

Job Name: Keinton Mandeville

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Keinton Mandeville Traffic Study – data analysis and scoping report

Introduction

This report has been prepared at the request of Keinton Mandeville Parish Council to assess traffic issues within the village of Keinton Mandeville. The report has been informed by a series of traffic surveys which have provided data for analysis, and an on-site meeting with Parish Councillors to view and assess the issues that appear at various times.

This report briefly describes the highway network within Keinton Mandeville including speed limits, the availability of footways, carriageway widths and known constraints. It then identifies the “trouble spots” as discussed with the Parish Council before going on to look at available traffic data including volume and speed. Finally, the report looks at the issues, initial findings, and next steps.

This report is the first part of a two-part report to be issued – following review by the parish council this report will be expanded and finalised (within the terms of the existing brief and fee agreement)

Local Highway Network

The main road through Keinton Mandeville is the B3153 which runs from Ansford in the east to Langport in the west, a distance of just over 22km. The B3153 is divided by the A37 at Lydford-on-Fosse and Keinton Mandeville lies approximately 2km west of the A37 between Lydford and Somerton. The B3153 at Keinton is thus a through route between the A37, Somerton and Langport where it joins the A372. Within the village the B3153 is lit and subject to a 30mph limit. Either side of the village the national speed limit applies with no buffer zone to bring speeds down gradually. To the east the 30mph limit starts just east of the last property in the village, to the west the 30mph signs are some distance from the built-up area of the village.

Coming in from the east, the B3153 Castle Street is approximately 7-8m wide throughout, comfortably wide enough for 2-way traffic *if there are no parked vehicles*. Approaching the staggered cross-roads junction with Coombe Hill (north) and Queen Street (south) there are observed to be vehicles parked near the junction on the south side of Castle Street before the junction with Queen Street. Beyond Queen Street the B3153 changes name to High Street and passes the village shop “Keinton Stores” where parking outside is common (and necessary for survival of the business). Immediately west of Queen Street the south footway is very narrow, and the carriageway is slightly restricted in width west of Queen Street and thus parking is prohibited on both sides here.

Continuing west from Keinton Stores the B3153 remains around 7-8m wide with sporadic parking along the route. There are footways on both sides of the carriageway, but these are not generous especially on the north side where the path is only around 1m wide, barely enough for a mobility scooter or double buggy. Around 500m west of the junction with Queen Street, Barton Road leaves on the north side of the road. Beyond this heading west development thins out and the B3153 heads out of the village.

Other roads within the village that are of interest to this study include:

- Queen Street, *leading to*
 - Chistles Lane
 - Church Street
 - Common Lane
- Coombe Hill
- Barton Road

These are described below.

Queen Street

Queen Street leads south from the B3153 for a total of around 1km to a junction with Common Lane and Church Street. There is residential frontage throughout save for one small agricultural frontage some 100m south of the junction with Castle Street B3153. Immediately south of the junction Queen Street is too narrow for two-way traffic and thus traffic turning in from the B3153 conflicts with traffic trying to turn out. Footways are also very restricted along this length. Whilst the carriageway and footways are generally wider further south, they are still only just adequate for two-way traffic and pedestrian safety, and any level of on street parking reduces the road to single way working.

The junction with Common Lane and Church Street is a priority junction where Queen Street is the stem of the T and yet is also the main road (with Common Street) through the junction. This creates issues which are discussed later in this report.

Chistles Lane

Several side roads join Queen Street along the length between the B5135 and Common Lane, most are short cul-de-sacs and other than being affected by parking issues are not integral to the operation of the highway network or the issues surrounding this operation. However, Chistles Lane is rather longer and hosts the local primary school and thus is integral to the network. Chistles Lane also serves the village hall and a recent large housing development (Lakeview).

Chistles Lane is generally around 6.5m wide with footways on both sides and is built to modern standards. The issues arising here are mainly due to on street parking and in particular traffic at the start and end of the school day. This is covered later in this report.

Note – Irving Road connects Chistles Lane to the B3153 but is only available to pedestrians and cyclists, a vehicle “plug” prevents through vehicle traffic from using this route.

Church Street

Church Street heads west from the junction with Queen Street and Common Lane and serves several dwellings that front onto it as well as the Church of St Mary Magdalene via Church Lane. The carriageway varies between 4.5-5.5m wide, is lit and subject to a 30mph limit. Whilst there are grass verges there are generally no footways save for a short distance near Church Lane.

Common Lane

Common Lane heads east from the junction with Church Street and Queen Street, and despite being in line with the former it is the latter with which it forms the main road through the junction. Thus, through

traffic must undertake sharp left or right turn whilst traffic to and from the minor road (Church Street) does not need to turn. Common Lane is narrow and has no footways, immediately east of the junction it is too narrow for two vehicles to pass safely. The issues around this junction are explored later in the report.

Coombe Hill

Coombe Hill leave the B3153 almost opposite and slightly to the east of Queen Street and runs almost due north out of the village. Wide enough for two vehicles to pass (although there is no centreline indicating the carriageway is not wide enough to two large vehicles to pass) Coombe Hill quickly assumes a rural character passing between hedgerows and fields. The issues here relate to the junction with the B3153 and are explored later in the report.

Barton Road

Barton Road leads north from the B3153, the junction being towards the western end of the village. Initially the road is wide enough for two-way traffic and has a footway along one side for approximately 100m from the junction, beyond this there are no footways only grass verges although residential frontages continue for a further 300m (approximately 400m from the junction) beyond which a rural character is assumed although the 30 mph speed limit remains in place for its entire length. The main issue here is the speed of traffic on the B3153 past the junction, this is covered later in this report.

Traffic Data

MNY commissioned automated traffic counts (ATC) on behalf of Keinton Mandeville Parish Council. These were undertaken by AutoSurveys between Monday 21st and Monday 27th February 2023 providing a full one week’s data. These surveys gave details of traffic volume, vehicle class and speed by direction and by hour, allowing identification of peak hour flows, proportion of HGV traffic and mean/85thile speeds at each location. The ATC counters were placed at the following locations.

- Site 1 – B3153 west of Keinton Mandeville village
- Site 2 – B3153 east of Keinton Mandeville village
- Site 3 – Barton Road north of Keinton Mandeville village
- Site 4 – Common Lane east of junction with Queen Street
- Site 5 – Chistles Lane east of Keinton Mandeville Primary School
- Site 6 – Church Street west of Church Lane

The traffic data collected is summarised in Table 1 below:

Table 1 – Summary ATC data

Location	AM 2-way	PM 2-way	12 hour 2-way	Mean speed	85 th ile	Speed limit
Site 1	481	455	4227	38.5	45.1	30
Site 2	466	435	4113	41.4	48.3	60
Site 3	133	144	1069	31.8	37.2	30
Site 4	97	103	805	17.9	20.4	30
Site 5	154	121	983	18.4	21.7	30
Site 6	22	29	210	22.7	29.0	30

Several patterns emerge in the data and several observations can be made. The first relate to Sites 1 and 2, which are on the B3153 through route. The first observation is that traffic is consistently slightly

higher at Site 1 (west) than Site 2 (east), the difference is small, approximately 3%, but consistent. No survey has been done to identify the amount of traffic on the B3153 that originates or terminates in Keinton Mandeville, but this initial figure suggests a slight trend towards travel to and from Somerton and Langport rather than towards the A37. Also, on the through route the speeds recorded are well above 30mph. In practice although the speed limits at each counter were different both counters were near the change in limit from National Speed Limit to 30mph. The findings suggest that drivers are slowing down on the approach to the 30 limit but not enough to be driving below the speed limit when they reach it. The speeds given in the table are in one direction only – the one with the highest mean and 85%ile, and in both cases the highest speeds are for traffic heading out of the village, however the speeds for traffic heading into the village are not much lower, as shown in Table 2 below:

Table 2 – ATC recorded speeds on the B3153

	Site 1 (West)	Site 2 (East)
85%ile inbound	41.6	45.0
85%ile outbound	45.1	48.3
Mean inbound	34.8	38.4
Mean outbound	38.5	41.4

Moving onto other patterns emerging from Table 1, Chistles Lane shows some noticeable trends which give an understanding of the nature of traffic to the school. The first point to note is that the AM peak has 33 more vehicle trips than the PM peak, a factor accounted for by the school/education peak coinciding with the AM peak but not the PM peak. Notable is that this difference is replicated on the B3153 in both counts but not on any other count in Keinton Mandeville, indeed in sites 3,4 and 6 the PM peak is the higher of the two. This suggests that the education peak is noticeable on the B3153, although this will not just relate to Keinton Mandeville Primary School but also to other education trips.

The second important point to note is that the issues observed around the school result from just 33 extra trips, and that as a vehicle arriving to drop off a child and then departing again counts as two trips, the issues result from possibly only 16 extra vehicles. This occurs for several reasons, one is that the system is already close to capacity, especially for parking and dropping off, another is that while the figures are per hour, most of this extra traffic actually occurs in a period of less than 20 minutes. It should also be noted that some of the school traffic doesn't appear on Chistles Lane at all with cars parking on Queen Street.

It is likely to be very little traffic between Sites 4,5 and 6 all of which are served by Queen Street, and thus the sum total of these surveys will approximate to the total of traffic on Queen Street at its junction with the B3153. Adding these together gives an AM peak total of 273 in the AM peak, 253 in the PM peak and 1998 twelve hour (all flows two way). These are between 45% and 60% of the total traffic on the B3153, whilst there will be a slight overstatement in these flows, there will be a small amount of traffic that is passing between these three survey sites rather than to and from the B3153, they nevertheless indicate that a significant percentage of the traffic on the B3153 is local to Keinton Mandeville and has an origin or destination reached via Queen Street. In addition, there is the traffic counted on Barton Road and traffic that originated in Keinton Mandeville but did not pass any of the counters at sites 3-6. Whilst the traffic flow is very similar on either side of the village on the B3153, the evidence would suggest that over half of the traffic (as a minimum) on the B3153 has its origin or destination within the village.

With regards to the other three survey locations: speeds on Common Lane and Church Street are below the speed limit, although 85%ile is surprisingly high on Church Street Given the quality of the road, but this is on a very low traffic flow and the result is likely to be skewed because of this. At Barton Road the speeds are above the speed limit although again there is a leap from the mean to the 85%ile partly reflecting the sample size and both speeds reflect the character of the road at the survey location.

Accident Data

We used CrashMap (for which we have a subscription), a commercial website that collates all accident data recorded from the Police STATS19 returns, which in turn record all reportable incidents that have been reported. This has replaced getting data from the Highway Authority as the main method of getting site specific and area specific data. CrashMap showed that in the most recent five-year data period there have been three injury accidents within the village, all on the B3153 and all resulting in slight injury* to one casualty. None of these are close to a junction nor are any of the accidents close to each other, thus there is no discernible pattern.

**Injury levels are defined in STATS20, the guidance on completing the STATS19 form, slight injury is that which might need treatment as an outpatient or from a paramedic, serious is that requiring in-patient treatment and fatal is obvious save for the fatality must occur within 30 days of the accident. Non-injury accidents are not recorded.*

Key Issues

From the above, and from speaking with the Parish Council, the following key issues have been identified:

- Traffic and parking on Chistles Lane and Queen Street at the start and end of the school day
- Safety at the junction of Queen Street, Church Street and Common Lane
- Safety at the junction of B3153, Queen Street and Coombe Hill
- Safety at the junction of B3153 and Barton Road
- Congestion around the village store

Taking these in turn:

Traffic and parking on Chistles Lane and Queen Street at the start and end of the school day

As noted above it is a remarkably small addition in traffic flow that causes a significant issue at the school and surrounding it. There are several factors to this:

- The vehicles are mostly dropping off or picking up, and need only to stop briefly, thus the period of traffic is short but intense
- Vehicles that have just dropped children off meet others on their way to do so on the narrow section of Queen Street causing congestion.
- Because of the very short stay drivers are often inconsiderate in their parking
- The only available car park is beyond the school, so parents attempt to drop children before reaching it.
- Chistles Lane is a cul-de-sac and as a result these vehicles need to travel both ways along it.

It is unlikely that parents can be completely discouraged from bringing their children to school by car and thus this situation needs to be resolved through management.

Safety at the junction of Queen Street, Church Street and Common Lane

This junction is unusual in that the priority route through the junction isn't the straight-on route through it. To add to this, Common Lane is too narrow for two vehicles to pass immediately to the east of the junction and thus the priority route has a sharp bend leading to a narrow section. This would be problematic even without the presence of another road at this location. There is no accident record here, but the STATS19 only records injury accidents, and even during our brief site visit one driver was required to brake hard on encountering another vehicle, and a safety audit would identify the width and forward visibility as issues. Consideration is needed of how to improve this situation ideally within the present highway limits. Altering the priority of the junction may be an option.

Safety at the junction of B3153, Queen Street and Coombe Hill

Although this junction is in the form of a staggered cross-roads there appears to be very little cross traffic, vehicles are either turning onto or off the B3153. Coombe Hill on the northern side of the B3153 is the less affected of the two but issues arise due to the presence of parked vehicles on the south side of the B3153 to the east of the junction. This results in traffic that is turning left out of Coombe Hill turning into oncoming traffic that is on the wrong side of the road, and drivers of vehicles pulling out may not have looked to their left, or been inattentive in doing so, because traffic coming from that direction should be on the far side of the road anyway. Although there are no recorded accidents here it is once again noted that the STATS19 does not record damage-only accidents and there is no mechanism for recording near misses. A safety audit applied here would highlight this problem.

The issues on the Queen Street side of the junction are notably more complex. This relates to the width of Queen Street as two vehicles cannot pass each other and as a result a vehicle turning into Queen Street is quickly blocked by ones waiting to come out. At school drop off time (and possibly at other times) this leads to a queue back to the B3153 and vehicles waiting on the main road to turn into Queen Street, in addition vehicles were observed to mount the kerb in an effort to make progress along Queen Street, presenting a hazard to pedestrians.

Solutions to these issues are likely to involve nuanced adjustments to the road layout and possibly demand management for school traffic as the extra trips generated at the start of the day make a major contribution to the problems here.

Safety at the junction of B3153 and Barton Road

The principal issue here seems to be speed on the main road (the B3153). It is identified that vehicles enter the 30mph limit significantly in excess of the speed limit and have not slowed down upon reaching this junction. There would be benefits in terms of compliance with speed limits if 40mph buffer limits were added to slow traffic down before the 30mph limit is reached.

Congestion around the village store

The village store is a popular asset for the village and understandably attracts a significant passing trade, indeed the store's location on the B3153 is in part reason for its success and survival. This attracts parked vehicles, often only for a short period of time whilst the driver or a passenger visits the store. There is no off-street parking and on-street parking is strictly limited. As a result, there are instances of drivers parking inconsiderately and presenting an obstruction to traffic and/or an obstruction or danger to pedestrians. The vitality of the store is dependent upon the ability to attract passing trade and thus any

solutions proposed to this issue must be sensitive to the needs of the store, for whilst it is a private business it is also an asset to the community.

Summary

The above is a summary analysis of the traffic conditions identified and the issues that arise. Four particular areas of concern have been identified that the Parish Council will be seeking to address. Of these, the issues surrounding “the school run” are probably the most complex to resolve and will take a variety of measures.

With regard to the B3153 it is fair to comment that whilst speed is only a particular issue at the junction with Barton Road, there would be benefits in terms of amenity to those living alongside, those using the shop other businesses and those walking alongside the road if speeds were brought down along the whole length.

The next step is for the Parish Council to review the above as to whether they agree with this summary of the situation, to feed back to MNY, and then for MNY to consider solutions or mitigation measures for these issues. Once that is complete a meeting and possible workshop would be convened to discuss these measures. This next step is covered by the existing fee agreement with MNY.

It may be appropriate to consider the impact of development proposals within Keinton Mandeville as any additional traffic may exacerbate the issues identified above or create new issues. This is beyond the scope of the current fee agreement but, if the Parish Council are interested, could be commissioned as a follow-up piece of work to be undertaken once the steps above are completed, or to overlap with the above such that the possible effects of development traffic are considered at the same time.