but otherwise both roads are unlit.

The corner house has a narrow footway / front garden provided along its depth on Longridge Road. However, this comes to an end across the gated parking area although the verge remains about the same width albeit as a low grass bank. A further section of hedge leads to an access to the rear of several of the houses just further along, south of the boundary of the parcel of land.

A measured survey of Longridge Road adjacent to the development was undertaken including measurement both horizontally and vertically. The gradient profile along the nearside kerb is shown below:



The profile shows that Longridge Road generally falls away from Hesketh Lane along the section of road adjacent to the proposed developments. There is a change in the gradient at the point of access. South of the access, the gradient is 1%, whereas to the North the gradient increases to 5% as the road drops to the small river bridge over a small tributary to the River Loud.

Further details of the geometry of the highway including verge width and hedges was obtained. This is in order to set the context of the site and visibility splay. Details are shown in the table below:

Location	Distance from start	Nearside Verge	Hedge height	Note	Offside Verge
Hesketh Lane	0.0				
Southern boundary	47.2	1.37	1.27	Fence	2.3
Entrance south	120.5	1.94	1.15	Fence behind	1.9
Entrance centre	125.2				
Entrance north	129.9	1.49	1	Fence behind	1.8
Northern boundary	172.6	1.10	1.2	Boxed by fence	2.8
Bridge over stream	198.7	2.1	0.9	Parapet	1.6

This shows the site frontage onto Longridge Road as 125.4 m long. The nearside verge varies in width from 1.37 to 1.94m south of the current access, and 1.49 to 1.1m north of the access. This is again in the form of a low grass bank at the foot of the hedge, which ranges in height from 1.27 to 1.15 m south of the access and 1 to 1.2m north of the access. The hedge also includes a hedge, sometimes boxing the hedge, sometimes within, and sometimes behind.

The offside verge is generally wider, ranging from 2.3 to 1.9m opposite the southern part of the site, and 1.8 to 2.8 m for the northern part of the site. Both hedges appear well-maintained.

None of the verge widths exceed 2.4m, the standard start point of any visibility splay such that it is accepted that there will need to be revision to the hedge line certainly around the access, which was already planned. However, the dip in the road to where it crosses the small stream and the development being on the inside of the bend actually works in favour of visibility, as explained later.

3. Previous Highway Comment:

Lancashire County Council highway comments have been received during the course of the two applications and are outlined below.

The first response, relating to application reference 24_0798 (the agricultural building) required modifications to the access design and requested a visibility splay and swept path analysis. (26th November 2024). Revisions to the access design were then accepted, as was the swept path analysis, but reaction to the visibility splay provided was that a speed survey should be undertaken (17th January 2025) and that both that application and application reference 24_0913 were for the same access and needed joint consideration.

Comments regarding application 24_0913 (8th January) (the glamping site) reiterated need for a speed survey and confirmed the revised access needed to be 6m wide for at least 10m into the site. Concern was raised regarding potential pedestrian movements being generated onto the highway without any suitable verge being provided. The comment confirmed the distance to the nearby bus stop was acceptable, and that pedestrian movements would be expected from that proposed development but pointed out no suitable provision. Concern was raised over the visibility splays possible with comment that the hedges would need to be reduced or removed. The suggestion was made that the access should be moved southwards.

It was also noted that Longridge Road to the south has a straight alignment whereas to the north it bends back towards to site, leading to issues with being able to provide adequate visibility.

In order to understand the three-dimensional nature of the issues involved, a site visit was undertaken to obtain measurement pertinent to the visibility splay and to view the overall view of and from the proposed entrance.

This visit found that the current access has issues in terms of visibility given the current location of the hedges and fences around the gateway. However, in reality it was found that visibility to the left out of the site was much better than two dimensional maps show given the bend of the road and also more importantly the approximately 2m drop in height to the river bridge.

This is discussed further below.

4. Speed and Volume Survey Background:

This chapter provides our understanding of the current status of guidance regarding visibility splays and calculation of their length.

The formal Department for Transport overarching advice on collection and understanding of speed information was formerly based on the Design Manual for Roads and Bridges, Volume 5, Section 1, TA 22/81. This covered measures of instantaneous speed either collected by inductive loops or radar speed meters.

This was superceded in November 2019 by CA 185 Revision 0 – Vehicle Speed Measurement. This is confirmed in the Highways England DMRB Briefing Note dated 29th July 2020. The principal change was removal of the concept of wet weather journey speeds mainly as that concept was not included in any other DMRB document.

When design parameters for anything other than speed limits and traffic signal installations are to be determined based on speed measurement, journey speeds of all motor vehicle types shall be used. Speed measurements shall be taken on the approaches to the scheme extents. They shall also be in free flow conditions unless they are taken in connection with changes to an existing feature that naturally impacts the free flow of traffic. They should not be used for alignment revisions. Where there is persistent parking this can be taken as a feature that naturally impacts the free flow of traffic. Measurements should be taken in dry weather conditions.

The 85th percentile dry weather spot speed value is the speed only exceeded by 15% of the vehicles within the sample. If the sample is partially or entirely in wet weather conditions, 8kph should be added for dual carriageways and 4kph for single carriageways. (CA 185 para 3.1.1). This is because people tend to drive more slowly to account for reduced adhesion in wet weather, a fact confirmed by research.

Manual for Streets was published in 2007. It applies formally in England and Wales and superceded Design Bulletin 32 and its companion guide Places, Streets and Movement. It does not apply to the Trunk Road Network whose guidance remains in DMRB and focusses on lightly-trafficked residential streets. Chapter 7 covers street geometry and sections 7.5 to 7.7 stopping sight distances (SSD) and visibility splays (VS).

Figure 7.18 in Manual for Streets provides the classic diagram defining visibility splay identification and marking. The point in the minor road from which both left and right splays begin is the centre-line of the minor approach. The point of start for visibility is 2.4m back from the edge of main carriageway, or formally the 'give-way' line (or an imaginary one if there are no road markings, or the main road channel line (MFS2 10.5.1)). Where there is a splitter island, the start position might better be the actual spot at which the drivers' eye would be. In some cases 2m can be considered but only if the resulting protrusion of some vehicles into the running carriageway is not a problem to drivers and cyclists on that main carriageway having to manouvre around this.

Both left and right visibility is normally measured along the nearside kerb in both directions. However, if there is a feature that prevents any traffic from the left crossing the centre-line, the left splay can be taken to the centre-line of the main carriageway. If the minor arm joins on the outside of a bend it is necessary to check an approaching vehicle is visible over the whole of the y distance, done by an additional sight line meeting the kerb line at a tangent.

The 'y' distance is measured along the kerb and based on SSD. Table 7.1 of MfS provides calculated SSD in metres for speeds up to and including 60kph (37mph). The suggestion is made that 2.4m be added to SSD to allow for bonnet length.

Manual for Streets 2 (published in 2010) takes the principles of MFS and applies them more widely. Its Chapter 10 discusses calculation of stopping sight distances (SSD's) based on MFS 7.5. The formula to calculate SSD is:

$Vt + v^2/2 (d+0.1a)$

Where
V= speed m/s
t= driver perception reaction time (seconds)
d=deceleration m/s^2
a=longitudinal gradient (+ for upgrades and – for downgrades)

MFS values are t=1.5 and d=0.45g (4.41 m/ s^2) (0.375g for hgv and bus)

Prior to MFS, t was 2.0 and d 0.25g (2.45 m/s^2), with a further value representing absolute minimum distances using d of 0.375g (3.68 m/ s^2)

Para 10.1.8 guides that bus/hgv SSD should not need to be assessed when the combined proportion of bus and hgv is less than 5% of traffic flow but subject to consideration of local circumstances.

MFS2 suggests that for design speeds 60kph and below t should be 1.5s but above it should be 2s; with absolute minimum SSD using d=0.375g and desirable minimums using d=0.25g.

MFS2 para 10.5.9 states that 'based on the research above (High risk collision site and y distance visibility), unless there is local evidence to the contrary, a reduction in visibility below recommended levels will not necessarily lead to a significant problem.

This provides two key questions to be answered to define the parameters used in estimating 'y' values. Firstly, is the 85^{th} percentile speed for either direction greater than 37mph. If so, t must be 2 and d 0.25 or 0.375. For locations with 85^{th} percentile speeds less than 37mph ogv parameters should be used if the bus/ogv proportion is 5% or more of the traffic flow.

There are some authorities we are aware of where without a footway, the splay can be measured to a point 0.5m in from the carriageway edge. Others allow 2m 'x' distances for where vehicles leave in forward gear at all times.

Further, some authorities have produced their own guides to visibility splays which may need to be considered if in place. Lancashire County Council does not appear to provide any specific guidance.

The start point of each visibility splay line should be 1.05m above the carriageway, with nothing planted, erected and / or allowed to grow within the visibility splay that exceeds 0.6m height. The 'x' distance is 2.4m back from the near side edge of the carriageway at the centre of the access. Y distances must not cross the centre line. Where physical features in the middle of the carriageway prevent vehicles from crossing the centre of the carriageway, a y distance can be taken from the centre of the carriageway. Offset relaxations can apply where carriageways are a single width, but their acceptance is subject to a range of conditions and would require agreement from the local highway authority.

It was agreed with highways that calculated speeds from a speed survey could be used for the appropriate locations and a survey was undertaken to inform the planning application.

5. Traffic Information:

Classified volume and speed data was collected via an ATC unit positioned adjacent to the current and proposed access points for the development.

The location was considered to be the most appropriate and secure place for undertaking the speed survey. Data was collected from Thursday 23rd January 2025 to the end of Wednesday 29th January 2025. Data is shown in hourly intervals and by direction.

The Vehicle Classifications used in this survey numbered in the data are as follows:

1. Pedal Cycles
2. Motorcycles
3. Passenger cars with or without trailers
4. LGVs with or without trailers
5. 2 axles rigid HGV
6. 3 axles rigid HGV
7. 4 axles rigid HGV
8. 3 axles articulated HGV
9. 4 axles articulated HGV
10. 5 or more axles articulated HGV
11. Buses and coaches

Vehicle speeds were gathered in 5mph bins for each hour, with a mean average, a standard deviation and the 85th percentile speeds calculated for each hour and for various agglomerations of hours.

6. Incidents Encountered During Surveys:

There were no significant events or unforeseen circumstances to affect the results of the surveys.

7. Weather Conditions:

Weather conditions were fair without any significant periods of rain.

8. Map of Survey Location:

Appendix 1 provides a record of the location of the ATC tube. It was undertaken directly at the point of current access.

Appendix 2 provides a record of the vehicle types counted in pictogram format.

Appendix 3 provides the detailed traffic and speed results by day and hour.

9. ATC Speed Survey Results:

The table below provides a summary of the observed and estimated 85th percentile speed survey results providing the range of speeds identified through each day, the all-day average and an average for the full week.

Following standard advice (CA 185 para 3.1.1) the dry 85th percentile speeds have been used – there was no evidence that the surveys had been affected by wet weather.

The table below presents a summary of the data received and the results of the analysis undertaken using the industry standard software evaluation package provided with the equipment. The count quotes 85th percentile values given that most hours have sufficient levels of traffic to enable this value to be calculated by hour.

Access Point Survey	Northeast bound			Southwest bound		
Day	**Min**	**Max**	**24 hr av 85th %ile**	**Min**	**Max**	**24 hr av 85th %ile**
Monday	35.6	48.1	39.8	38.5	44.5	41.4
Tuesday	36	44.1	39.4	38.5	45.6	42.3
Wednesday	37.4	50.1	40	35.8	48.1	42.1
Thursday	36.7	41.8	38.9	37.4	45.4	40.3
Friday	35.8	44.1	39.6	37.8	42.9	40.9
Saturday	37.4	41.4	39.6	37.4	47	40.7
Sunday	37.1	40.7	39.8	36	45.2	40.9
Average, 5-day	36.3	45.6	39.5	37.6	45.3	41.4
Average, 7-day	36.6	44.3	39.6	37.3	45.5	41.2
Average, two-way, 85th percentile	**40.4**					

The results show just 1.1mph difference between the slowest and fastest 24 hour 85th percentile speeds and even less difference between 5- and 7- day averages. This suggests speeds on this section of road are very consistent.

The resulting two-way 85th percentile average speed at the point of access is 40.4 mph. This is around what might be expected given the nature of the road. The variation between directions is 1.6 to 1.9 mph, with northeast bound slightly slower at 39.5 / 39.6 mph and southwest bound higher at 41.2 to 41.4 mph. 5-day values are slightly lower northeast bound but faster southwest bound.

This seems at odds with the fact that southwest bound traffic has just completed a 5% gradient climb from the river tributary bridge although northeast bound has only just left the junction so may still be accelerating. It is also significantly lower than the posted national speed limit of 60mph.

Due to the speeds being above 37mph (DfT guidance) there is no need to take hgv proportions into account but the calculations must be undertaken using DMRB and the higher values to take account of longer stopping distances arising from higher speeds.

10. Implications for Visibility Splay Requirements:

For this site, the observed average speeds in any hour are always higher than 37mph which following guidance suggests the standards in MfS2 with a reaction time of 2.0 are necessary to be used, giving longer splays to account for the higher speeds. Deceleration of 3.68 m/s2 has been used. The minimum and preferred ranges are also considered.

The road has a 5% upwards gradient for traffic approaching the site from the northeast, and a 1% downwards for that coming southwest bound. Visibility distances have been modified to take account of this.

Northeast bound speeds feed the right visibility splay values whilst southwest bound feed the left visibility values (respective to direction of travel and view from leaving the development).

The required minimum SSD at the site access are therefore values of **79m to the right** (turning out and south) and **78m to the left** (turning out and to the north). The "preferred" calculated values using DMRB are 102m and 95m respectively. All these values take account of the impact of the 5% uphill gradient from the north and 1% downhill from the south on these distances. Without this modification the distance is 78m (increased by the downhill nature of approaching traffic) to 83m (reduced by the impact of the gradient of approaching traffic). The speed survey point was at the proposed entrance.

Drawing reference 21-019 VS01 shows both the minimum and preferred visibility splay lines. As part of the development, the access will be widened from the current farm access and also raised 300mm in base level.

It is normal to require that the full length of the visibility splay is within either highway land or that under the control (not necessarily direct ownership) of the developer / land owner.

The verge width at the current southern point of the access is 1.94m and that on the northern edge 1.49m. This means that the 2.4m point from which visibility is needed lies within the current junction mouth. At this point the hedge is 1.15 and 1m in height. This means that current measured visibility is just 9.7m to the north and 14.7m to the south, impeded by these hedges. It is therefore planned not only to set these hedges back behind the visibility splay, but also to reduce and maintain their height to below the requirements of the visibility splays.

However, the new access must in any event be wider (6m) which means the hedges and fences must be revised. Further, the new access will be a highway surface rather than the current dirt / gravel and this will extend for some 10m from the carriageway edge, with the new gate also 10m back from the carriageway edge. It is understood that this work will also raise the level of the access (by some 300mm) which will further improve visibility to and from the access for all traffic.

With the revised hedges and raised exit, and the drop of the highway looking to the left / north, approaching traffic will be visible for some distance away. The straight nature of the road to the right and similar hedge / exit treatment will also provide good visibility in that direction.

Considering the splay diagram, visibility from the site out to the right when leaving is more than satisfactory. To the left, the preferred splay length extends to beyond the bridge and River. The line runs just in front of the tree which marks the site boundary to the north. However, with the downhill gradient assisted by the set back and lowered hedge / fence line, that visibility is better than that captured by the diagram as vehicles leaving the site are at a much higher level, in the order of 2m or so, and can therefore see / be seen by vehicles approaching from the north. The minimum SSD visibility line lies inside the above line and remains fully within the view of any driver.

It is accepted that the furthest end of the left splay, beyond the tree, is over third-party land. However, informal agreements between neighbours mean they are able to keep each others hedges under control to maintain visibilities when needed. Further, beyond the tree, the hedge line is in the dip and visibility of the road actually passes above the height of the hedge, and latterly the bridge parapet.

We would therefore recommend that the current location of the access can provide safe highway access and should be accepted. The overall picture is quite complex (and took a site visit to clarify) and may well need a site visit to be fully appreciated.

Pedestrians

The location of the entrance to the site at this point could impact on the distance that any pedestrian traffic to or from the site might have to walk along the highway. However, the bulk of the site is in fact located at the southern end of the site, nearer to the junction and bus stop. It is proposed that a pedestrian entrance to the site is provided at the southern corner of the site. This would bring pedestrians out nearer to the junction and at a point where crossing the road might not be necessary. It is possible that the present scrub vegetation and verge could be modified to provide proper footway between the site and the junction. This will need discussion with the highway authority.