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CORMAC

A388 Carkeel Traffic Calming

Feasibility Report

EDG2085_RP2

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Note – Due to their size the main scheme drawings will be provided as separate files.

Appendices

Appendix A – Vehicle Speed Data

Appendix B – Road Collision Data

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1 ABBREVIATIONS AND TERMS

Abbreviation	Meaning
85th%ile	The speed at or below which 85% of vehicles are travelling under free-flowing conditions.
AADT	Average Annual Daily Traffic – The average traffic expected on a section of road on any given day. This includes all vehicle types.
C2	Clause 2 of the New Roads; Street Works Act (NRSWA) 1991. Used for obtaining preliminary information regarding the location of utility services.
C3	Clause 3 of the New Roads; Street Works Act (NRSWA) 1991. Used for obtaining a preliminary diversion design and estimated costs when a utility services is required to be diverted as part of a scheme.
HCV	Heavy Commercial Vehicle – Formally HGV (Heavy Goods Vehicle).
KSI	Killed or Seriously Injured – A measure for assessing the need for potential permanent safety features such as average speed cameras.
SpeedVISOR	A method for undertaking vehicle speed surveys, that allows both passive speed measurement and the ability to provide illuminated warnings to drivers of the speed limit within the survey area.
Strategic Freight Route	A route defined either at a local (Cornwall CC) or national level, which is defined as the preferred route for HCV's.
Swept Path Analysis	An exercise undertaken using specialist software, which is used to determine the turning capabilities of a range of vehicles. This is especially relevant to larger vehicles, where longer chassis result in wider turning circles.
VAS	Vehicle Activated Sign – A sign that illuminates to show the current speed limit when an approaching vehicles speed is measured and found to be in excess of that limit.

2 INTRODUCTION

2.1 Scope

2.1.1 CORMAC Solutions Ltd. (CSL) has been commissioned by Cornwall Council (CC) to undertake an options assessment of potential measures that may reduce speed and assist pedestrians within Carkeel village on the A388 close to Saltash.

2.1.2 The assessment has been commissioned following the Broadmoor Farm/ Treleden development to the south of the A388 and in line with comments provided by local stakeholders. Figure 2.1 identifies the geographical context of the assessment.

Fig 2.1 – Village extents

2.1.3 Following discussions at a site meeting during January 2022, it was ascertained that the stakeholders preference was to divert traffic away from the village, however, the strategic nature of the route (the A388 at this location is designated a commuter, a local strategic freight and an abnormal load route) means that this is not a viable option.

2.2 Report Structure

2.2.1 This report contains the following sections:

- Existing Conditions;
- Options Appraisal;
- Conclusion and Recommendations.

3 EXISTING CONDITIONS

3.1 A388 Carkeel

3.1.1 The A388 provides an important link between the A38(T) and south Cornwall to the east of the county. Carkeel is at the southern end of the route lying to the north of Saltash. There is a large garden centre to the north of the village and an industrial estate to the south. As stated previously it is a commuter, a national strategic freight and an abnormal load route.

3.1.2 Approaching the village from the northwest side, the village is visibly shielded by a series of very tight treelined turns in the carriageway. Whilst these turns do hinder forward visibility of the village, the turns are sufficiently acute to act as a traffic calming feature on the approach to the village.

3.1.3 Initially the highway on the western side of the village is characterised by having a high Cornish hedge on the south side of the carriageway, hatched markings in the centre of the carriageway, with a grass verge and footway fronting residential properties on the north side of the carriageway.

3.1.4 Typically, hatching in the centre of the carriageway is used to define where large vehicles may need to use it as an overrun area. At a site meeting on 13th January 2022, it was observed that some Heavy Commercial Vehicles (HCV's) did encroach within this crosshatch, especially when travelling in a westbound direction.

3.1.5 From the western start of the village to Dirty Lane in the east, the main change in highway is that the footway on the north side of the carriageway transitions so that it is adjacent to the carriageway with the grass verge behind, and then nearer Dirty Lane the grass verge disappears and is replaced by a stone boundary wall.

3.1.6 From Dirty Lane to the centre of the village, a series of long laybys are arranged along the northern side of the carriageway, with the footway located between the laybys and the adjoining residential properties. The hatched markings within the carriageway are still present within this section of the road, and whilst the carriageway may be perceived to be wider due to the presence of the laybys, larger vehicles were again observed to be encroaching within the hatched area.

3.1.7 To the east of the laybys is a northbound side road that eventually leads to East Town Farm and then on to the village of Botusfleming. Between the laybys and the northbound road, both the carriageway and footway narrow noticeably, with both being bounded by stone walls and buildings, leaving little scope for potential widening.

3.1.8 Between the northbound road and the eastern extent of the village, the carriageway becomes steeper and curves significantly in a southerly direction, which results in less forward visibility for both pedestrians and vehicles. It is within this section that a footway on the southern side of the carriageway is introduced, but at the expense of a reduction in the quality and extent of the north side footway. Eventually the north side footway ends just short of the village extents, whilst the southern side footway continues to Saltash Services and beyond.

3.1.9 On the eastern extent of the village hatched sections within the centre of the carriageway are again present. Given the narrowness of the carriageway and the acute turning radius at the corner, it is expected that this hatched area experiences constant overrun by both HCV's and even medium sized vehicles. This has been confirmed both with site observations and a swept path analysis.

3.1.10 The village of Carkeel is subject to a 30mph speed limit, however, some of the properties on the north and south side roads are not covered by this limit as these roads are unrestricted to the national speed limit.

3.2 Traffic Volumes

3.2.1 According to Cornwall Council's mapping database, the total Annual Average Daily Traffic (AADT) figure on the A388 for the section between the western extent of the village and the northern road leading to East of Village Farm is 15,000 vehicles with 600 being identified as Heavy Commercial Vehicles (HCV's).

3.2.2 From the northern side road to the industrial estate roundabout to the east of Carkeel, the AADT is recorded as 22,600 vehicles, with 1,300 being identified as HCV's. However, there is reason to suspect these values are not correct, as this would suggest that approximately 7,000 vehicles journey from Carkeel to the East Village Farm daily. Instead, it is more likely that 22,600 vehicles travelled from the A38 to the Tamar View Industrial Estate or Saltash Services, with only 15,000 vehicles proceeding on to Carkeel and points west.

3.3 Traffic Speeds

3.3.1 Due to longstanding concerns of high vehicle speeds through the village, speed readings were taken on the A388 in August 2008 and March 2009.

3.3.2 The 2009 speed survey only accounted for eastbound traffic but was taken using equipment (SpeedVISOR) that could operate in two modes, non-illuminated and illuminated. In the non-illuminated mode, the survey equipment appears as a non-descript box that passively takes speed readings of passing traffic. In the illuminated mode the survey equipment records vehicle speeds, but also illuminates for each passing vehicle to remind drivers of the speed limit. The difference in speed readings between these two modes is useful in determining the effectiveness of permanent illuminated speed signs if they are to be considered. In both cases the mean speed (arithmetic average of all the speed values recorded) and 85th percentile (speed at or below which 85% of the vehicles recorded were travelling) were obtained.

3.3.3 The speed readings for 2009 were:

Non-Illuminated

Mean Speed (mph)	35.4
85th percentile (mph)	40

Illuminated

Mean Speed (mph)	32.9
85th percentile (mph)	36

3.3.4 Another speed survey was undertaken during September 2014, adjacent to the northbound side road, using a portable radar device that detects and reads the speeds of passing vehicles. Unlike the SpeedVISOR survey undertaken in 2009, the equipment used for this survey did not include the facility to provide an illuminated warning to drivers. The results were as follows:

	Northwest bound	Southeast bound
Mean Speed (mph)	28.7	29.9
85th percentile (mph)	34	34

3.3.5 These readings, when compared with those taken in March 2009, showed that compliance with the speed limit in the southeast bound direction had improved since the installation of the vehicle actuated sign. However, they also show that compliance with the speed limit was better in the northwest direction.

3.3.6 In March 2022 another set of speed readings were taken and the equivalent data was as follows:

	Northwest bound	Southeast bound
Mean Speed (mph)	32.9	31.1
85th percentile (mph)	37	37

This shows that vehicle speeds in both directions have increased since September 2014 but more significantly in the northwest bound direction. Mean vehicle speeds, in the southeast bound direction, are still lower than those recorded in March 2009 but, unfortunately, 85th percentile speeds have risen since that date. Vehicle speed data reports, from August 2008, March 2009, September 2014 and March 2022, are included in Appendix A.

3.4 Pedestrian Crossing Survey

3.4.1 A pedestrian crossing count was taken on 26 February 2014 on the A388, in the vicinity of the northbound road which leads to East of Village Farm. During the 12-hour period of the survey, 8 people were observed crossing from south to north, whilst 3 people were observed crossing from north to south

3.4.2 It is likely that the location of this survey was chosen because it coincides approximately with where the north side footway ends, and the south side footway begins.

3.4.3 Despite this location being the only location in the village where there are footways on both the north and south side, however, this location also has poor forward visibility in both directions due to the horizontal and vertical curvature of the carriageway, which may discourage some pedestrian crossing at this location.

3.4.4 Another factor that may influence previously low pedestrian crossing numbers would be pedestrian "draws", i.e. what incentives are there for people to cross the road? In 2014 the main draw for people to cross the road was likely the bus stop to the southeast of the village. This may need to be reassessed as the proposed Broadmoor Farm development comes online, as the draw to cross the road may increase depending on what facilities the new development provides.

3.5 Accident Data

3.5.1 For this report the AccsMap accident database was reviewed for accidents reported in and around Carkeel for the previous five years.

3.5.2 The database categorises accidents into four main categories, Damage Only, Slight, Serious and Fatal.

3.5.3 According to the accident database, there have been five reported accidents within and near to Carkeel during the last five years.

3.5.4 Note – The database is compiled from police incident reports, therefore "reported" accidents only cover accidents that have been reported to the police.

3.5.5 Of the five accidents, three were categorised as Slight, with the remaining two being categorised as Serious.

3.5.6 Two of the accidents involve vehicles turning onto the main highway and colliding with vehicles on the main highway, two involve loss of control where drugs / alcohol were listed as contributing factors, and the fifth was listed as driver inattention during poor weather conditions.

3.5.7 It is noted that the two instances of accidents involving vehicles turning onto the main highway both occurred at the entrance / exit of Tamar Nurseries. Therefore, they fall outside of this review area.

3.5.8 Of the remaining three accidents, there does not appear to be any common factor involving either speed, road geometry or visibility.

3.5.9 A summary of the accident data can be found in Appendix B.

3.6 Related Studies

3.6.1 The Hatt A388 Route Study produced by SUSTRANS in October 2021 proposes a combined pedestrian and cycle route which actually bypasses Carkeel to the south of the village. Whilst it also recommends a variety of measures to reduce traffic through the village itself it gives no details of how feasible any of these options would be.

3.6.2 Whilst pedestrian and cyclist facilities have been designed, within the planning application, for the proposed new Broadmoor Farm/ Treleden development no proposals have been put forward for how these facilities will link up with the existing village.

4 OPTIONS APPRAISAL

4.1 Introduction

4.1.1 A range of options have been considered which could potentially provide traffic calming throughout the village of Carkeel. These options have been designed using Ordnance Survey mapping only and therefore dimensions stated in this report would need to be investigated further should any schemes be taken for preliminary and detailed design.

4.1.2 Cost estimates have been provided for the schemes, unless otherwise stated, based on Cornwall Council's Term Maintenance Contract Rates.

4.1.3 Whilst utility diversion costs are discussed for some options, detailed cost estimates for diversions have not been sought from utility suppliers at this stage due to the costs associated with preparing these external quotes.

4.1.4 Given this section of the A388 is designated as both a strategic freight network and an abnormal load route, no options have been considered that would change the vertical elevation of the road (i.e. raised tables), or introduce vertical obstructions within the carriageway (i.e. bollards).

4.2 Design Standards

4.2.1 In determining whether or not options are feasible, consideration needs to be given to which design standards are now applicable. Following discussions with Cornwall Council, the following standards have been considered when developing and assessing the options in this report:

- Traffic Engineering Manual (TEM) 001 – Speed Management (Cornwall Council);
- Traffic Engineering Manual (TEM) 004 – Pedestrian Crossings (Cornwall Council);
- Traffic Engineering Manual (TEM) 008 – Traffic Engineering and the Emergency Services (Cornwall Council);
- Manual for Streets 2 (MfS2) (Chartered Institution of Highways and Transportation);
- Local Transport Note 1/95 (LTN 1/95) – The Assessment of Pedestrian Crossings (Department for Transport); and,
- Local Transport Note 2/95 (LTN 2/95) – The Design of Pedestrian Crossings (Department for Transport).

4.3 Option Assessment

4.3.1 Each option will be assessed for its engineering feasibility, the benefits it could provide and the costs of implementation.

4.3.2 Drawings produced within this review are based upon Ordnance Survey master maps. Ordnance Survey guarantee the accuracy of their maps within urban areas to 0.6m over a 60m length. If any of the options within this review were chosen to proceed to the detailed design stage, then a topographic survey specific to that option would be required in order to confirm dimensional accuracy.

4.4 Drawing Numbers

4.4.1 For ease of reference, drawings in the following section will be referred to only by their running number. Therefore, drawing EDG2085_CSL_GEN_SX_RP_D_0001 will be referred to as drawing no. 0001.

4.5 Proposed Options

4.5.1 Thirteen options have been identified as follows:

- Option 1 – Maintenance only;
- Option 2 – Carriageway markings / red surfacing;
- Option 3 – Additional Vehicle Activated Sign;
- Option 4 – Gateway features;
- Option 5 – Additional pedestrian footway;
- Option 6 – Widen existing footways;
- Option 7 – Uncontrolled crossing;
- Option 8 – Signalised crossing;
- Option 9 – Extend 30mph zone;
- Option 10 – Average speed cameras;
- Option 11 – Speed activated traffic signals.

4.6 Option 1 – Maintenance Only

Description

On the western side of Carkeel it is observed that a number of residential properties have growing hedges that have overgrown into the footway. In some places these overgrown hedges have reduced the available footway width by half.

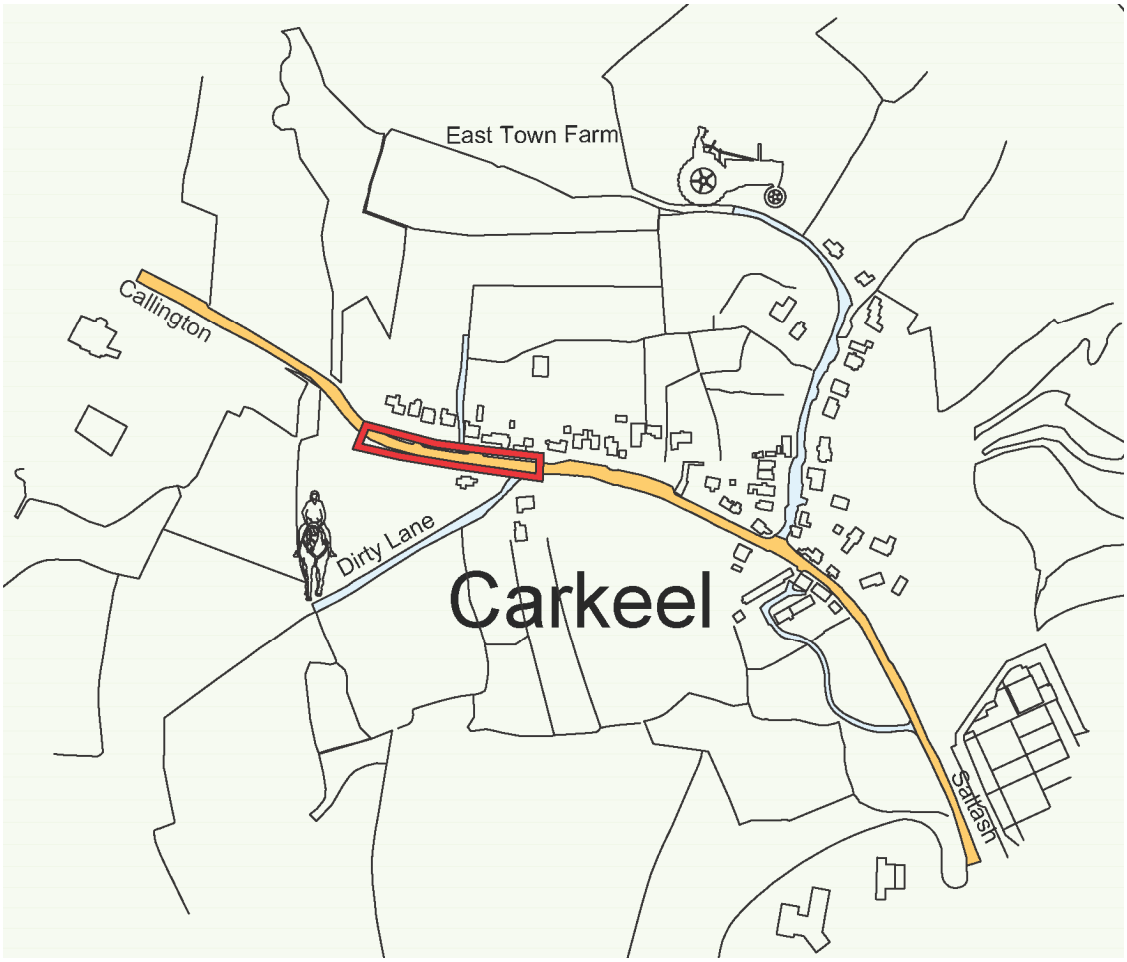

Fig 4.1 – Option 1 extents

4.6.1 Whilst Cornwall Council's policy is to encourage residents to maintain their own boundaries, the option remains for Cornwall Council's highway maintenance teams to clear the boundaries instead.

4.6.2 The proposal would be for the Highway's Network Manager to write to the effected residents requesting that maintenance be undertaken, but failing that undertake the maintenance themselves.

4.6.3 Areas of proposed boundary clearance can be seen on drawing 0001.

Aims and Benefits

4.6.4 The clearance of these overgrown hedges would provide improved access to pedestrians, especially those with small children, or those who rely on mobility devices such as wheelchairs.

Potential Issues

4.6.5 Although the highway authority has the legal right to maintain an unrestricted highway, even to the extent of cutting back overhanging hedges or trees from adjoining properties, a negotiated approach to such actions would be preferable.

4.7 Option 2 – Carriageway markings / Red Surfacing

Description

4.7.1 Within Carkeel there are a number of places where hatched road markings have been used in the centre of the carriageway. These markings serve two main purposes, to the east of the village the hatched areas are a safety feature to denote overrun areas for large commercial vehicles, to the west of the village the markings are partially to act as an overrun area for larger vehicles, but also they are used to reduce the perceived width of the carriageway.

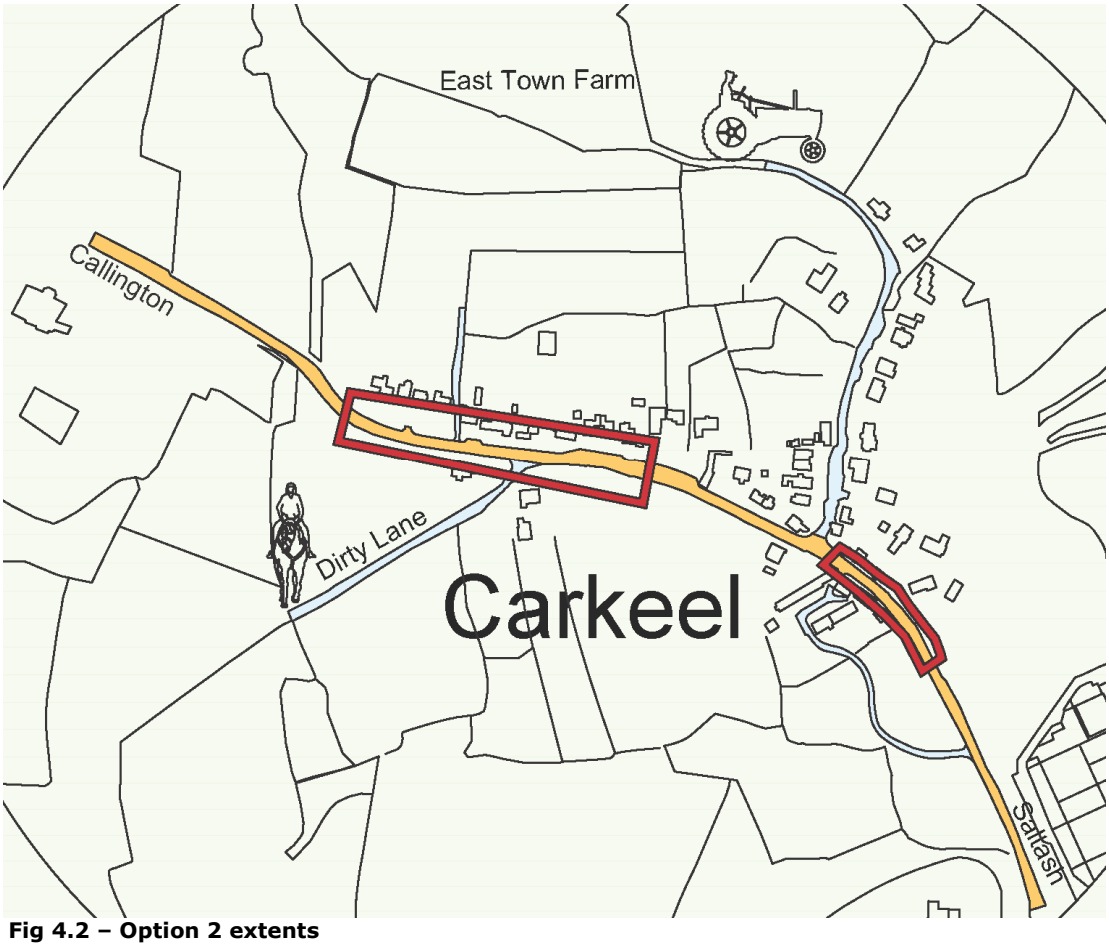

Fig 4.2 – Option 2 extents

4.7.2 In highways design perceived road width, alongside forward visibility and the straightness of the road are recognised factors in influencing actual vehicle speeds. Therefore, if road widths are reduced, in many instances this can result in a natural reduction in vehicle speeds.

4.7.3 As the current road width cannot physically be reduced any more than they are at the moment, the proposal would be to use red surface treatment within the hatched areas to act both as a warning feature, but also to help highlight the narrowness of the existing carriageway.

4.7.4 Drawing 0002 indicates the proposed road marking changes.

Aims and Benefits

4.7.5 The addition of red surface treatment has two potential benefits. To the east of the village, specifically on the main corner east of the East of Village Farm turning, the surfacing would act as a safety feature, warning smaller vehicles to stay within their lanes, whilst allowing large vehicles to overrun the hatching when required to navigate the corner.

4.7.6 To the west of the village the perception of the road width is wider than it actually is, partially due to much of the northern side of the carriageway being bounded by a series of large laybys. Therefore, red surfacing placed within the centre hatch markings may be used to visually reinforce the actual road widths, which it is hoped may have a slowing effect on vehicles.

Potential Issues

4.7.7 The primary potential issue with this option would be high rates of wear for the coloured surface treatment, leading to increased maintenance costs and increased instances of road closure.

4.7.8 By its nature, the hatched section of markings to the east of the village are subject to near constant vehicle overruns, leading to higher than normal wear rates, resulting in maintenance being required more often.

4.7.9 Whilst thermoplastic road markings (white lines), are relatively easy to install and maintain, coloured surface treatments are much more time consuming to (re)install. Due to the time required to install a coloured surface treatment, it is believed that each maintenance operation would require a road closure to undertake the works. This is especially true for the road makings to the east of the village.

4.8 Option 3 – Additional Vehicle Activated Signs

Description

4.8.1 The proposal would be to place two additional Vehicle Activated Signs (VAS's) within the village, in addition to the one currently placed on the western side of the village.

Fig 4.3 – Option 3 extents

4.8.2 The current VAS currently monitors and provides speed warnings to eastbound traffic as it enters the village. The proposal would be to install an additional VAS to the west of the village, possibly by the entrance to Dirty Lane in order to monitor westbound traffic as it travels along the main straight through the village. The third VAS is proposed just to the west of the northern side road and would look to monitor eastbound vehicle speeds.

4.8.3 Drawing 0003 indicates the proposed positions of the recommended VAS's.

Aims and Benefits

4.8.4 Each of the proposed new VAS's would look to fulfil a specific role. The VAS near Dirty Lane would aim to have a slowing effect along the main straight through the village, whilst the VAS by the north road would aim to slow eastbound traffic in advance of the eastern curve in the road which has limited visibility.

4.8.5 Reviewing the findings of SpeedVISOR surveys and similar surveys around the county, the placement of additional VAS's would likely reduce average speeds within the village between 2-4mph.

Potential Issues

4.8.6 It is not standard Council practice to place a permanent VAS in a new location without a temporary trial being undertaken first. In this case it would be normal to place a temporary SpeedVISOR sign in each of the proposed locations for a trial period, in order to determine the level of speed reduction that may be achieved with a permanent VAS.

4.9 Option 4 – Gateway features

Description

4.9.1 This option involves constructing two priority build-outs, one either side of the village. The objective would be to slow traffic entering the village by forcing approaching traffic to wait for a suitable gap in the approaching traffic in order to navigate around the build-out.

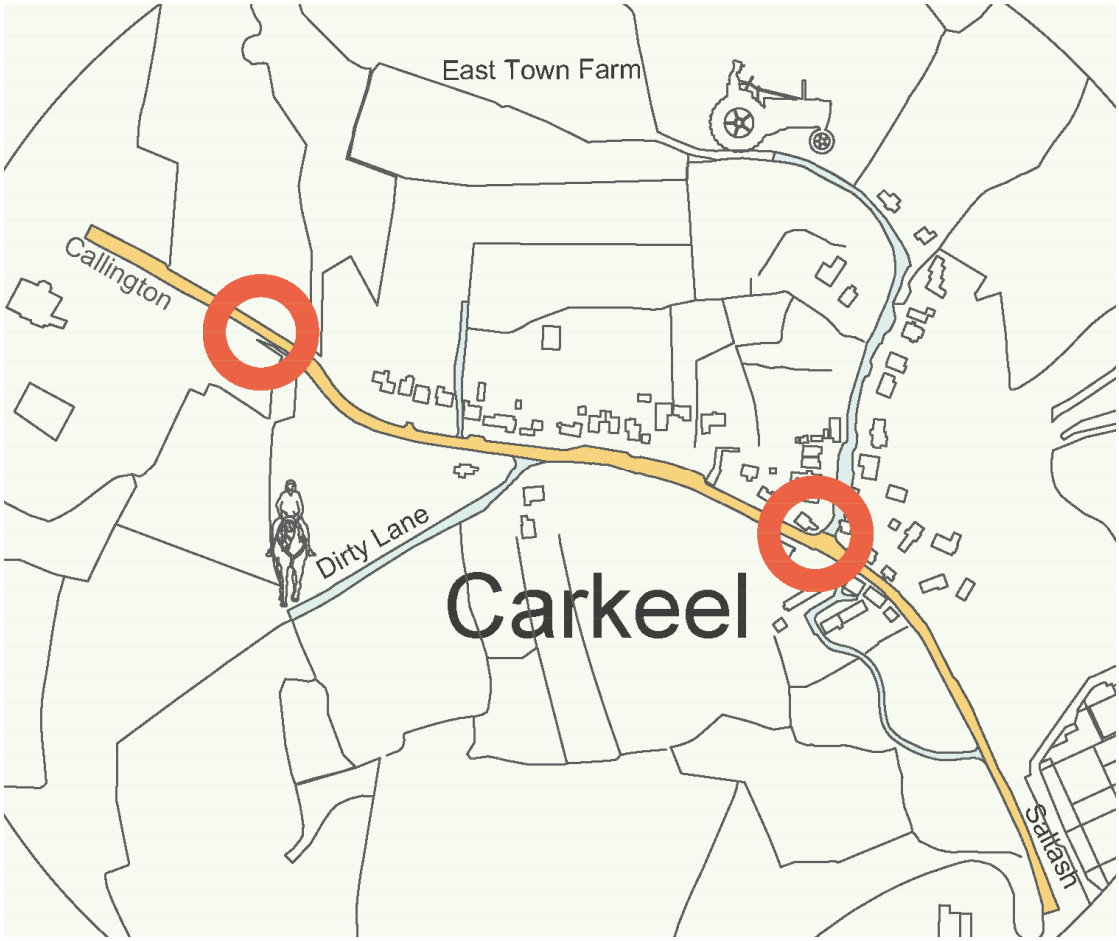

Fig 4.4 – Option 4 extents

4.9.2 Placement of the build-outs would be critical, as ideally they would be close enough to the village to have an effect on vehicle speeds though the village, but far enough away from any visual obstructions or turnings that might increase the risk to road users.

4.9.3 The western side build-out would need to be before the series of tight turns at the start of the village in order to maintain suitable forward visibility. Any further into the village and the build-out would begin to interfere with the use of the Dirty Lane or the laybys on the north side.

4.9.4 The likely place for a build-out on the eastern side of the village would be between the bus stop and the tight turns at the entrance to the village. Due to the narrowness of the carriageway between the east of the village and the northern laybys, placing the build-outs further west is unlikely to be possible.

4.9.5 Drawing 0004 shows the proposed position of the two gateway build-outs.

Aims and Benefits

4.9.6 The aim of this proposal would be to slow traffic down, either by needing to wait for a gap in approaching traffic, or by drivers being mindful that even if they have priority at the build-out, they will need to be more mindful of traffic waiting to navigate the build-out.

Potential Issues

4.9.7 Once a suitable location for the build-outs is identified through more detailed surveys, traffic modelling would need to take place in order to determine any traffic issues related to this proposal. Unfortunately, traffic modelling falls outside of the remit of this report.

4.9.8 With an AADT of 15,000 along this section of the A388, it is inevitable that priority build-outs of this type will have a negative effect on traffic conditions, with tailbacks likely at certain times of the day.

4.9.9 A key determination of any future traffic modelling would be to assess if any resulting tailback affected either the Tamar Garden Centre to the west, or the Broadmoore Farm development to the east. If the traffic modelling were to determine that either of the entrances to these developments were impacted by queuing traffic, then it is unlikely permission to install them would be given.

4.9.10 An additional factor that would need to be considered within any future design would be the need to make sure any build-out was sufficiently lit via streetlights. In the case of the western build-out, this may require the existing streetlighting to be extended further west to cover the build-out.

4.10 Option 5 – Additional pedestrian footway

Description

4.10.1 Whilst a footway is present on the north side of the carriageway within most of the village extents, this footway ends just east of the northern road to East of Town Farm. Although a southern footway takes over at this location, there is no formal crossing point between the two footways.

4.10.2 The proposal would be to extend the northern footway further east to a point where a pedestrian crossing could be better located, or else extend the northern footway all the way to the Tamar View Industrial Estate.

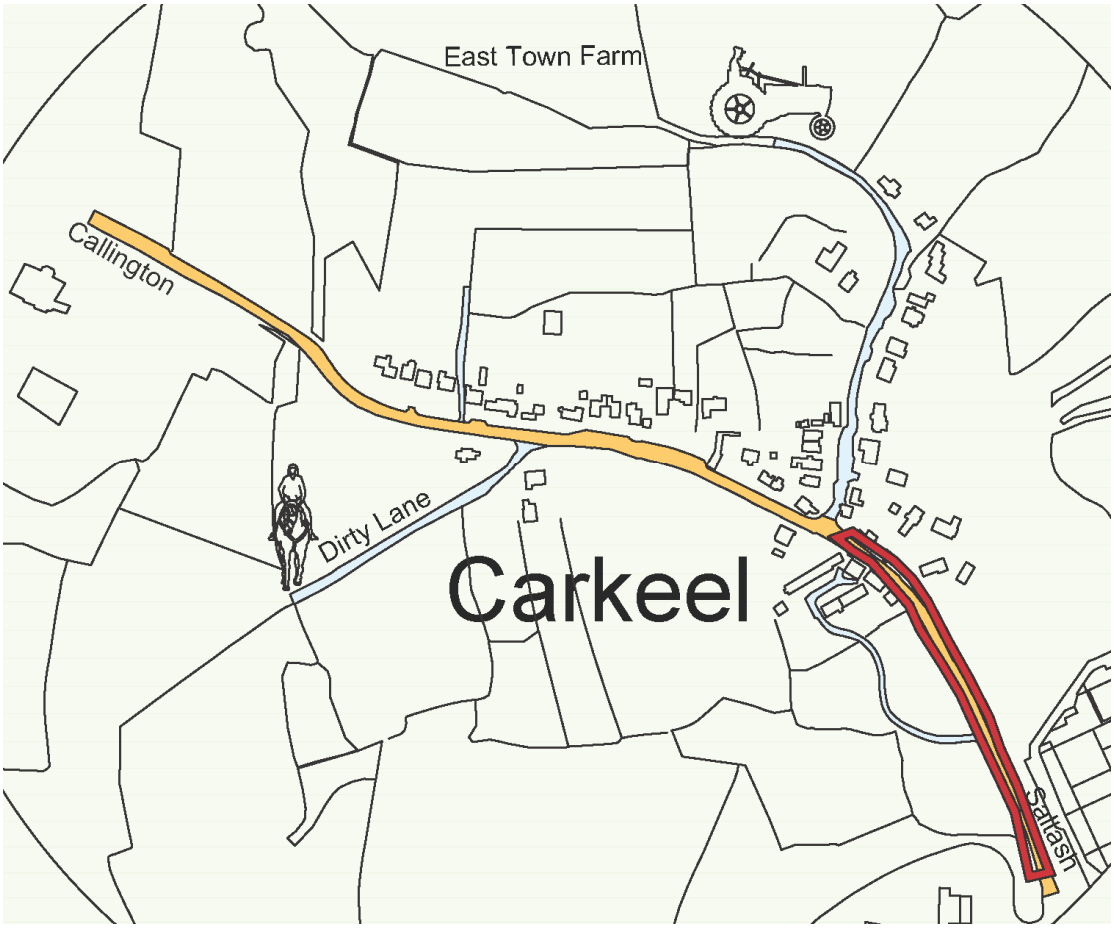

Fig 4.5 – Option 5 extents

4.10.3 The proposal would involve purchase part of the frontage of Eales Bungalow and possibly part of the field east of the bungalow in order to provide space for the new footway, as well as protecting or diverting a number of underground services that are evidenced as crossing this frontage.

4.10.4 A number of streetlights are within the verge east of Eales Bungalow, a number of which would need to be relocated, depending on how far the proposed footway extended.

4.10.5 The proposed new footway can be seen on drawing 0005.

Aims and Benefits

4.10.6 This option would provide significant benefit to the residents of Carkeel. At a minimum this option would allow the northern footway to be extended to a point far enough east that crossing to the westbound bus stop could be made significantly safer. Alternatively, if funding allowed the footway could be extended to provide an uninterrupted pedestrian route to the A38 and then on into Saltash via the pedestrian bridge over the A38.

Potential Issues

4.10.7 During the course of investigating for this options report, it was established that the extension of the northern footway has both been examined and recommended previously. It was found that the previous recommendation did not proceed due to the then owners of Eales Bungalow being unwilling to sell the land required for this scheme. However, during the site meeting on the 13th January, one of the local stakeholders was of the opinion the property may have changed ownership, which may open up the possibility of land purchase being re-examined.

4.10.8 The other main issue with this option is cost.

4.10.9 Within the stated budget for this review, it is unlikely that there are sufficient funds to cover land purchase, additional surveys, utility diversions, the detailed design stage and construction needed to implement this option, even if this option were only taken as far as the eastern bus stop and provided with an uncontrolled pedestrian crossing to access the bus stop.

4.11 Option 6–Enhance existing footways

Description

4.11.1 Currently most of the footways within Carkeel do not meet the widths requirements stated within Cornwall Council's highway design standards. The current recommended minimum width for a footway is 1.80m.

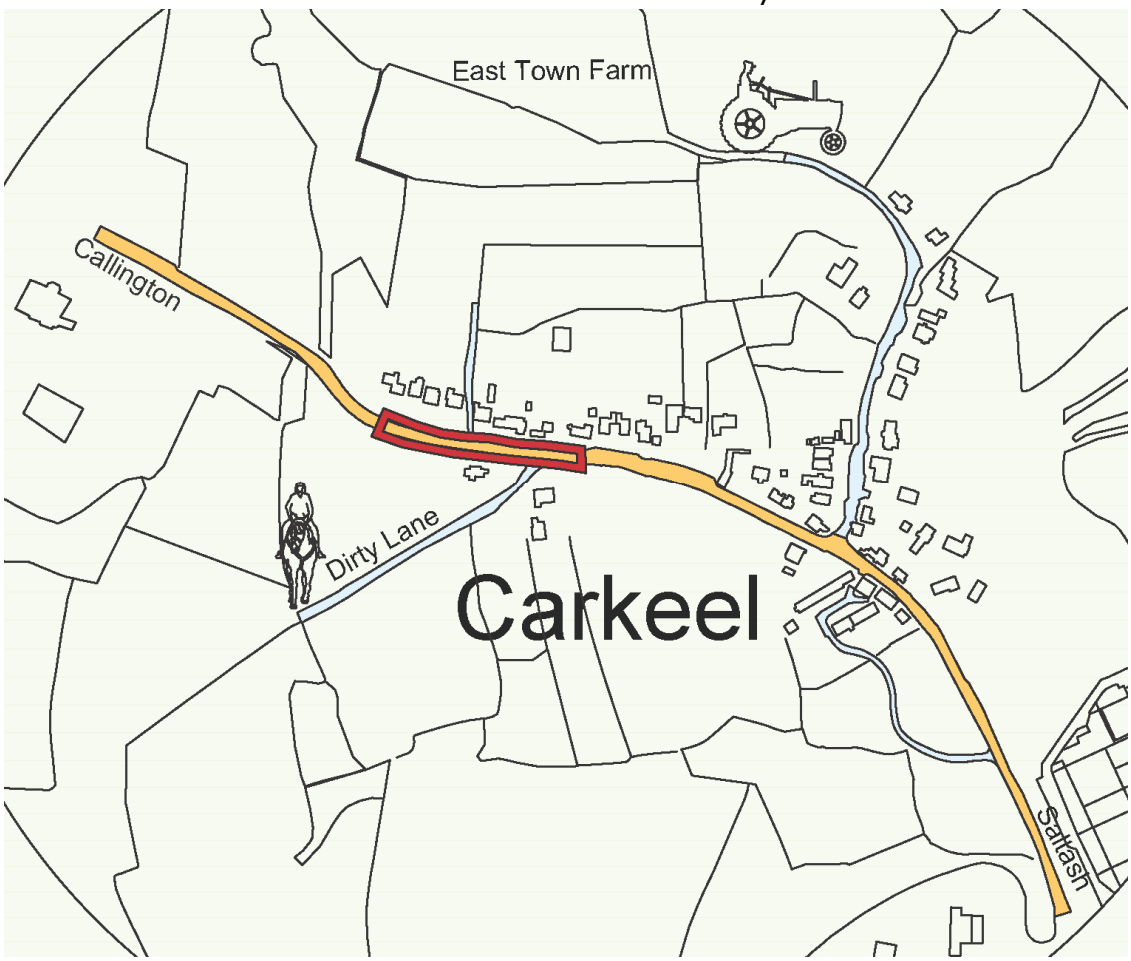

Fig 4.6 – Option 6 extents

4.11.2 Less than desirable footway widths are not uncommon in towns and villages where their initial construction pre-dates the latest guidance, however, where possible footway widths should be brought up to standard when viable to do so.

4.11.3 At Carkeel there is approximately 100m of footway which can be brought up to current standard by increasing its width by an average of 600mm.

4.11.4 This section of footway is located to the west of the village, where existing grass verges may be used to accommodate the required widening.

4.11.5 Areas of proposed footway widening can be seen on drawing 0006.

Aims and Benefits

4.11.6 The aim of this option would be to provide better pedestrian facilities for the village, especially for wheelchair users and people with pushchairs.

Potential Issues

4.11.7 Currently Cornwall Council's intranet mapping shows all the grass verges within this area as being "publicly maintained verges", meaning that using part of these verges to increase footpath width would not require any additional permissions. However, if this option were to be progressed, it would be prudent to check on the legal ownership of this land.

4.12 Option 7 – Uncontrolled crossing

Fig 4.7 – Option 7 extents

Description

4.12.1 As discussed in Option 5, one of the issues for pedestrians is that the northern footway ends just west of Eales Bungalow, yet there are no formal crossing facilities to cross to the southern footway.

4.12.2 The proposal would be to design and construct an un-controlled (not signalised) pedestrian crossing with a central refuge just to the east of the northern side road.

4.12.3 Normally such a proposal would aim to move a pedestrian crossing away from the junction, so that drivers exiting the junction are not distracted by other approaching vehicles from the west. However, in this case the choice of location is severely limited, as it would need to ben in a location where the north and south footways overlap, whilst still maintaining the maximum visibility distances for both crossing pedestrians and motorists on the A388.

4.12.4 In addition to providing the central refuge, dropped kerbs and tactile paving, this option would look to maximise the widths of the existing footpaths on both the north and south side of the crossing. However, the amount of widening may be limited due to the size of vehicles typically using the A388, with a topographic survey being required to fully assess the amount of widening possible.

4.12.5 Drawing 0007 indicates the proposed pedestrian crossing.

Aims and Benefits

4.12.6 One of the main aims of this option would be to improve accessibility for pedestrians using the eastern bus stop by providing a safer crossing facility between the existing north and south footways.

Potential Issues

4.12.7 Though additional site visits it has been established that some of the existing footway widths, primarily on the southern side, may not be as wide as currently shown on the Ordnance Survey mapping data, additionally the visibility distances needed for both pedestrian and motorists safety may not be as far as the mapping data indicates. In both cases a topographical survey would be needed to confirm the level of footway widening that is possible.

4.12.8 Previously the standard method for assessing the need for a formal pedestrian crossing was the PV^2 rule (Pedestrians x Vehicles squared). Whilst Cornwall Council has moved away from the primarily relying on the PV^2 rule, instead favouring a more encompassing review (set out in government document LTN 1/95), the PV^2 rule does still provide a convenient early assessment. Based upon the pedestrian crossing survey undertaken in 2014, the low number of pedestrian crossing movements would normally fail the PV^2 rule, however, in light of recent approved developments, such as the Broadmoor Farm development, an assessment based upon predicted pedestrian use may be more appropriate.

4.12.9 For un-controlled pedestrian crossings lighting values are an important consideration for any safety review. Therefore, if this option were to progress to the detailed design stage then a full streetlighting assessment would be required.

4.13 Option 8 - Signalised crossing

Description

4.13.1 This option is similar to Option 7, but instead of an un-controlled pedestrian crossing with refuge, this option would be a signalised crossing.

Fig 4.8 – Option 8 extents

4.13.2 As this proposal would be a single phase crossing, i.e. pedestrians would cross completely from one side of the road to the other in one signal phase, no pedestrian refuge would be required.

4.13.3 Drawing 0008 indicates the proposed pedestrian crossing.

Aims and Benefits

4.13.4 The main advantage a signalised crossing has over an un-controlled crossing is a higher level of safety for pedestrians.

Potential Issues

4.13.5 The issues listed for Option 7 also apply for this option, including low pedestrian counts, narrow footways and the nearness of adjacent junctions.

4.13.6 There are two other potential impacts that affect this option, which are the need for signal poles within the already narrow footways, and the affect a signalised crossing would have on traffic flows.

4.13.7 Traffic modelling this junction falls outside the scope of this report, although it is certain that a signalised junction at this location would have an impact on traffic flows.

4.14 Option 9 – Extend 30mph zone

Description

4.14.1 Although the section of the A388 through the main village is under a 30mph limit, the road north to East of Town Farm is currently at the national speed limit (60mph) from the junction with the A388. The proposal would be to lower this speed limit to 30mph from the junction with the A388 to approximately 170m north of the junction.

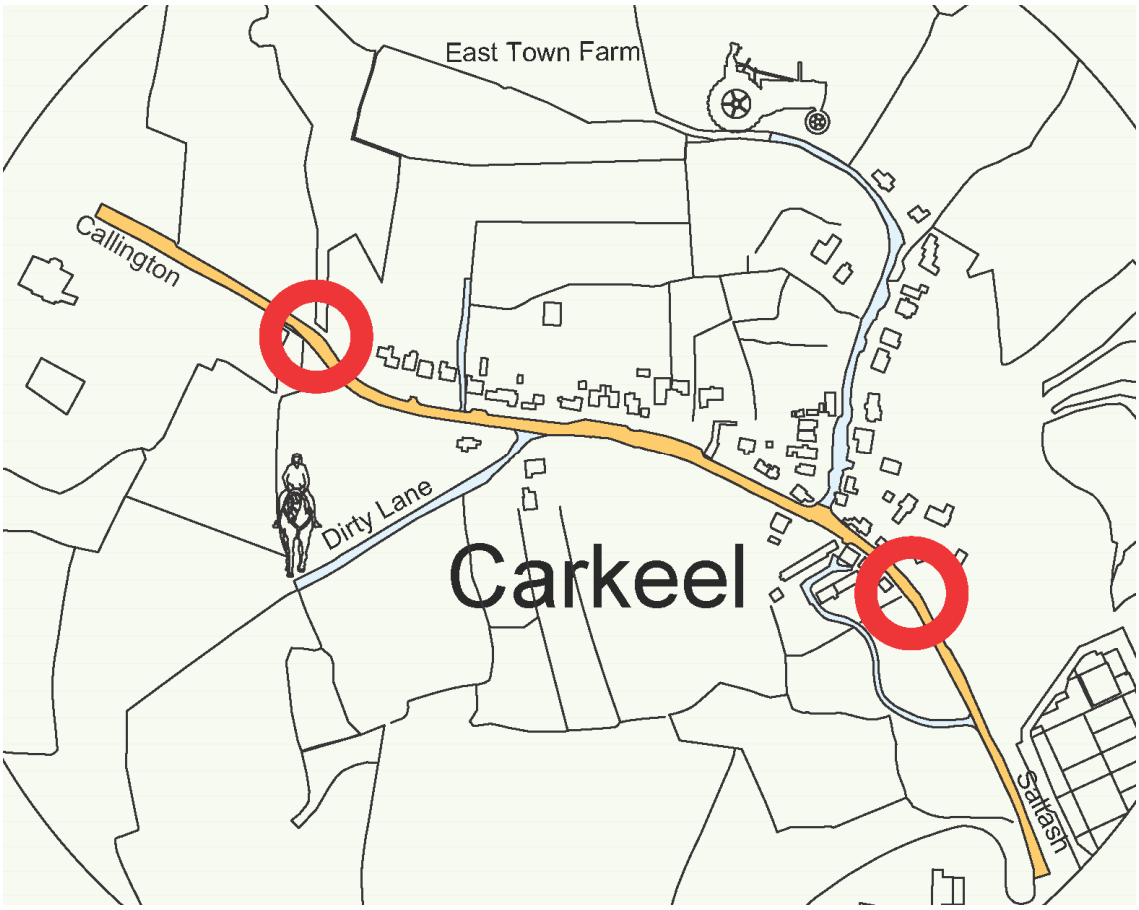

Fig 4.9 – Option 9 extents

4.14.2 This option would bring approximately 13 additional residential properties within the 30mph zone.

4.14.3 Drawing 0009 shows the proposed extension of the 30mph limit.

Aims and Benefits

4.14.4 To slow vehicles down through residential areas, and in advance of joining the A388.

Potential Issues

4.14.5 There are not believed to be any negative impacts associated with this option, although it should be noted that the nature of the section of road under consideration (narrow and winding), is likely to already have a natural slowing effect on traffic.

4.15 Option 10 –Average speed cameras

Description

4.15.1 The proposal would be to place an average speed camera at each approach to the village with the aim of controlling vehicle speeds through the village.

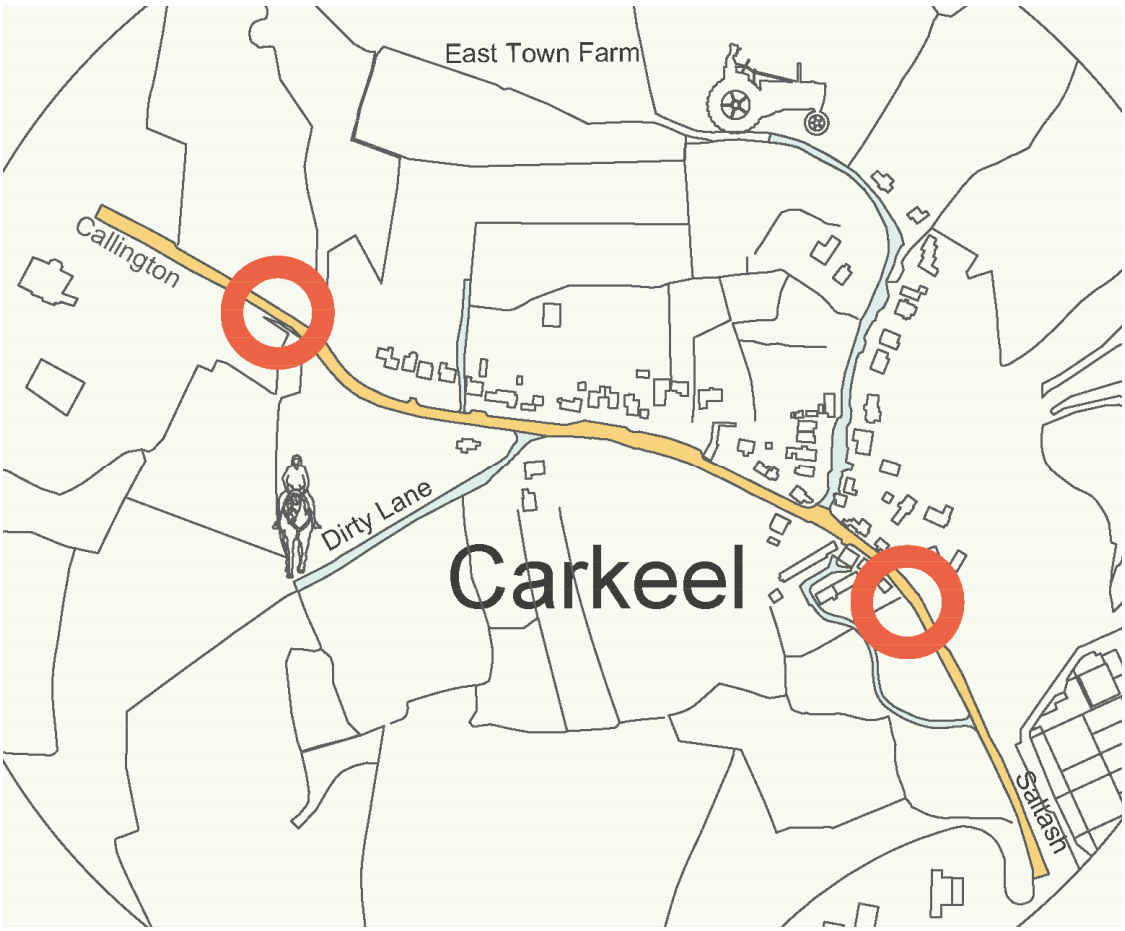

Fig 4.10 – Option 10 extents

4.15.2 Unlike speed activated signs traditional speed cameras that only influence vehicle speeds at a specific location, average speed cameras can have a slowing effect over an extended length, depending on how far apart the cameras are placed.

4.15.3 Whilst speed activated signs do tend to reduce mean speeds by between 3 to 4mph, average speed cameras tend to have a more significant effect on reducing mean speeds.

4.15.4 Possible average camera locations are shown on drawing 0010.

Aims and Benefits

4.15.5 To slow traffic though the village.

Potential Issues

4.15.6 Other than cost, there are two main factors that govern the requirement for average speed cameras, the level of accidents within a five-year period, and the level of mean speed limit exceedance.

4.15.7 Only Killed or Serious Injury (KSI) accidents are reviewed for average speed cameras, where a minimum of three is required to trigger an automatic review. Although three serious accidents have been recorded within the area of Carkeel during the last five years, only one of them was within the area of the village that would be covered by the average speed cameras, and for that one incident factors other than speed appear to be the main contributing factors.

4.15.8 Regarding speed level exceedance, recent surveys indicate the mean speed exceedance above 30mph is only between 1 to 3mph, which would not automatically trigger an automatic consideration for average speed cameras.

4.16 Option 11 – Speed activated traffic signals

Description

4.16.1 The proposal for this option is to place a set of traffic signals within the village, where through the use of detector loops the software controlling the signals would monitor for speeding vehicles, and if safe to do so would switch to a red aspect.

4.16.2 Although the technology for such an arrangement exists, research for this review was not able to find a trial of this arrangement either locally or nationally, meaning the effectiveness or potential impacts must be considered assumptions only.

4.16.3 The system would operate through a series of detection loops located within the road surface at various distances from the traffic signals. With a known distance between the loops, the controlling software would be able to use the timing of the loop activation to assess the vehicle speed between the loops.

Aims and Benefits

4.16.4 To minimise the occurrences of excessive speeds through the village. Excessive speed exceedance would be the primary focus of this option, as correct detection of speed would be more difficult during periods of high traffic volumes.

Potential Issues

4.16.5 As the speed activated traffic signals would need to rely on sensor loops to estimate vehicle speeds, this system would only be effective during low traffic volume periods. During high volume periods the system would not be able to distinguish between different vehicles. Therefore, this option would primarily have an effect on vehicles exceeding the 85th%ile range during quiet periods and would have less of an effect on mean speeds during busy periods.

4.16.6 Placement of the detection loops would be critical in maintaining safety on the highway. For example, the detectors would need to identify speeding vehicles far enough away that it allowed enough time for the signal aspect to turn to red and allow the motorist sufficient reaction and breaking time relevant to the speed they were travelling.

4.16.7 Another factor to be considered with this option is the trigger speed at which the signals would be activated. Currently the various speed surveys indicate the mean speed through the village is between 29 to 35mph. Therefore, if the trigger speed were set to a minimum of 30.5mph, the signals would be triggered on a near constant basis, resulting in congestion within the village. Likewise, if the trigger speed were set too high, the mean and 85th%ile speeds may not be significantly affected, although it would have an effect on the >85th%ile motorists.

4.16.8 As previously stated, no existing trial, either locally or nationally, of this type of traffic control arrangement was able to be identified. Therefore, having the facility adopted by Cornwall Council's asset management section may be difficult.

5 COST ESTIMATES

5.1 General Cost Estimation Notes

5.1.1 Where costs are able to be based on recent similar schemes, these scheme costs have been assessed and used as the basis for the estimates within this review in order to provide real world costs. Where similar recent schemes are not available, rates from Cornwall Council's term maintenance contract schedule of rates have been used instead.

5.1.2 A contingency of 25% has been applied to the costs to reflect the level of assessment undertaken at this stage, which has not fully considered the impact of the options on statutory undertakers' equipment or the acquisition of any third-party land.

5.1.3 The design fee estimate excludes utility diversion costs due to the difficulty of estimation and the cost of obtaining C3 diversion estimates at this optioneering stage. Where there is a likely need for utility diversions for a specific option, this is noted within section 5.2 for that option. Where topographic, ground investigation or other surveys are required for an option, that is also listed in section 5.2.

5.1.4 Where an electricity supply is required for a proposed option, such as additional illuminated signs or traffic signals, a supply quote will be required from Western Power Distribution (WPD). Some of the cost estimates that are based on similar schemes have a WPD quote included, but it is noted that these quotes would need to be refreshed by WPD, as each quote is site specific. Where an electricity supply is needed, but not currently included within the cost estimate, this is also noted in section 5.2.

5.1.5 Unless otherwise stated design fees have been based on 10% of the estimated construction cost with a minimum value quoted at £2,000. If any option is taken forward to the detailed design stage, a more detailed design fee estimate will be provided.

5.1.6 Table 5.1 summarises the cost estimates for each option:

Option	Works Cost	Contingency	Design Fee	Total
Option 1–Maintenance only	£500	£-	£-	£500
Option 2–Carriageway markings	£21,500	£5,375	£2,150	£29,025
Option 3–Additional VAS	£16,000	£4,000	£800	£20,800
Option 4–Gateway features	£16,500	£4,125	£2,000	£22,625*
Option 5–Additional pedestrian footway	£68,000	£17,000	£10,000	£95,000*
Option 6–Enhance existing footways	£7,800	£1,950	£2,000	£11,750
Option 7–Uncontrolled crossing	£16,000	£4,000	£2,000	£22,000*
Option 8–Signalised crossing	£85,000	£21,250	£8,500	£114,750*
Option 9–Extend30mph zone	£8,000	£2,000	£1,000	£11,000
Option 10 – Average speed cameras	£185,000	£-	£-	£185,000*

Option 11 – Speed activated traffic signals	£100,000	£25,000	£8,500	£133,500*

Table 5.1 Option Cost Estimates

** - Schemes that would require additional costs for items such as traffic modelling, additional surveys or land purchase.*

5.2 Option Specific Cost Estimation Notes

Option 1 - Maintenance Only

5.2.1 Primary source of cost estimate

- Cornwall Council's Term Maintenance Contract schedule of rates.

5.2.2 Likely additional costs not included within the estimate

- None

5.2.3 Comments

- None

Option 2 – Carriageway Markings and Red Surface

5.2.4 Primary source of cost estimate

- Cornwall Council's Term Maintenance Contract schedule of rates.

5.2.5 Likely additional costs not included within the estimate

- Early Contractor Involvement related to traffic management planning
- Traffic management costs during construction

5.2.6 Comments

- The traffic management costs are likely to be complex for this option and will likely include an element of night working. Therefore, early contractor involvement should be included within and future design phase in order to provide a better estimate of construction costs.

Option 3 – Vehicle Activated Sign

5.2.7 Primary source of cost estimate

- Costs based upon similar schemes completed in 2021-2022

5.2.8 Likely additional costs not included within the estimate

- WPD quote refresh

5.2.9 Comments

- Being based off of a similar scheme, this estimate includes an allowance for a new electrical supply. However, as this cost is for a different scheme the WPD quote will need to be refreshed.

Option 4 – Gateway Features

5.2.10 Primary source of cost estimate

- Cornwall Council's Term Maintenance Contract schedule of rates.

5.2.11 Likely additional costs not included within the estimate

- WPD quote for a new electricity supply is needed
- Topographic survey
- C3 quotes
- Traffic modelling

5.2.12 Comments

- Forward visibility is going to be a major fact in any future design, therefore a topographic survey would be recommended in order to obtain a higher level of detail at a higher level of accuracy.
- A number of utility companies, including South West Water and Openreach, through the use of C2 returns have indicated that they likely have plant within the vicinity of the proposed buildouts. Therefore, C3 quotes would be required in order to assess likely costs.
- As this option has the potential to impact on other junctions and accesses through increased queuing traffic, a traffic assessment would be required to understand these potential impacts. A traffic modelling engineering would be required to assess the extent of any traffic model required, and if any additional traffic surveys were required, in order to be sure all potential impacts are covered within the resultant traffic model.

Option 5 – Additional Footway

5.2.13 Primary source of cost estimate

- Cornwall Council's Term Maintenance Contract schedule of rates.

5.2.14 Likely additional costs not included within the estimate

- Land purchase costs and legal fees
- Utility diversion costs
- Ground Investigation (GI) survey

- Topographic survey

5.2.15 Comments

- As this option would require additional land to be acquired, Cornwall Council would have to agree a purchase price with the current landowner if compulsory purchase were to be avoided.
- As well as the C2 returns, there are visible signs of both underground and overhead services that would need to be diverted as part of this scheme. Therefore, C3 diversion estimates would need to be sourced from the effected utility companies.
- This scheme would involve the constructing over previously undeveloped ground, therefore, a GI survey would be required to determine such things as ground bearing capacity. Depending on the type and extent of GI survey required, additional temporary traffic management would also be required during the survey period.
- Design fees are estimated higher than the average 10% of construction costs, as it is likely that an element of 3D design will be required to assess any embankment changes.

Option 6 – Widen Existing Footways

5.2.16 Primary source of cost estimate

- Cornwall Council's Term Maintenance Contract schedule of rates.

5.2.17 Likely additional costs not included within the estimate

- None

5.2.18 Comments

- None

Option 7 – Uncontrolled Pedestrian Crossing

5.2.19 Primary source of cost estimate

- Cornwall Council's Term Maintenance Contract schedule of rates.

5.2.20 Likely additional costs not included within the estimate

- Topographic survey

5.2.21 Comments

- Due to the very limited width at this location, a topographic survey would be recommended to check available widths and sight lines.
- Review of existing lighting levels may increase streetlighting requirements.

Option 8 – Signalised Pedestrian Crossing

5.2.22 Primary source of cost estimate

- Costs based upon a similar scheme completed in 2022.

5.2.23 Likely additional costs not included within the estimate

- C3 quotes.
- WPD estimates need to be refreshed.
- Topographic survey.
- Traffic modelling

5.2.24 Comments

- C2 utility returns indicated the likely presence of underground services within this location, therefore, it is recommended that C3 quotes to determine the necessity, extent and cost of any likely service diversions.
- Being based off of a similar scheme, this estimate includes an allowance for a new electrical supply. However, as this cost is for a different scheme the WPD quote will need to be refreshed.
- Due to the very limited width at this location, a topographic survey would be recommended to check available widths and sight lines.
- A review of existing lighting levels may increase streetlighting requirements.
- As this option has the potential to impact on other junctions and accesses through increased queuing traffic, a traffic assessment would be required to understand these potential impacts. A traffic modelling engineering would be required to assess the extent of any traffic model required, and if any additional traffic surveys were required, in order to be sure all potential impacts are covered within the resultant traffic model.

Option 9 – Extend 30mph Zone

5.2.25 Primary source of cost estimate

- Cornwall Council's Term Maintenance Contract schedule of rates.

5.2.26 Likely additional costs not included within the estimate

- None

5.2.27 Comments

- This cost estimate includes exhibition and consultation costs for the TRO order.

- Design fees estimated for this option are lower than the average of 10%, as some design fees (TRO and consultation) are already included within the construction estimate.

Option 10 – Average Speed Cameras

5.2.28 Primary source of cost estimate

- Costs based upon similar schemes completed in 2021-2022

5.2.29 Likely additional costs not included within the estimate

The WPD quote included within this estimate would need to be refreshed.

5.2.30 Comments

- Being based off of a similar scheme, this estimate includes an allowance for a new electrical supply. However, as this cost is for a different scheme the WPD quote will need to be refreshed.
- Design fees for this option have been included within the construction costs due to how the cost estimate was obtained for this review.

Option 11 – Speed Activated Traffic Signal

5.2.31 Primary source of cost estimate

- Cornwall Council's Term Maintenance Contract schedule of rates.

5.2.32 Likely additional costs not included within the estimate

- Traffic modelling
- WPD quote needed

5.2.33 Comments

- As this option has the potential to impact on other junctions and accesses through increased queuing traffic, a traffic assessment would be required to understand these potential impacts. A traffic modelling engineering would be required to assess the extent of any traffic model required, and if any additional traffic surveys were required, in order to be sure all potential impacts are covered within the resultant traffic model.
- Includes exhibition and consultation costs for the TRO order.

5.3 Qualitative Assessment

5.3.1 A qualitative assessment has been undertaken to identify the benefits of each option. Each option has been ranked between '++++' for the highest level of benefit, through 'neutral' to '----'for the highest level of disbenefit. Table 5.2 summarises the assessment.

Option	Pedestrian Accessibility	Traffic Impact	Environmental Impact	Safety
Option 1 – Maintenance only	++	neutral	neutral	++
Option 2 – Carriageway markings	neutral	neutral	neutral	+
Option 3 – Additional VAS	neutral	neutral	-	++
Option 4 – Gateway features	neutral	neutral	neutral	++
Option 5–Additional pedestrian footway	++++	neutral	--	++
Option 6–Enhance existing footways	+	neutral	-	+
Option 7–Uncontrolled crossing	+++	-	neutral	+++
Option 8–Signalised crossing	++++	--	-	+++
Option 9–Extend30mph zone	+	-	neutral	++
Option 10 – Average speed cameras	neutral	neutral	neutral	+
Option 11 – Speed activated traffic signals	+	----	-	neutral

Table 5.2 Qualitative Assessment

6 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

6.1.1 Of the eleven options considered, options 10 and 11 would likely have the most impact on vehicle speeds through the village. However, when all costs are considered these options would exceed the available budget by some margin. Additionally, option 10 falls short of the Council's automatic consideration criteria due to low accident rates during the previous five years.

6.1.2 The option 8 is also discounted, both for exceeding the available scheme budget, but also as it falls short of the Council's automatic consideration criteria due to very low pedestrian crossing rates.

6.1.3 Option 5 also exceeds available budget, especially when other considerations, such as land purchase costs, legal fees and survey costs are included.

6.1.4 Of the remaining seven options, all fall within the schemes budget limit, and all would provide some benefit, either through vehicle speed reduction or by providing enhanced pedestrian facilities.

6.1.5 Whilst options 1 and 6 may be viewed as currently providing minimal improvements to footways that are only slightly below current standards, and which only serve a limited number of properties to the west of the village, it should be noted that the Broadmoor Farm proposal indicates a major footway / cycleway route exiting the development near this location, which may increase pedestrian / cycle usage at a future date.

6.1.6 Option 2 may have some effect on reducing vehicle speeds by reducing the perceived width of the carriageway, and by introducing the colour red into the highway, being the universal indicator for danger. However, this option would come with higher maintenance frequency and costs for the life of the feature, and increased disruption (i.e. road closers) when such maintenance is required.

6.1.7 Option 7 would bring many of the benefits of option 8, but at a cheaper cost and with a lower justification threshold. However, it is still noted the low numbers pedestrians currently reported as crossing at this location.

6.1.8 Option 4 currently falls within the available scheme budget and would likely to continue to do so even when the additional required surveys and traffic modelling have taken place. However, traffic modelling would certainly need to be undertaken in order to understand the extents of both the potential benefits and impacts of this option. Currently option 4 has the potential to have a positive impact on vehicle speeds, however, until the future modelling and a higher level of design is undertaken, this option carries a level of risk.

6.1.9 Option 3 is a low-risk option that falls within the scheme's affordability budget, but which has a high likely hood of reducing vehicle speeds.

6.2 Recommendation

6.2.1 Option 3, the additional of 2No. additional Vehicle Activated Signs, is the preferred option, providing a relatively low cost, proven speed reduction option.

6.2.2 With the remaining scheme budget the Client would have the option of commissioning traffic modelling to gauge the likely impacts of option 4, gateway features, or providing a combination of options, 2, 6, 7 and 9, depending on where the stakeholders consider the greater need.

6.2.3 Although option 5, additional footway to the east of the village, was discounted on costs grounds, it is clear that this option would provide considerable benefit to the residents of Carkeel. Therefore, it is recommended that enquires related to a possible change in ownership of the Eaves Bunglow are made, including the willingness to sell part of the frontage, in case additional funding is found at a later date.

SpeedVISOR

A388 Carkeel (south-eastbound) August 2008

GIS Summary

Prepared by
Highway Services
Highway Design Group

Richard Fish BSc, CEng, FICE, FIStructE, FIHT
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Issue and Revision Record

Revision	Date	Originator	Purpose of Issue/Nature of Change
0	11/09/2008	S. Ball	Original

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Carkeel (south-eastbound)
August 2008

Road №: A388		**SpeedVISOR Unit №:** Unit 7
		Direction of Travel: South-eastbound
Division: 4	**Speed Limit**	**OS Grid Reference:** 241070 / 060504

Summary Table	 **Monitoring** No Display of Speed Limit	 **Display** With Display of Speed Limit
Start:	13/08/2008	20/08/2008
Finish:	19/08/2008	07/09/2008
Duration:	7 Days	19 Days
№ of Observations:	14,680	45,254

Speed Statistics	 Monitoring	 Display	Difference Monitoring to Display
Mean Speed (mph):	36.0	33.8	-2.2
85%ile Speed (mph):	41.0	38.0	-3.0
% ≤30 mph:	11.0	11.4	+0.4
% >40 mph:	16.5	6.5	-10.0

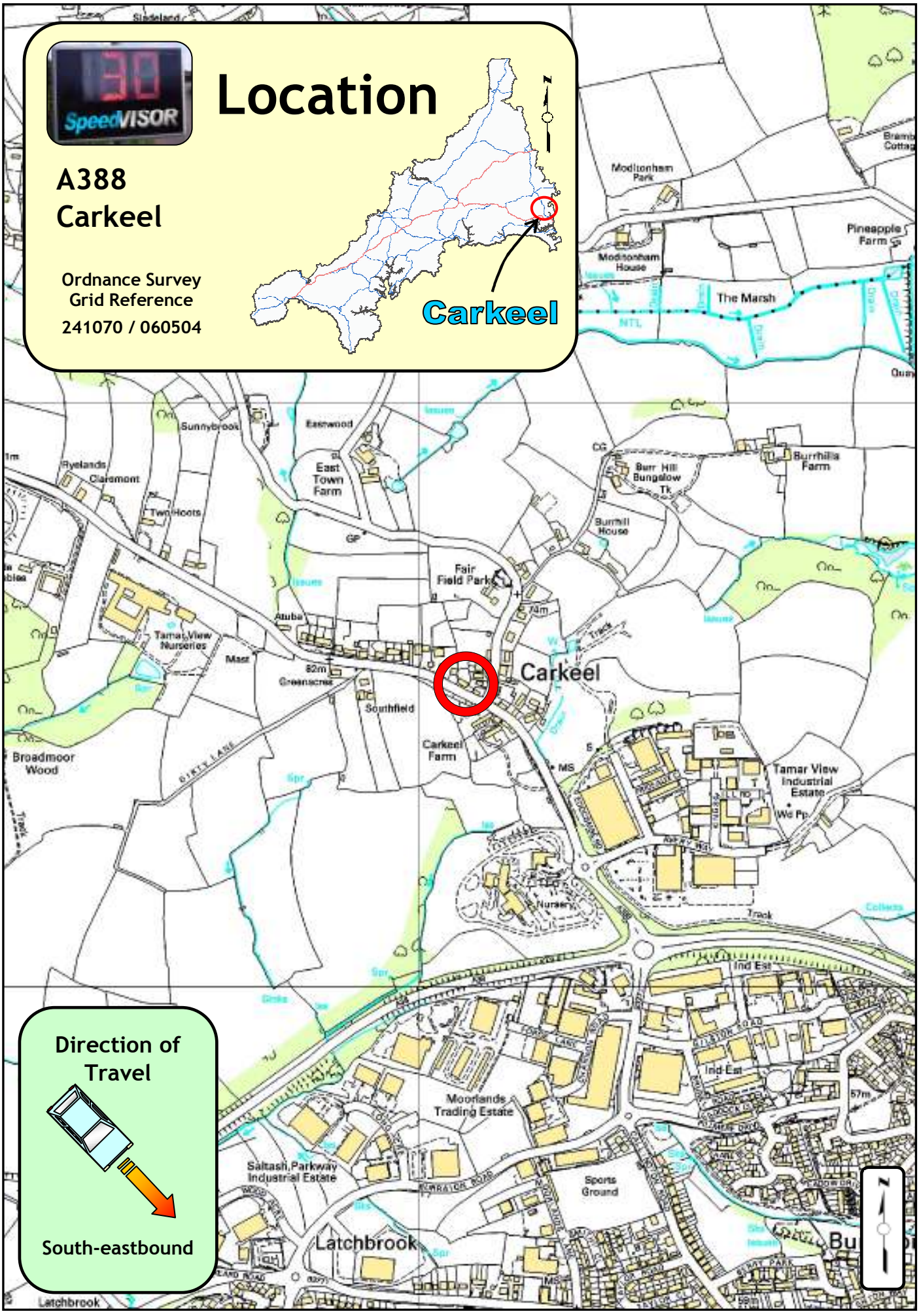
Comments:	

Data Submitted by: Lee Hibberd	**Data Processed by:** Donna Nimmo

Location

A388
Carkeel

Ordnance Survey
Grid Reference
241070 / 060504



SpeedVISOR
Glossary of Terms & Abbreviations

SpeedVISOR is a vehicle activated sign that detects and records the speed of passing vehicles. The front of the unit has the words “Speed Check” beneath bright light emitting diodes (LED) to display the speed limit to motorists contravening the prescribed local limit.

The principal role of the unit is to raise awareness of speeding as anti-social behaviour. By displaying the speed limit to speeding motorists, the sign will draw attention to the speed at which they are travelling and remind them to moderate their speed to an appropriate level below the speed limit

Monitoring Phase

No Display of Speed Limit

The phase of operation at which the LED display of the SpeedVISOR Sign is disabled and the “Speed Check” text on the front of the unit covered-up. In this phase, the unit only monitors and records the speed of passing traffic.

Display Phase

Display of Speed Limit

The phase of operation at which the “Speed Check” text on the front of the SpeedVISOR unit is uncovered and the LED display activated. In this phase, the SpeedVISOR unit monitors and records the speed of passing traffic; any vehicles passing at speeds of greater than 10% in excess of the speed limit activate the display on the front of unit and the LED sign flashes the designated speed limit to the driver of the passing vehicle.

Number of Observations	The number of readings recorded by the radar. This does not correspond to an exact count of vehicles passing the sign, since vehicles may pass the sign in a tightly packed group (or ‘platoon’); the radar is unable to distinguish individual vehicles.
Mean Speed	The arithmetic average of all the speed values recorded.
85%ile Speed	The speed at or below which 85% of the vehicles recorded were travelling.
% = or < 30 mph	The percentage of vehicles travelling at speeds of 30 mph or below (i.e. the percentage of vehicles travelling at or within the 30 mph speed limit).
% > 40 mph	The percentage of vehicles travelling at speeds greater than 40 mph (i.e. the percentage of vehicles travelling at speeds in excess of 10 mph above the 30 mph speed limit).

Monitoring

No Display of Speed Limit

Daily Summary Table

A388 Carkeel (south-eastbound) August 2008

Part 1 of 1

Date	Mean Speed	85%ile Speed	Percentage of Vehicles ≤30 mph	Percentage of Vehicles >40 mph
13/08/2008	34.4	41.0	16.2	17.3
14/08/2008	36.4	41.0	10.1	15.7
15/08/2008	36.7	41.0	10.1	17.8
16/08/2008	37.0	43.0	8.0	19.9
17/08/2008	37.1	43.0	7.4	19.9
18/08/2008	36.4	41.0	9.9	16.1
19/08/2008	34.4	40.0	14.0	9.4

Display

With Display of Speed Limit

Daily Summary Table

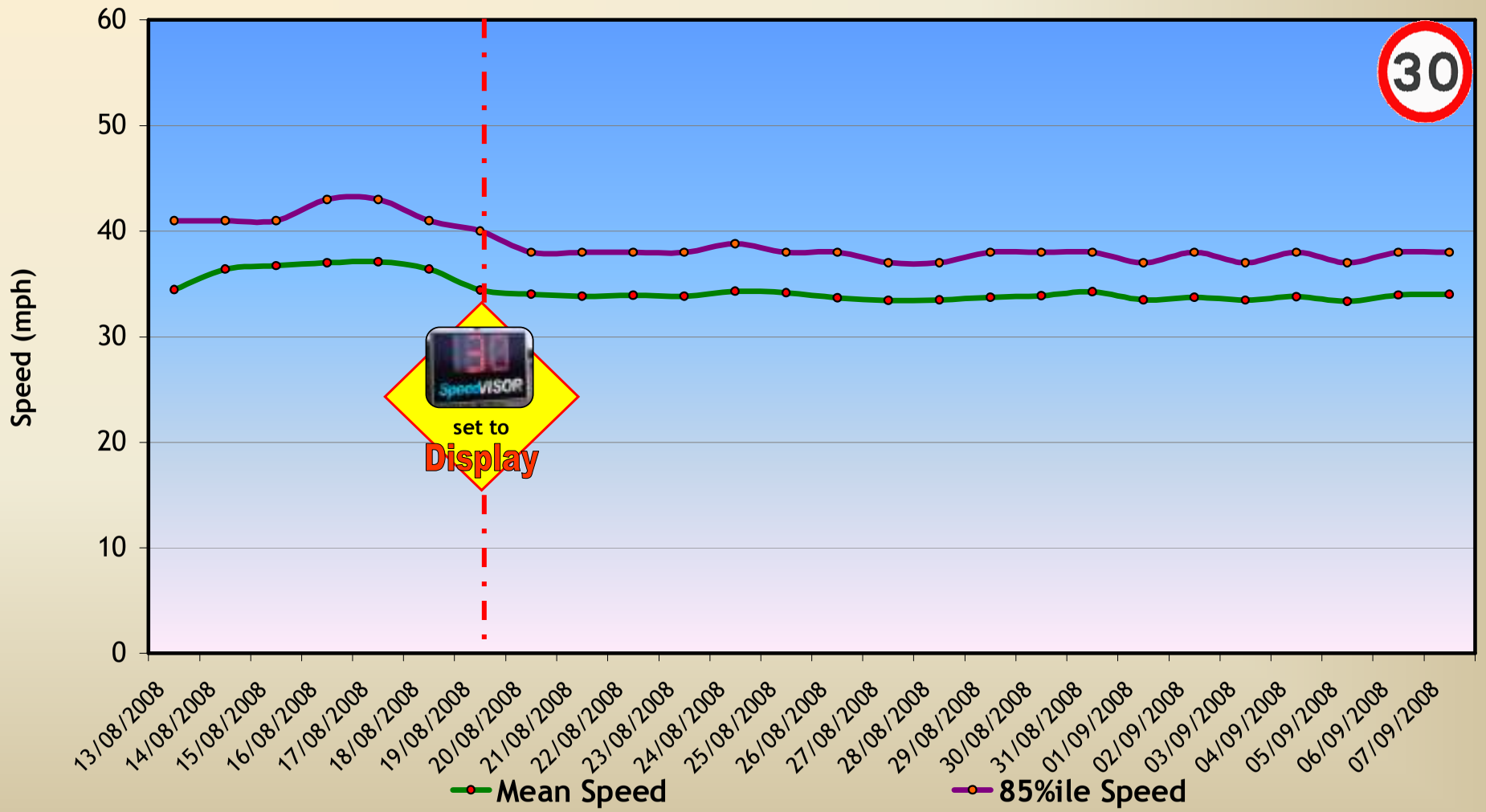
A388 Carkeel (south-eastbound) August 2008

Part 1 of 1

Date	Mean Speed	85%ile Speed	Percentage of Vehicles ≤30 mph	Percentage of Vehicles >40 mph
20/08/2008	34.0	38.0	10.5	7.2
21/08/2008	33.8	38.0	11.4	6.2
22/08/2008	33.9	38.0	10.9	7.1
23/08/2008	33.8	38.0	11.8	6.8
24/08/2008	34.3	38.8	10.7	8.4
25/08/2008	34.2	38.0	10.3	7.8
26/08/2008	33.7	38.0	12.5	5.7
27/08/2008	33.5	37.0	12.2	5.7
28/08/2008	33.5	37.0	12.2	5.7
29/08/2008	33.7	38.0	11.3	5.7
30/08/2008	33.9	38.0	10.7	7.5
31/08/2008	34.3	38.0	10.5	8.0
01/09/2008	33.5	37.0	12.1	5.0
02/09/2008	33.7	38.0	11.3	6.0
03/09/2008	33.5	37.0	12.8	5.9
04/09/2008	33.8	38.0	10.9	6.2
05/09/2008	33.4	37.0	12.0	4.1
06/09/2008	34.0	38.0	11.2	7.1
07/09/2008	34.0	38.0	11.8	8.1

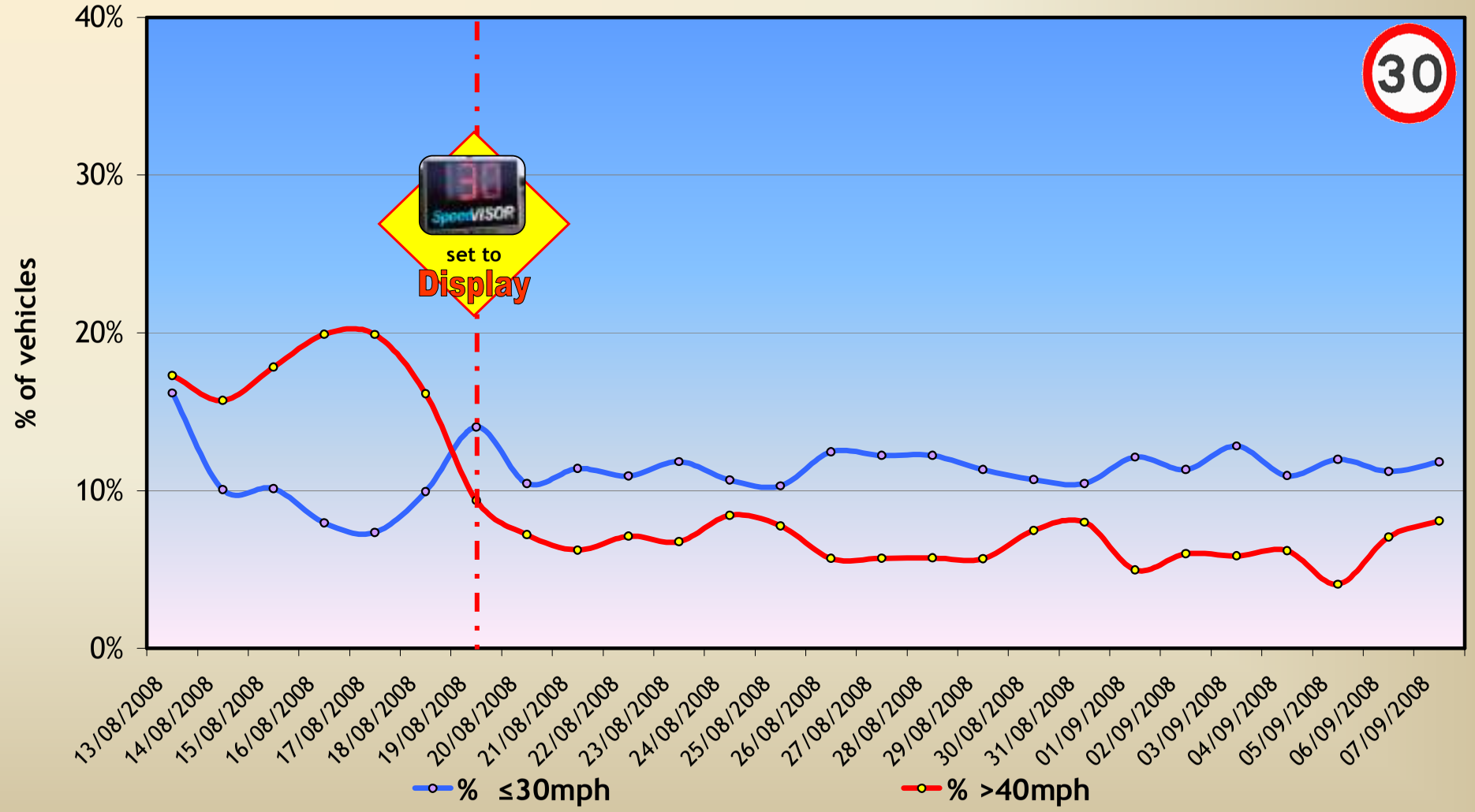
Mean & 85%ile Speed

A388 Carkeel



Percentage of Vehicles ≤30mph & >40mph

A388 Carkeel



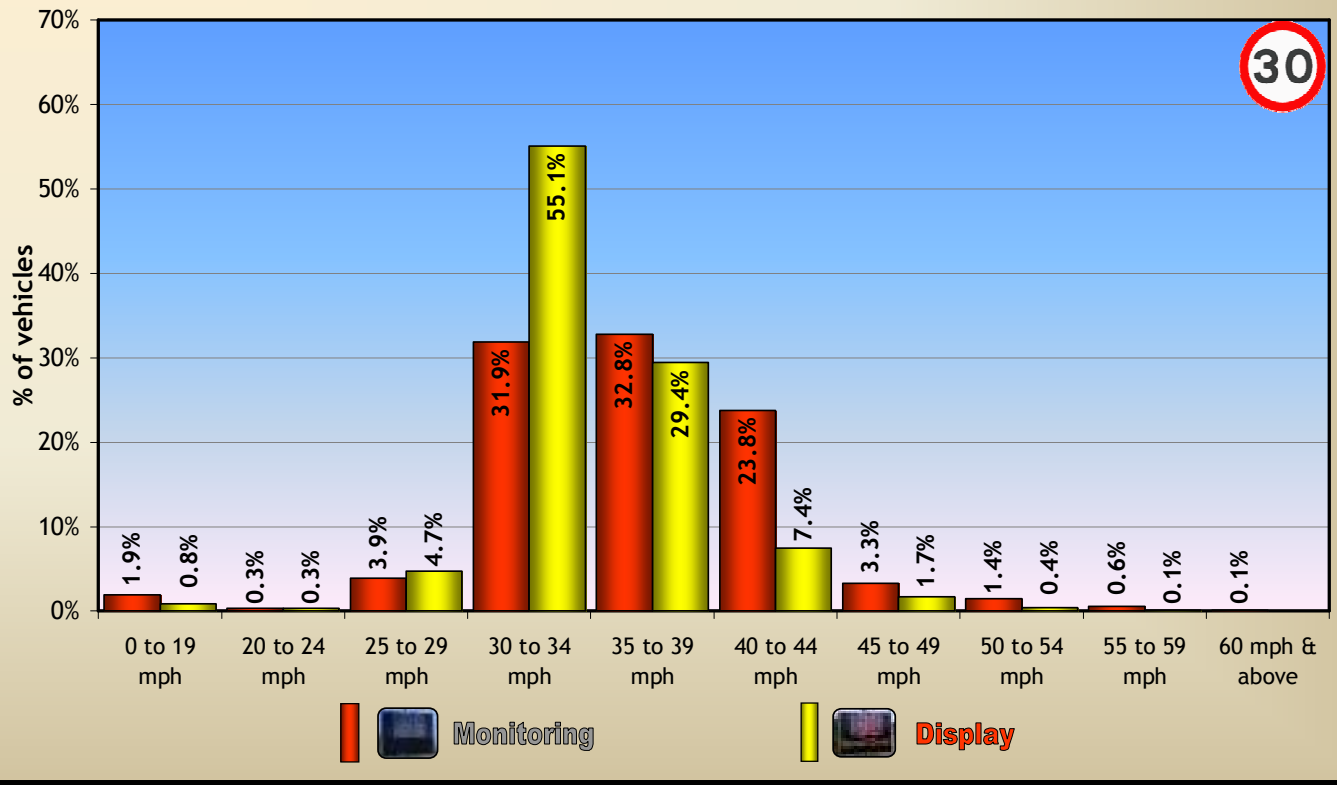
Speed Frequencies

A388 Carkeel (south-eastbound) August 2008

Speed Class	Percentage of Observations		
	 **Monitoring** No Display of Speed Limit	 **Display** With Display of Speed Limit	**Change in Speed Frequencies** Monitoring to Display
0 mph to 19 mph	1.9	0.8	-1.1
20 mph to 24 mph	0.3	0.3	0.0
25 mph to 29 mph	3.9	4.7	+0.8
30 mph to 34 mph	31.9	55.1	+23.2
35 mph to 39 mph	32.8	29.4	-3.4
40 mph to 44 mph	23.8	7.4	-16.4
45 mph to 49 mph	3.3	1.7	-1.6
50 mph to 54 mph	1.4	0.4	-1.0
55 mph to 59 mph	0.6	0.1	-0.5
60 mph & above	0.1	0.0	-0.1
Total	**100.0**	**100.0**	**-**

Speed Frequencies

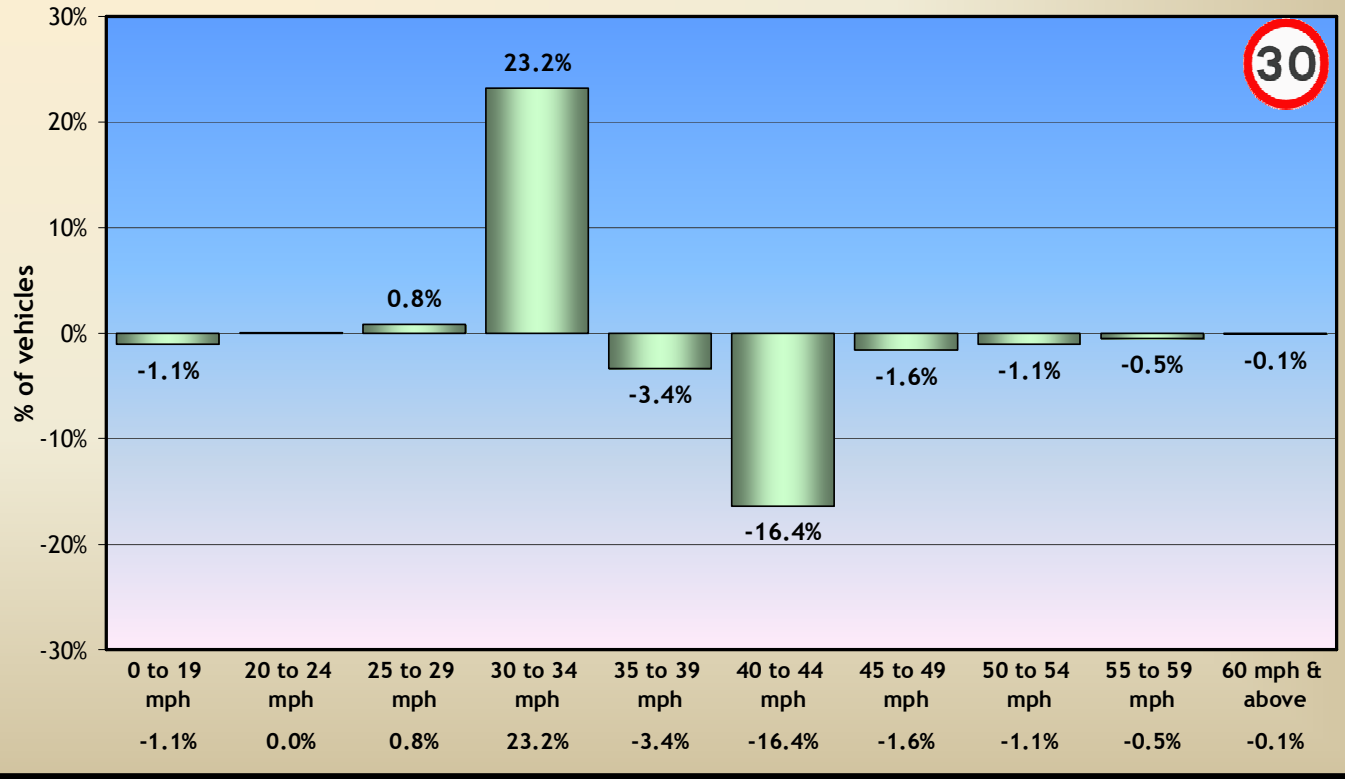
A388 Carkeel



Speed Frequencies

Change in Speed Frequencies from Monitoring to Display Phase

A388 . Carkeel



Monitoring

No Display of Speed Limit

Daily Speed Frequencies

A388 Carkeel (south-eastbound) August 2008

Part 1 of 1

Date	Number of Observations										
	0 to 19 mph	20 to 24 mph	25 to 29 mph	30 to 34 mph	35 to 39 mph	40 to 44 mph	45 to 49 mph	50 to 54 mph	55 to 59 mph	60 mph & above	Total
13/08/2008	200	4	65	608	698	568	73	30	8	1	2,255
14/08/2008	15	7	79	656	680	504	60	37	14	3	2,055
15/08/2008	13	5	86	626	701	533	74	33	19	3	2,093
16/08/2008	5	4	75	579	736	568	86	30	14	3	2,100
17/08/2008	8	8	54	526	676	508	82	36	15	3	1,916
18/08/2008	11	5	89	620	657	527	61	23	8	0	2,001
19/08/2008	26	11	126	1,066	671	284	43	22	10	1	2,260
Total	**278**	**44**	**574**	**4,681**	**4,819**	**3,492**	**479**	**211**	**88**	**14**	**14,680**

Display

With Display of Speed Limit

Daily Speed Frequencies

A388 Carkeel (south-eastbound) August 2008

Part 1 of 1

Date	Number of Observations										
	0 to 19 mph	20 to 24 mph	25 to 29 mph	30 to 34 mph	35 to 39 mph	40 to 44 mph	45 to 49 mph	50 to 54 mph	55 to 59 mph	60 mph & above	Total
20/08/2008	7	9	97	1,341	708	194	41	11	3	0	2,411
21/08/2008	14	9	115	1,294	705	166	40	13	2	1	2,359
22/08/2008	16	10	117	1,309	723	207	43	6	2	0	2,433
23/08/2008	14	7	139	1,357	677	192	39	14	1	1	2,441
24/08/2008	19	6	98	1,115	722	206	48	11	2	2	2,229
25/08/2008	23	6	97	1,154	718	193	62	8	2	0	2,263
26/08/2008	21	5	109	1,296	676	168	30	5	3	0	2,313
27/08/2008	23	6	130	1,392	647	158	31	8	2	0	2,397
28/08/2008	30	6	137	1,365	682	158	38	5	2	0	2,423
29/08/2008	8	9	129	1,445	691	160	44	8	3	1	2,498
30/08/2008	29	6	110	1,385	768	220	47	11	2	0	2,578
31/08/2008	14	14	99	1,124	737	202	42	12	3	1	2,248
01/09/2008	28	13	106	1,345	725	130	41	5	0	0	2,393
02/09/2008	23	10	98	1,345	726	152	34	11	1	0	2,400
03/09/2008	26	2	127	1,394	640	159	29	7	3	0	2,387
04/09/2008	17	6	107	1,315	690	180	34	8	0	0	2,357
05/09/2008	10	9	116	1,451	679	131	14	3	0	0	2,413
06/09/2008	19	10	115	1,329	733	189	50	8	7	0	2,460
07/09/2008	33	5	97	1,179	675	193	50	11	6	2	2,251
Total	**374**	**148**	**2,143**	**24,935**	**13,322**	**3,358**	**757**	**165**	**44**	**8**	**45,254**

Monitoring

No Display of Speed Limit

Hour of Day Summary Table

A388 Carkeel (south-eastbound) August 2008

Hour of Day	Mean Speed	85%ile Speed	Percentage of Vehicles ≤30 mph	Percentage of Vehicles >40 mph
00:00 to 00:59	39.4	46.0	7.2	30.3
01:00 to 01:59	39.4	45.0	8.9	33.7
02:00 to 02:59	40.1	45.0	6.8	38.8
03:00 to 03:59	39.0	45.0	4.2	32.3
04:00 to 04:59	40.1	49.0	5.9	32.9
05:00 to 05:59	33.5	45.0	25.7	31.7
06:00 to 06:59	39.6	44.0	5.8	36.2
07:00 to 07:59	38.0	44.0	5.9	23.6
08:00 to 08:59	35.9	41.0	11.2	15.1
09:00 to 09:59	35.7	40.0	10.6	13.1
10:00 to 10:59	34.7	40.0	13.9	9.5
11:00 to 11:59	35.0	40.0	13.0	9.4
12:00 to 12:59	34.2	40.0	17.5	10.8
13:00 to 13:59	34.5	40.0	12.8	9.3
14:00 to 14:59	35.3	40.0	10.5	9.0
15:00 to 15:59	35.6	40.0	8.8	10.7
16:00 to 16:59	36.1	40.0	7.2	12.7
17:00 to 17:59	36.3	41.0	6.4	17.0
18:00 to 18:59	36.1	41.0	9.0	16.5
19:00 to 19:59	37.6	43.0	6.4	24.6
20:00 to 20:59	36.5	43.0	14.2	18.4
21:00 to 21:59	36.1	43.0	15.5	19.5
22:00 to 22:59	36.4	41.0	12.4	18.9
23:00 to 23:59	36.6	43.0	12.0	20.5

Display
With Display of Speed Limit

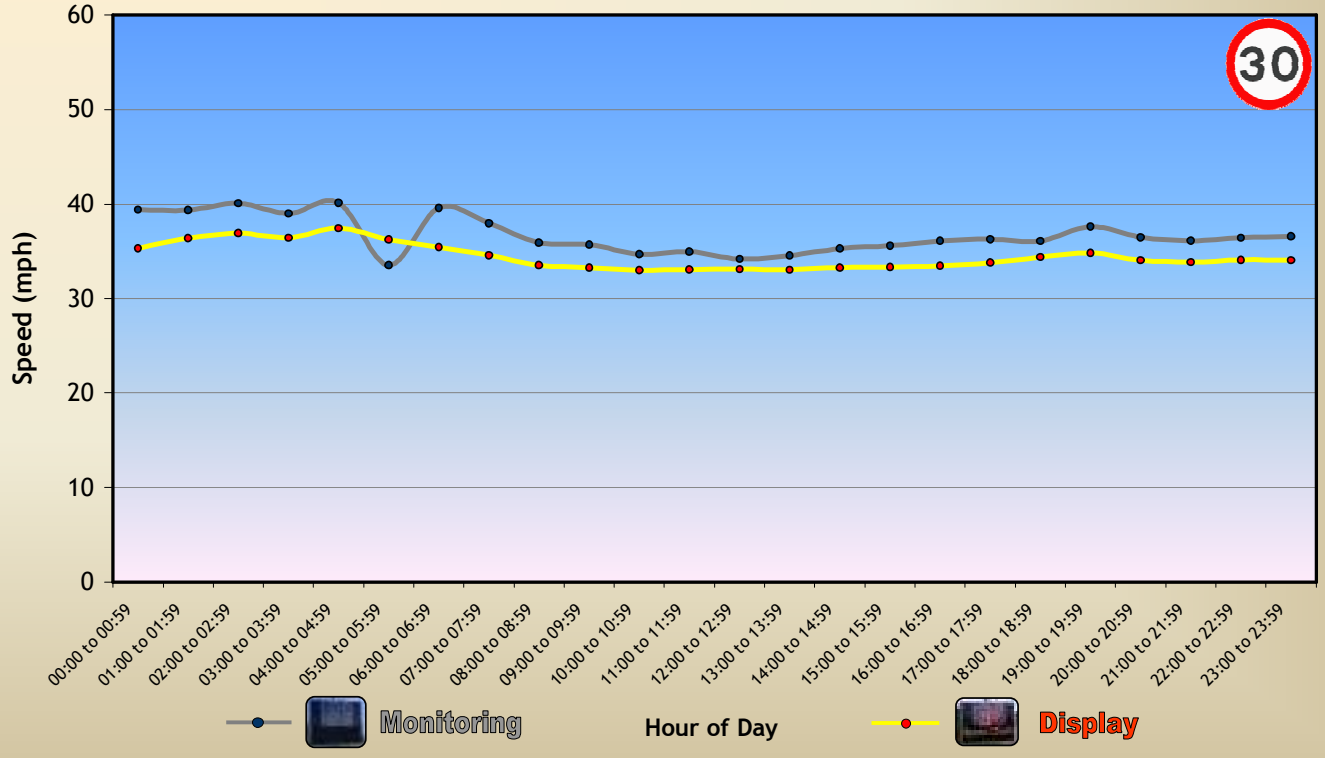
Hour of Day Summary Table

A388 Carkeel (south-eastbound) August 2008

Hour of Day	Mean Speed	85%ile Speed	Percentage of Vehicles ≤30 mph	Percentage of Vehicles >40 mph
00:00 to 00:59	35.3	41.0	10.8	16.0
01:00 to 01:59	36.4	43.0	13.4	23.3
02:00 to 02:59	36.9	43.0	7.8	22.6
03:00 to 03:59	36.4	42.0	9.0	19.4
04:00 to 04:59	37.4	45.0	9.1	27.4
05:00 to 05:59	36.2	42.0	11.1	21.1
06:00 to 06:59	35.4	40.0	9.7	14.0
07:00 to 07:59	34.6	39.0	7.7	9.7
08:00 to 08:59	33.5	37.0	11.9	5.2
09:00 to 09:59	33.3	37.0	13.1	4.3
10:00 to 10:59	33.0	36.0	13.1	2.4
11:00 to 11:59	33.1	36.0	11.9	2.5
12:00 to 12:59	33.1	36.0	11.3	3.3
13:00 to 13:59	33.1	36.0	11.6	3.0
14:00 to 14:59	33.3	36.0	10.2	3.0
15:00 to 15:59	33.3	37.0	10.8	3.0
16:00 to 16:59	33.5	37.0	9.4	3.4
17:00 to 17:59	33.8	37.0	10.4	4.5
18:00 to 18:59	34.4	39.0	9.2	8.9
19:00 to 19:59	34.8	40.0	10.0	11.4
20:00 to 20:59	34.0	39.0	15.3	8.9
21:00 to 21:59	33.9	38.0	17.5	8.9
22:00 to 22:59	34.1	40.0	15.4	11.2
23:00 to 23:59	34.1	39.0	17.5	11.7

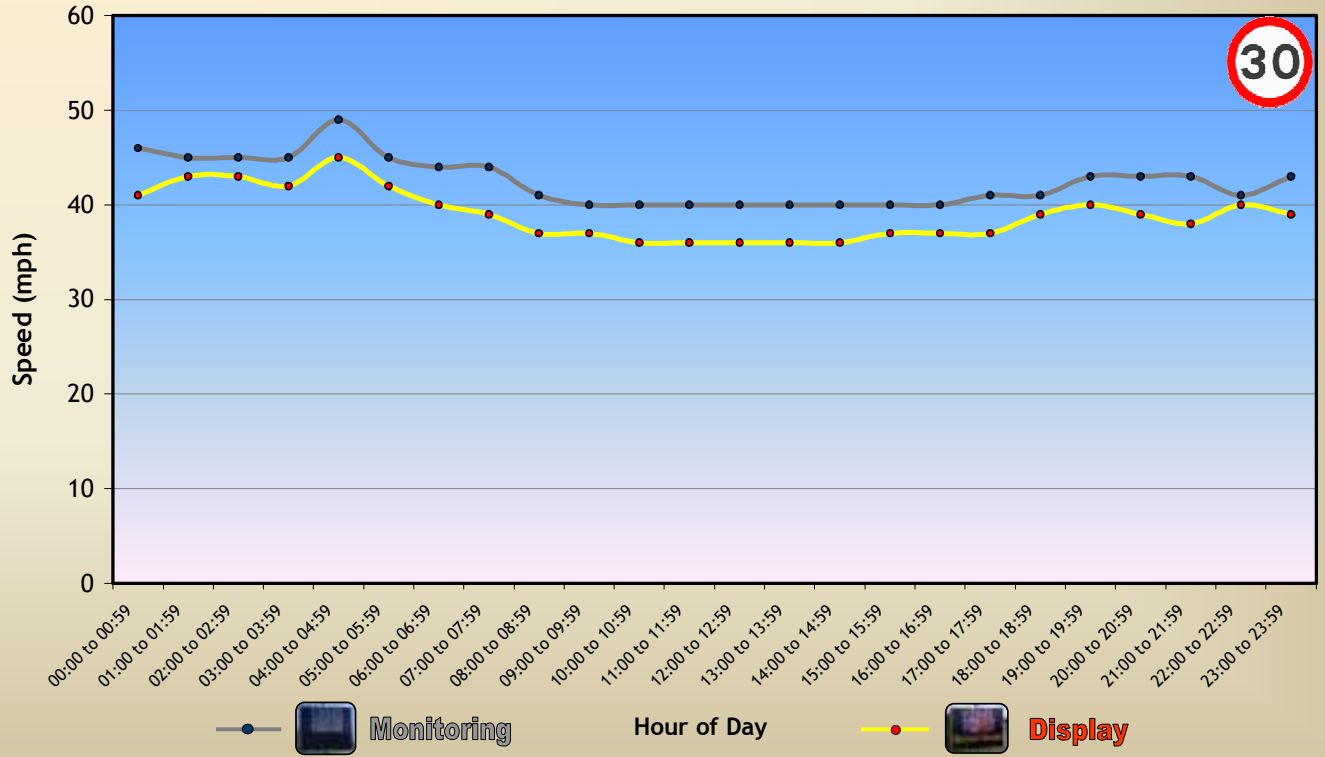
Mean Speed by Hour

A388 - Carkeel



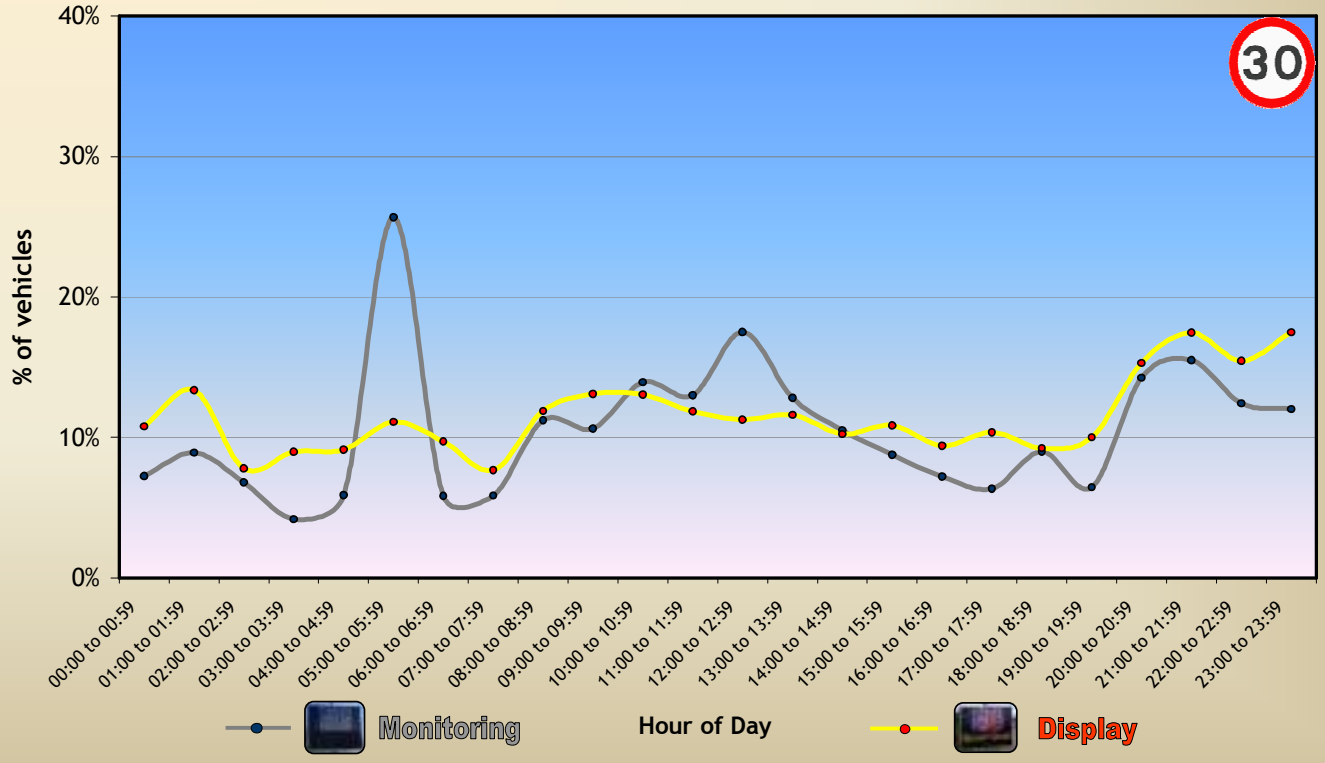
85%ile Speed by Hour

A388 Carkeel



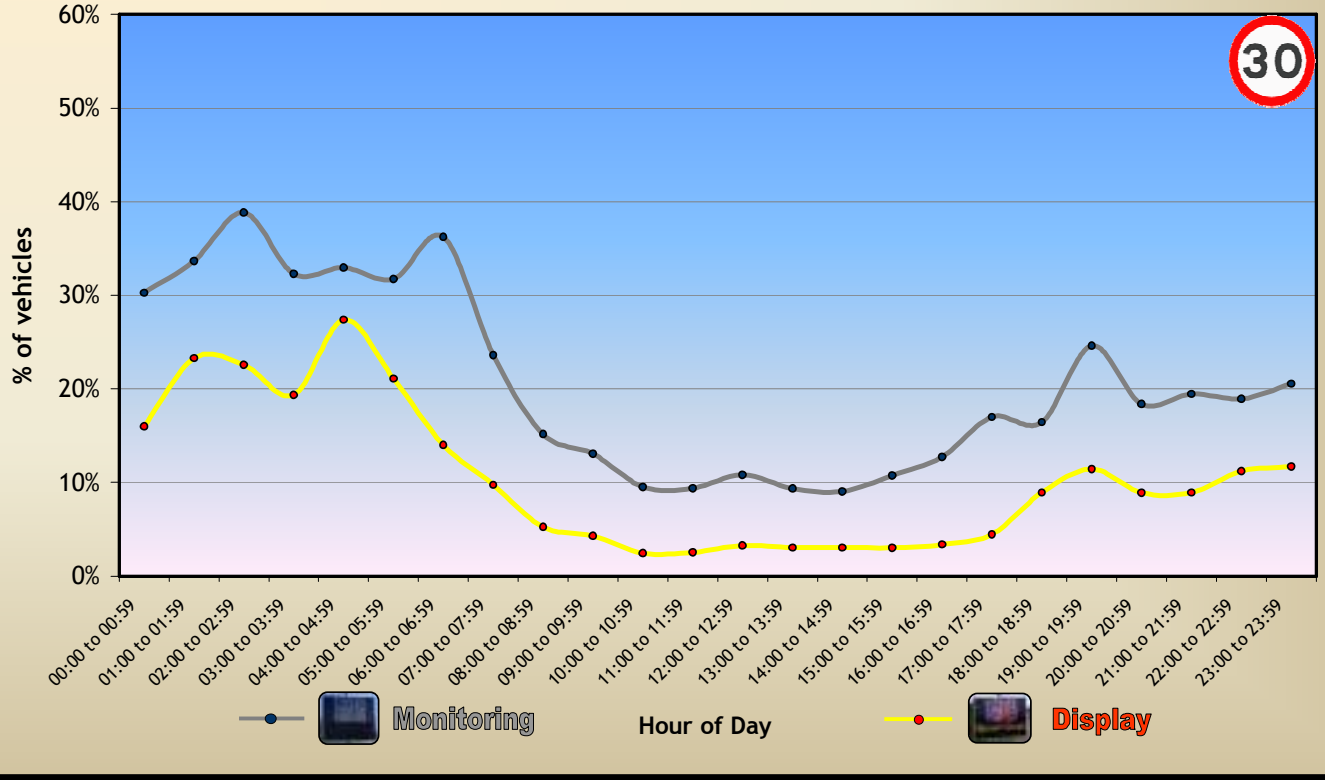
Percentage of Vehicles ≤30mph by hour

A388 Carkeel



Percentage of Vehicles >40mph by hour

A388 - Carkeel



SpeedVISOR

A388 Callington Road, Carkeel (south-eastbound) March 2009

GIS Summary

Prepared by
Highway Services
Highway Design Group

Dr T B Flanagan, BEng (Hons), PhD, CEng, MICE, MIHT
Corporate Director

Environment, Planning & Economy
Cornwall Council
County Hall, Truro, Cornwall, TR1 3AY

Issue and Revision Record

Revision	Date	Originator	Purpose of Issue/Nature of Change
0	06/05/2009	S. Ball	Original

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Highway Design Group
SpeedVISOR

Callington Road, Carkeel (South-eastbound) March 2009

Road №:	A388	30	**SpeedVISOR Unit №:**	Unit 9
Column №:	L001		**Direction of Travel:**	South-eastbound
Region:	East	**Speed Limit**	**OS Grid Reference:**	240848 / 060565

Summary Table	Monitoring No Display of Speed Limit	Display With Display of Speed Limit
Start:	18/03/2009	25/03/2009
Finish:	24/03/2009	20/04/2009
Duration:	7 Days	27 Days
№ of Observations:	20,145	77,261

Speed Statistics	Monitoring	Display	Difference Monitoring to Display
Mean Speed (mph):	35.4	32.9	-2.5
85%ile Speed (mph):	40.0	36.0	-4.0
% ≤30 mph:	12.1	16.6	+4.5
% >40 mph:	9.1	2.8	-6.3

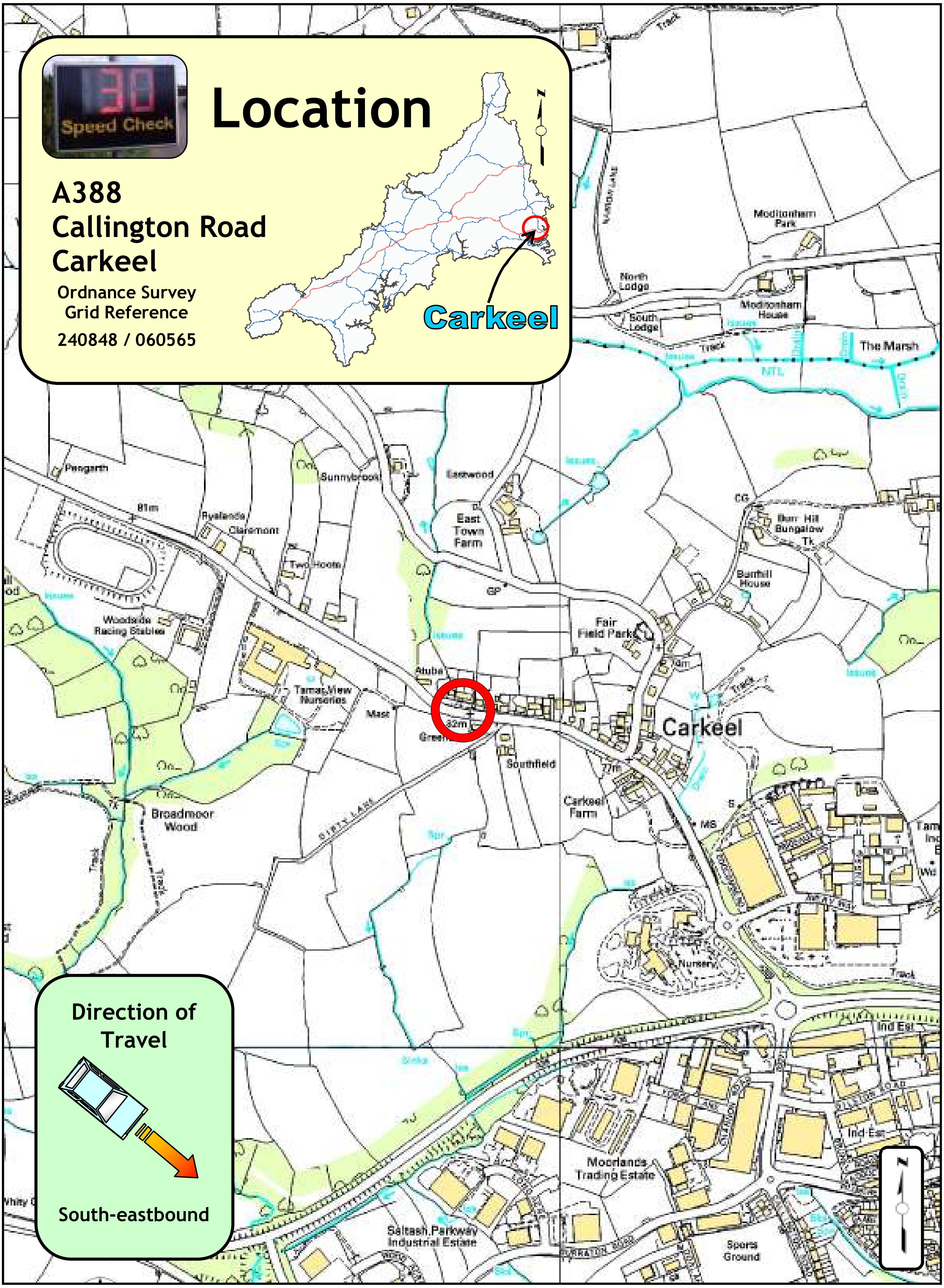
Comments:	

Data Submitted by: Lee Hibberd	**Data Processed by:** Donna Nimmo

Location

A388
Callington Road
Carkeel

Ordnance Survey
Grid Reference
240848 / 060565



Direction of Travel

South-eastbound

Highway Design Group
SpeedVISOR
Glossary of Terms & Abbreviations

SpeedVISOR is a vehicle activated sign that detects and records the speed of passing vehicles. The front of the unit has the words "Speed Check" beneath bright light emitting diodes (LED) to display the speed limit to motorists contravening the prescribed local limit.

The principal role of the unit is to raise awareness of speeding as anti-social behaviour. By displaying the speed limit to speeding motorists, the sign will draw attention to the speed at which they are travelling and remind them to moderate their speed to an appropriate level below the speed limit

Monitoring
No Display of Speed Limit

The phase of operation at which the LED display of the SpeedVISOR Sign is disabled and the "Speed Check" text on the front of the unit covered-up. In this phase, the unit only monitors and records the speed of passing traffic.

Display
With Display of Speed Limit

The phase of operation at which the "Speed Check" text on the front of the SpeedVISOR unit is uncovered and the LED display activated. In this phase, the SpeedVISOR unit monitors and records the speed of passing traffic; any vehicles passing at speeds of greater than 10% in excess of the speed limit activate the display on the front of unit and the LED sign flashes the designated speed limit to the driver of the passing vehicle.

№ of Observations: The number of readings recorded by the radar. This does not correspond to an exact count of vehicles passing the sign, since vehicles may pass the sign in a tightly packed group (or 'platoon'); the radar is unable to distinguish individual vehicles.

Mean Speed: The arithmetic average of all the speed values recorded.

85%ile Speed: The speed at or below which 85% of the vehicles recorded were travelling.

% ≤30 mph: The percentage of vehicles travelling at speeds of 30 mph or below (i.e. the percentage of vehicles travelling at or within the 30 mph speed limit).

% >40 mph: The percentage of vehicles travelling at speeds greater than 40 mph (i.e. the percentage of vehicles travelling at speeds in excess of 10mph above the 30 mph speed limit).

Monitoring

No Display of Speed Limit

Daily Summary Table

A388 Callington Road, Carkeel (south-eastbound) March 2009

Part 1 of 1

Date	Mean Speed	85%ile Speed	Percentage of Vehicles ≤30 mph	Percentage of Vehicles >40 mph
18/03/2009	35.5	40.0	12.9	9.4
19/03/2009	35.4	40.0	12.5	8.7
20/03/2009	35.0	40.0	14.7	7.2
21/03/2009	35.8	40.0	11.8	11.3
22/03/2009	35.9	40.0	10.5	12.0
23/03/2009	35.7	40.0	11.4	10.1
24/03/2009	34.5	39.0	11.0	5.6

Display
With Display of Speed Limit

Daily Summary Table

A388 Callington Road, Carkeel (south-eastbound) March 2009

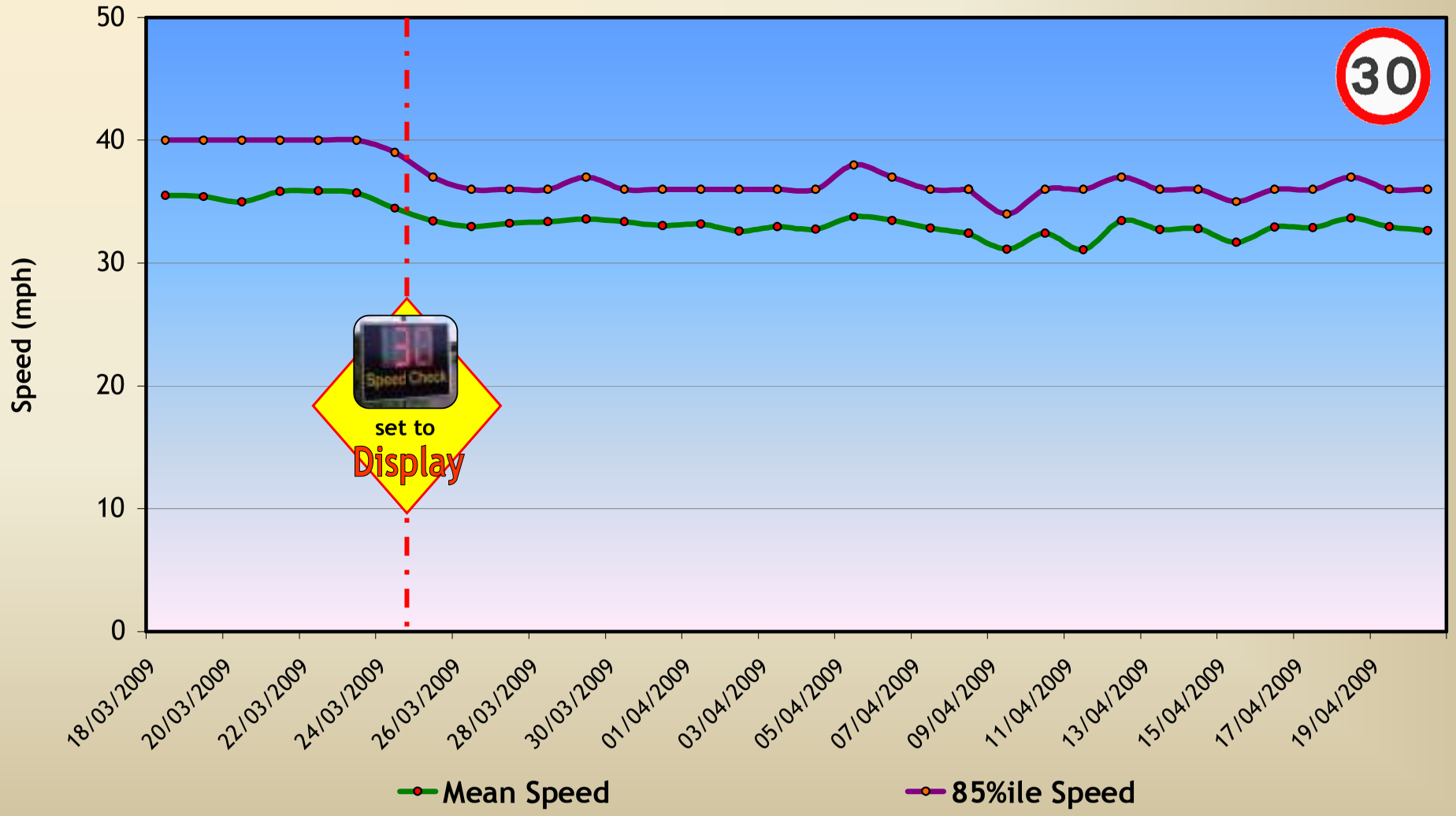
Part 1 of 1

Date	Mean Speed	85%ile Speed	Percentage of Vehicles ≤30 mph	Percentage of Vehicles >40 mph
25/03/2009	33.4	37.0	12.5	3.0
26/03/2009	33.0	36.0	12.3	2.5
27/03/2009	33.2	36.0	12.0	2.5
28/03/2009	33.4	36.0	13.2	3.5
29/03/2009	33.6	37.0	11.1	4.2
30/03/2009	33.4	36.0	12.9	3.1
31/03/2009	33.1	36.0	14.5	2.8
01/04/2009	33.2	36.0	13.4	2.6
02/04/2009	32.6	36.0	23.2	3.0
03/04/2009	33.0	36.0	15.2	1.9
04/04/2009	32.8	36.0	20.2	2.1
05/04/2009	33.8	38.0	13.9	5.2
06/04/2009	33.5	37.0	13.9	3.6
07/04/2009	32.8	36.0	13.5	2.0
08/04/2009	32.4	36.0	16.9	1.6
09/04/2009	31.1	34.0	39.7	1.1
10/04/2009	32.4	36.0	26.8	2.5
11/04/2009	31.1	36.0	22.9	3.2
12/04/2009	33.5	37.0	17.2	4.5
13/04/2009	32.7	36.0	26.8	4.4
14/04/2009	32.8	36.0	17.1	2.0
15/04/2009	31.7	35.0	19.0	1.6
16/04/2009	32.9	36.0	14.7	2.2
17/04/2009	32.9	36.0	19.3	3.1
18/04/2009	33.7	37.0	13.8	4.1
19/04/2009	33.0	36.0	18.8	3.8
20/04/2009	32.7	36.0	21.7	2.3

Highway Design Group
SpeedVISOR

Mean & 85%ile Speed

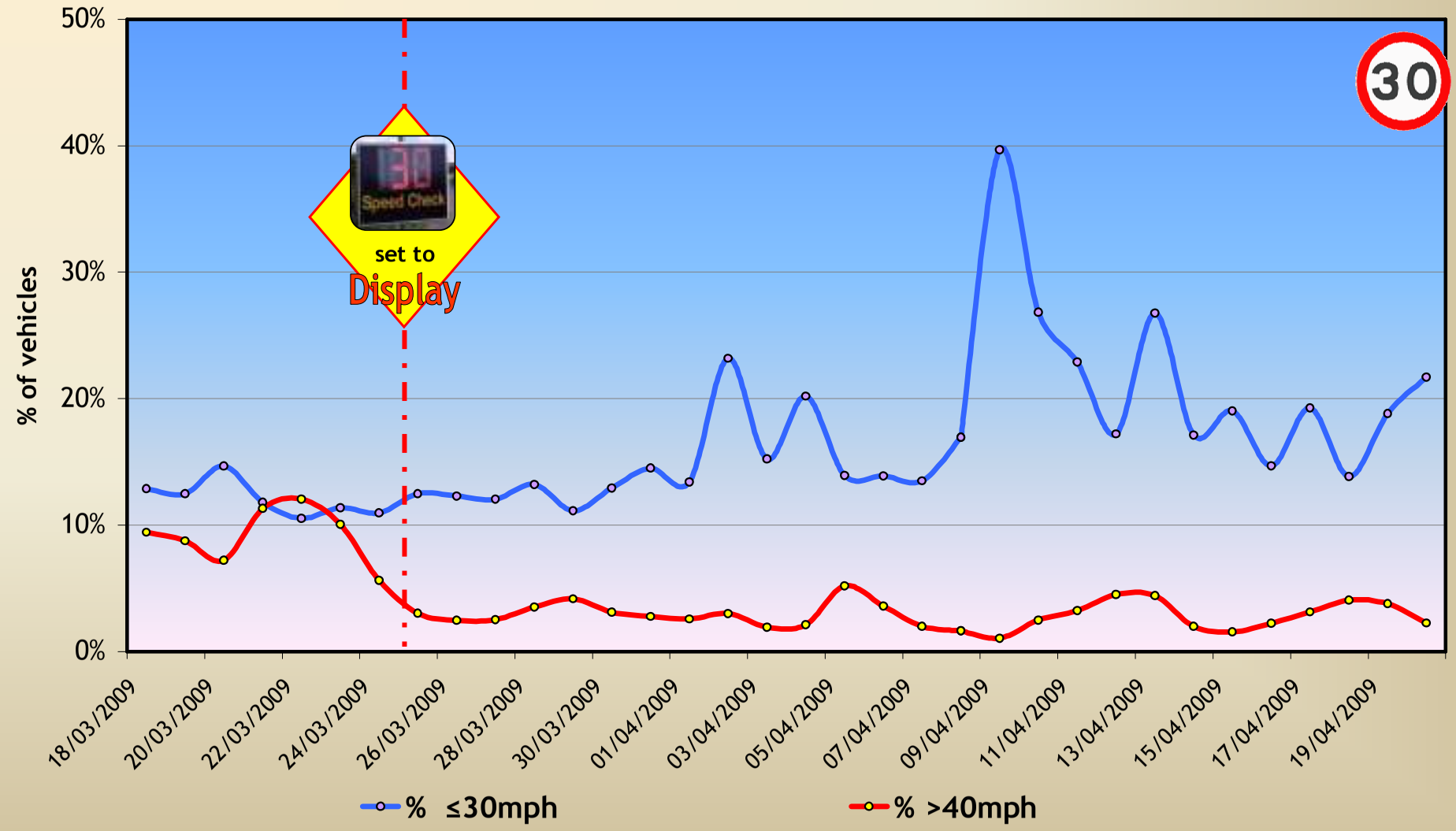
A388 Callington Road, Carkeel



Highway Design Group
SpeedVISOR

Percentage of Vehicles ≤30mph & >40mph

A388 Callington Road, Carkeel



Speed Frequencies

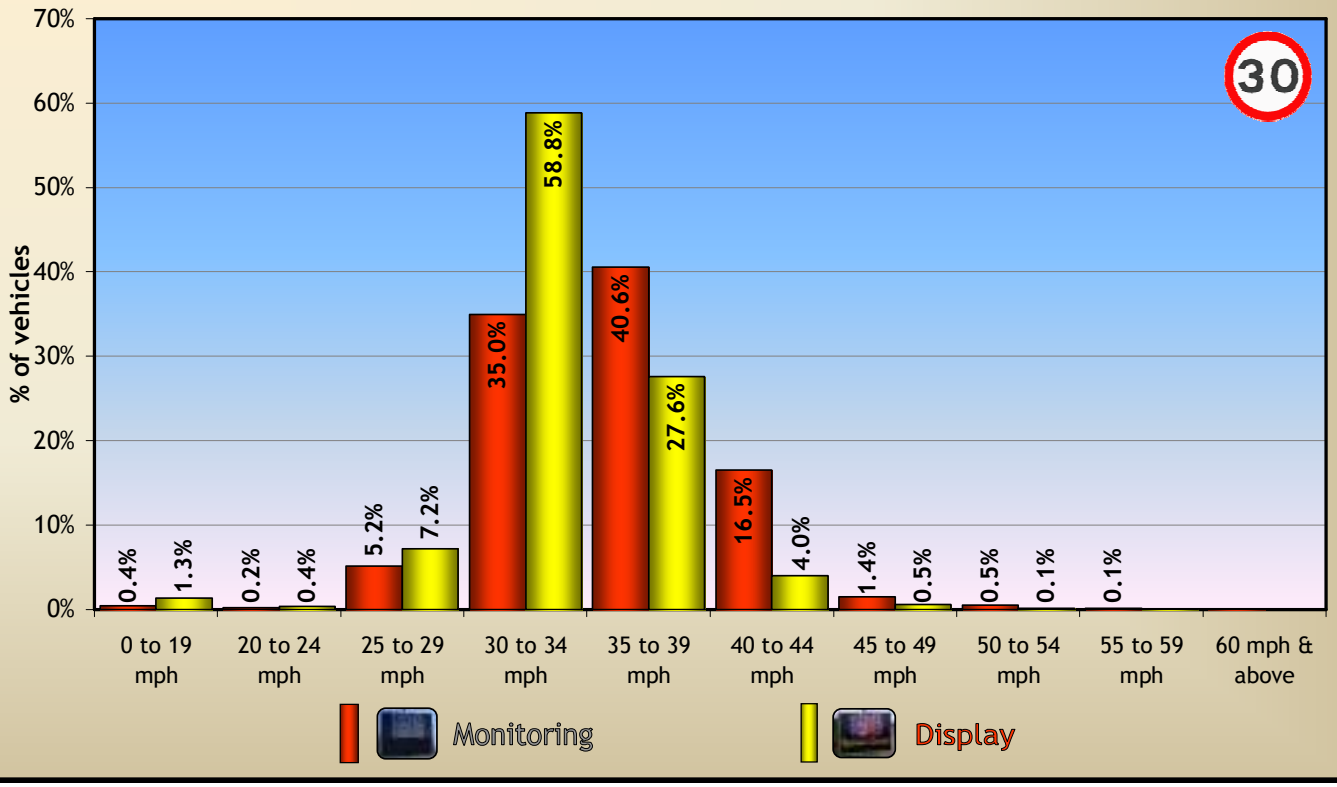
A388 Callington Road, Carkeel (south-eastbound) March 2009

Speed Class	Percentage of Observations		
	 Monitoring No Display of Speed Limit	 Display With Display of Speed Limit	Change in Speed Frequencies Monitoring to Display
0 mph to 19 mph	0.4	1.3	+0.9
20 mph to 24 mph	0.2	0.4	+0.2
25 mph to 29 mph	5.2	7.2	+2.0
30 mph to 34 mph	35.0	58.8	+23.8
35 mph to 39 mph	40.6	27.6	-13.0
40 mph to 44 mph	16.5	4.0	-12.5
45 mph to 49 mph	1.4	0.5	-0.9
50 mph to 54 mph	0.5	0.1	-0.4
55 mph to 59 mph	0.1	0.0	-0.1
60 mph & above	0.0	0.0	0.0
Total	**100.0**	**100.0**	**-**

Highway Design Group SpeedVISOR

Speed Frequencies

A388 Callington Road, Carkeel

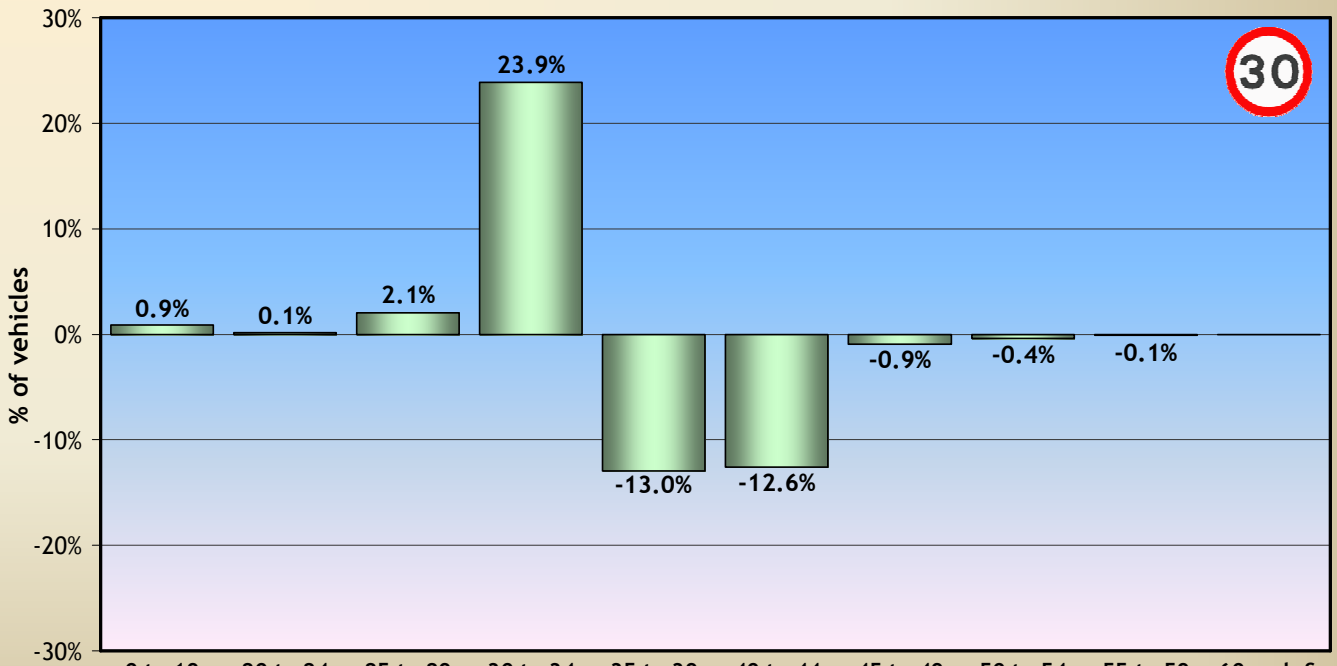


Highway Design Group SpeedVISOR

Speed Frequencies

Change in Speed Frequencies from Monitoring to Display Phase

A388 Callington Road, Carkeel



Monitoring

No Display of Speed Limit

Daily Speed Frequencies

A388 Callington Road, Carkeel (south-eastbound) March 2009

Part 1 of 1

Date	Number of Observations										
	0 to 19 mph	20 to 24 mph	25 to 29 mph	30 to 34 mph	35 to 39 mph	40 to 44 mph	45 to 49 mph	50 to 54 mph	55 to 59 mph	60 mph & above	Total
18/03/2009	14	6	141	920	1,148	508	44	13	3	0	2,797
19/03/2009	14	6	139	985	1,205	484	44	15	1	0	2,893
20/03/2009	5	6	222	1,180	1,249	445	35	10	3	2	3,157
21/03/2009	14	7	143	878	1,212	557	50	23	3	2	2,889
22/03/2009	10	5	126	869	1,126	503	52	17	6	1	2,715
23/03/2009	15	12	128	821	1,144	505	38	17	4	0	2,684
24/03/2009	17	4	139	1,388	1,093	331	28	8	2	0	3,010
Total	**89**	**46**	**1,038**	**7,041**	**8,177**	**3,333**	**291**	**103**	**22**	**5**	**20,145**

Display
With Display of Speed Limit

Daily Speed Frequencies

A388 Callington Road, Carkeel (south-eastbound) March 2009

Part 1 of 1

Date	Number of Observations										
	0 to 19 mph	20 to 24 mph	25 to 29 mph	30 to 34 mph	35 to 39 mph	40 to 44 mph	45 to 49 mph	50 to 54 mph	55 to 59 mph	60 mph & above	Total
25/03/2009	18	5	184	1,804	1,065	143	14	7	0	0	3,240
26/03/2009	41	12	158	1,851	877	111	12	4	0	0	3,066
27/03/2009	34	7	160	2,005	1,073	130	22	4	1	1	3,437
28/03/2009	30	7	175	1,863	1,062	167	18	1	0	0	3,323
29/03/2009	16	6	119	1,668	909	148	31	3	1	0	2,901
30/03/2009	20	9	168	1,899	1,008	140	17	5	0	0	3,266
31/03/2009	25	11	201	1,907	957	128	10	4	0	0	3,243
01/04/2009	21	8	194	2,063	1,029	121	21	4	1	0	3,462
02/04/2009	14	17	342	1,552	636	108	22	4	0	0	2,695
03/04/2009	13	8	248	2,360	1,027	116	11	1	1	0	3,785
04/04/2009	9	18	317	1,998	872	105	7	2	0	0	3,328
05/04/2009	7	6	133	997	622	110	25	7	2	0	1,909
06/04/2009	6	3	114	1,022	553	92	12	3	1	0	1,806
07/04/2009	75	13	226	2,581	1,225	142	16	1	0	1	4,280
08/04/2009	70	6	273	2,427	954	95	7	2	0	0	3,834
09/04/2009	4	7	142	407	89	8	1	0	0	0	658
10/04/2009	7	10	175	709	295	46	6	1	0	0	1,249
11/04/2009	348	23	234	1,994	920	159	27	1	2	1	3,709
12/04/2009	4	8	157	991	571	119	10	3	1	1	1,865
13/04/2009	14	15	273	1,129	504	115	26	2	0	0	2,078
14/04/2009	20	13	354	2,836	1,123	153	15	1	0	0	4,515
15/04/2009	170	36	235	2,302	821	92	11	0	1	1	3,669
16/04/2009	15	8	203	2,298	907	111	17	3	0	0	3,562
17/04/2009	20	6	170	983	479	87	10	0	0	0	1,755
18/04/2009	0	5	98	748	428	88	10	1	2	0	1,380
19/04/2009	7	12	321	2,036	854	172	29	3	0	0	3,434
20/04/2009	10	10	208	1,035	475	63	8	2	1	0	1,812
Total	**1,018**	**289**	**5,582**	**45,468**	**21,336**	**3,069**	**415**	**69**	**14**	**5**	**77,261**

Monitoring
No Display of Speed Limit

Hour of Day Summary Table

A388 Callington Road, Carkeel (south-eastbound) March 2009

Hour of Day	Mean Speed	85%ile Speed	Percentage of Vehicles ≤30 mph	Percentage of Vehicles >40 mph
00:00 to 00:59	37.3	43.6	12.1	23.6
01:00 to 01:59	40.3	47.0	4.4	38.2
02:00 to 02:59	38.5	43.0	5.7	24.3
03:00 to 03:59	38.0	43.0	8.6	24.7
04:00 to 04:59	39.0	47.3	7.0	34.9
05:00 to 05:59	38.2	44.0	10.9	30.9
06:00 to 06:59	38.4	43.0	4.9	25.7
07:00 to 07:59	36.4	40.0	7.8	11.4
08:00 to 08:59	36.0	40.0	9.2	9.7
09:00 to 09:59	34.8	40.0	15.0	6.5
10:00 to 10:59	34.8	39.0	15.4	5.4
11:00 to 11:59	34.6	39.0	15.5	5.8
12:00 to 12:59	34.7	39.0	15.0	4.9
13:00 to 13:59	34.7	39.0	13.1	4.9
14:00 to 14:59	34.2	38.0	15.7	3.9
15:00 to 15:59	34.6	39.0	14.2	4.3
16:00 to 16:59	35.0	39.5	11.4	6.0
17:00 to 17:59	35.1	40.0	9.2	6.4
18:00 to 18:59	35.6	40.0	10.0	9.3
19:00 to 19:59	35.7	40.0	10.4	10.5
20:00 to 20:59	36.4	41.0	8.5	15.7
21:00 to 21:59	36.4	41.0	9.2	17.6
22:00 to 22:59	36.9	43.0	10.5	20.7
23:00 to 23:59	36.9	43.0	9.6	22.0

Display
With Display of Speed Limit

Hour of Day Summary Table

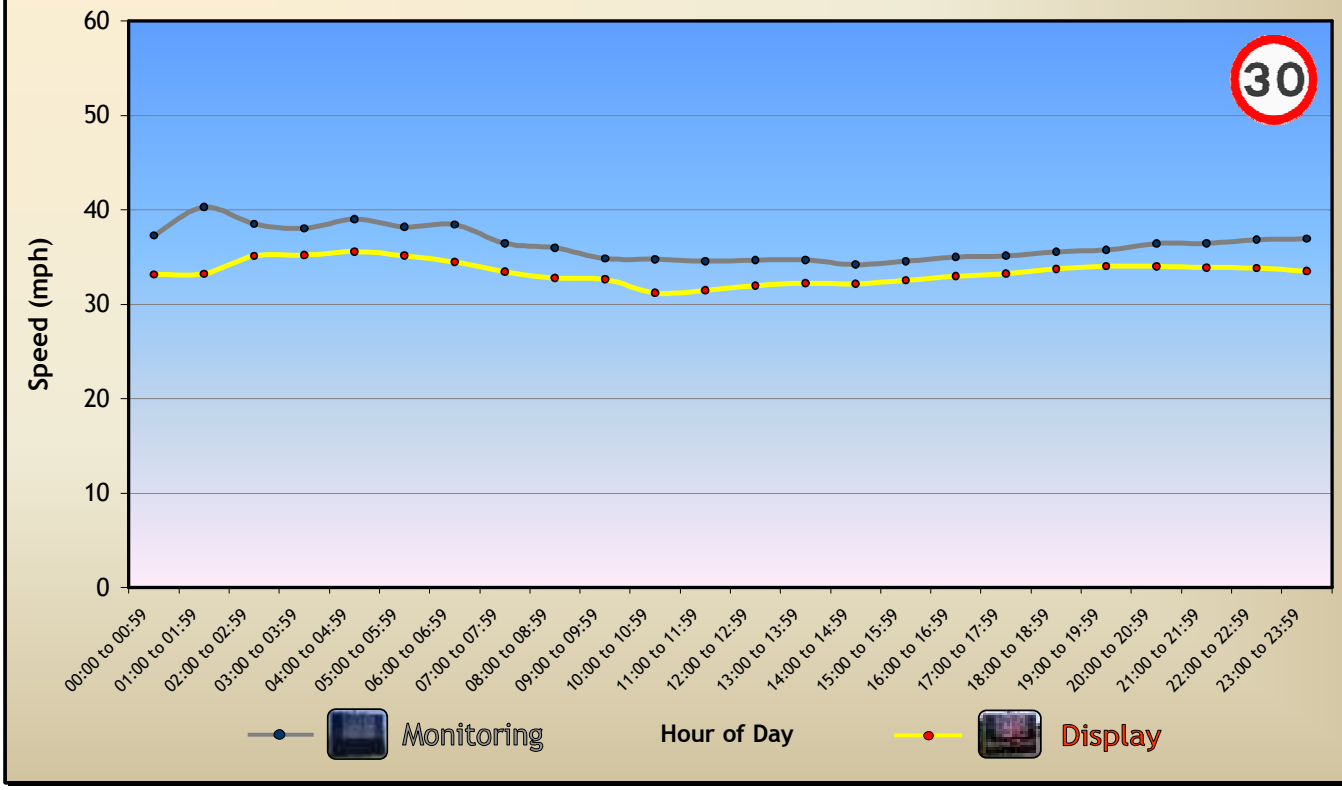
A388 Callington Road, Carkeel (south-eastbound) March 2009

Hour of Day	Mean Speed	85%ile Speed	Percentage of Vehicles ≤30 mph	Percentage of Vehicles >40 mph
00:00 to 00:59	33.2	39.0	20.0	10.2
01:00 to 01:59	33.2	40.0	18.6	11.3
02:00 to 02:59	35.1	40.0	12.5	13.0
03:00 to 03:59	35.2	40.0	10.9	14.1
04:00 to 04:59	35.6	42.0	11.3	19.2
05:00 to 05:59	35.2	40.0	12.0	12.7
06:00 to 06:59	34.5	38.0	9.8	6.5
07:00 to 07:59	33.4	37.0	11.4	3.5
08:00 to 08:59	32.8	36.0	15.7	2.4
09:00 to 09:59	32.6	36.0	17.7	1.3
10:00 to 10:59	31.2	35.0	25.3	0.8
11:00 to 11:59	31.5	35.0	23.6	0.7
12:00 to 12:59	32.0	35.0	21.5	0.7
13:00 to 13:59	32.2	35.0	20.4	1.0
14:00 to 14:59	32.2	35.0	20.4	0.7
15:00 to 15:59	32.5	35.0	17.1	1.0
16:00 to 16:59	33.0	36.0	12.9	1.3
17:00 to 17:59	33.3	36.0	11.8	1.9
18:00 to 18:59	33.7	37.0	11.4	3.5
19:00 to 19:59	34.0	38.0	12.3	5.0
20:00 to 20:59	34.0	38.0	14.0	6.2
21:00 to 21:59	33.9	38.0	13.2	5.9
22:00 to 22:59	33.8	38.0	14.0	6.6
23:00 to 23:59	33.5	39.0	17.8	9.9

Highway Design Group SpeedVISOR

Mean Speed by Hour

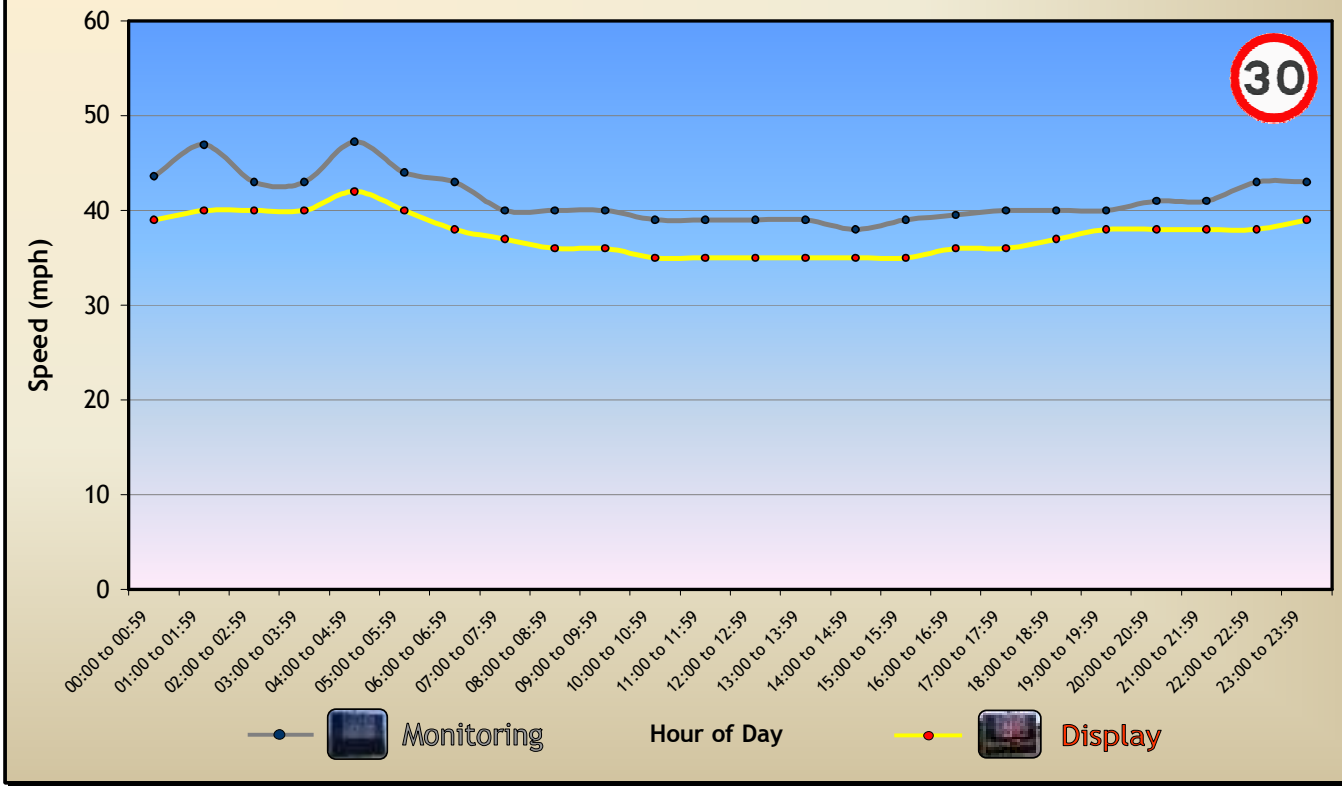
A388 Callington Road, Carkeel



Highway Design Group SpeedVISOR

85%ile Speed by Hour

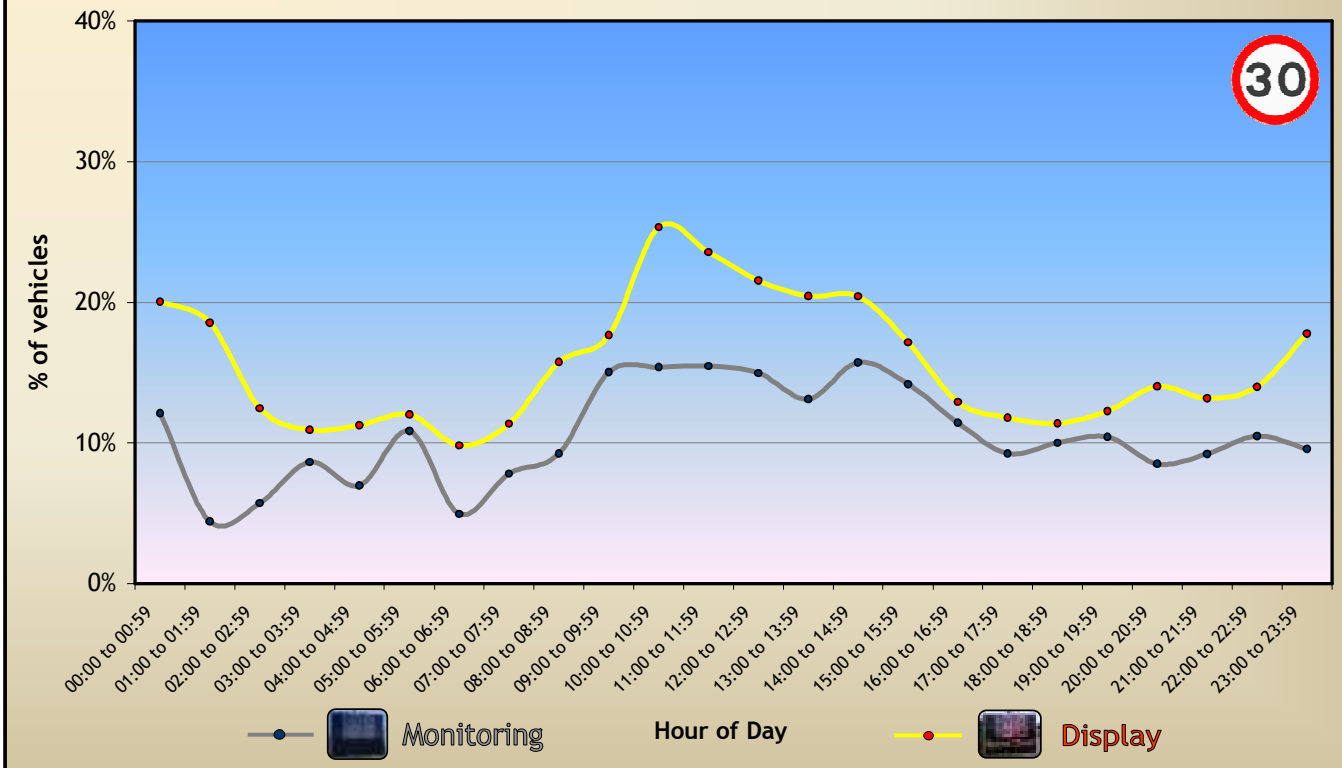
A388 Callington Road, Carkeel



Highway Design Group SpeedVISOR

Percentage of Vehicles ≤30mph by hour

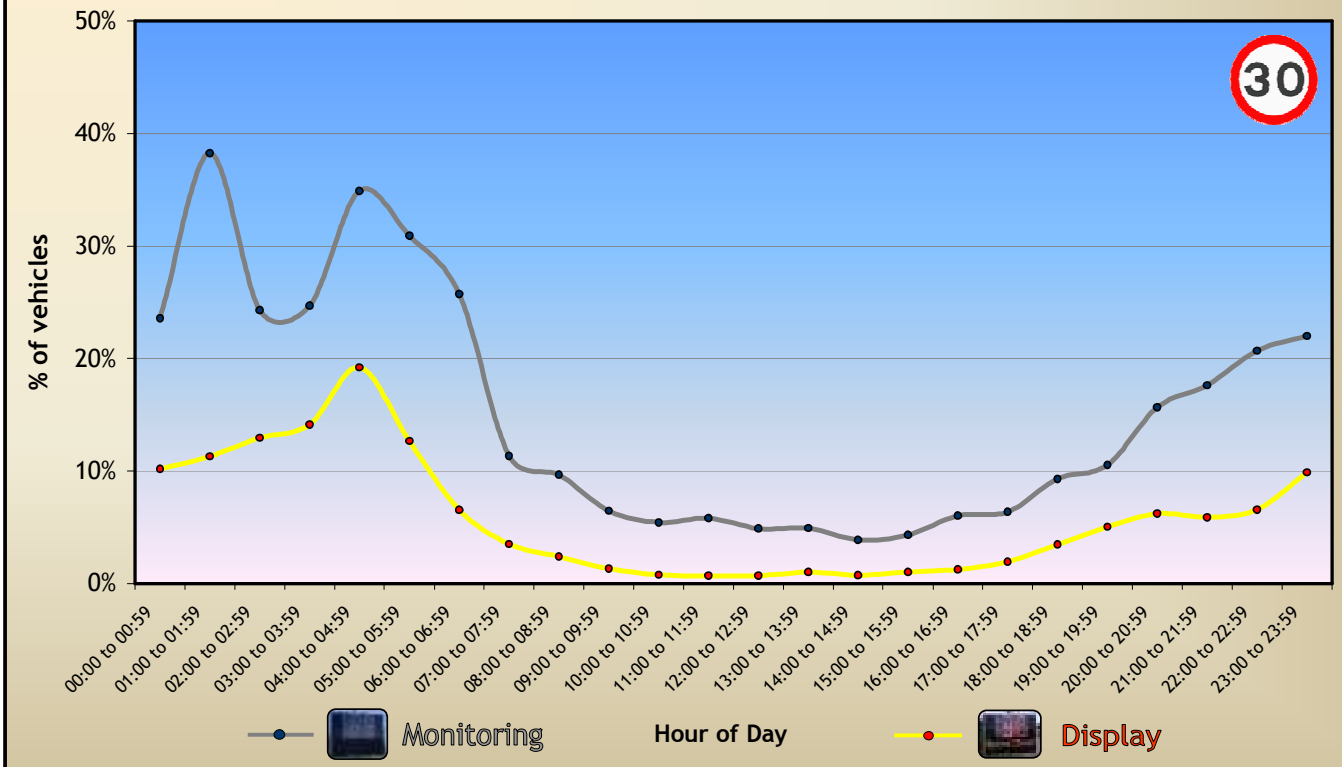
A388 Callington Road, Carkeel



Highway Design Group SpeedVISOR

Percentage of Vehicles >40mph by hour

A388 Callington Road, Carkeel

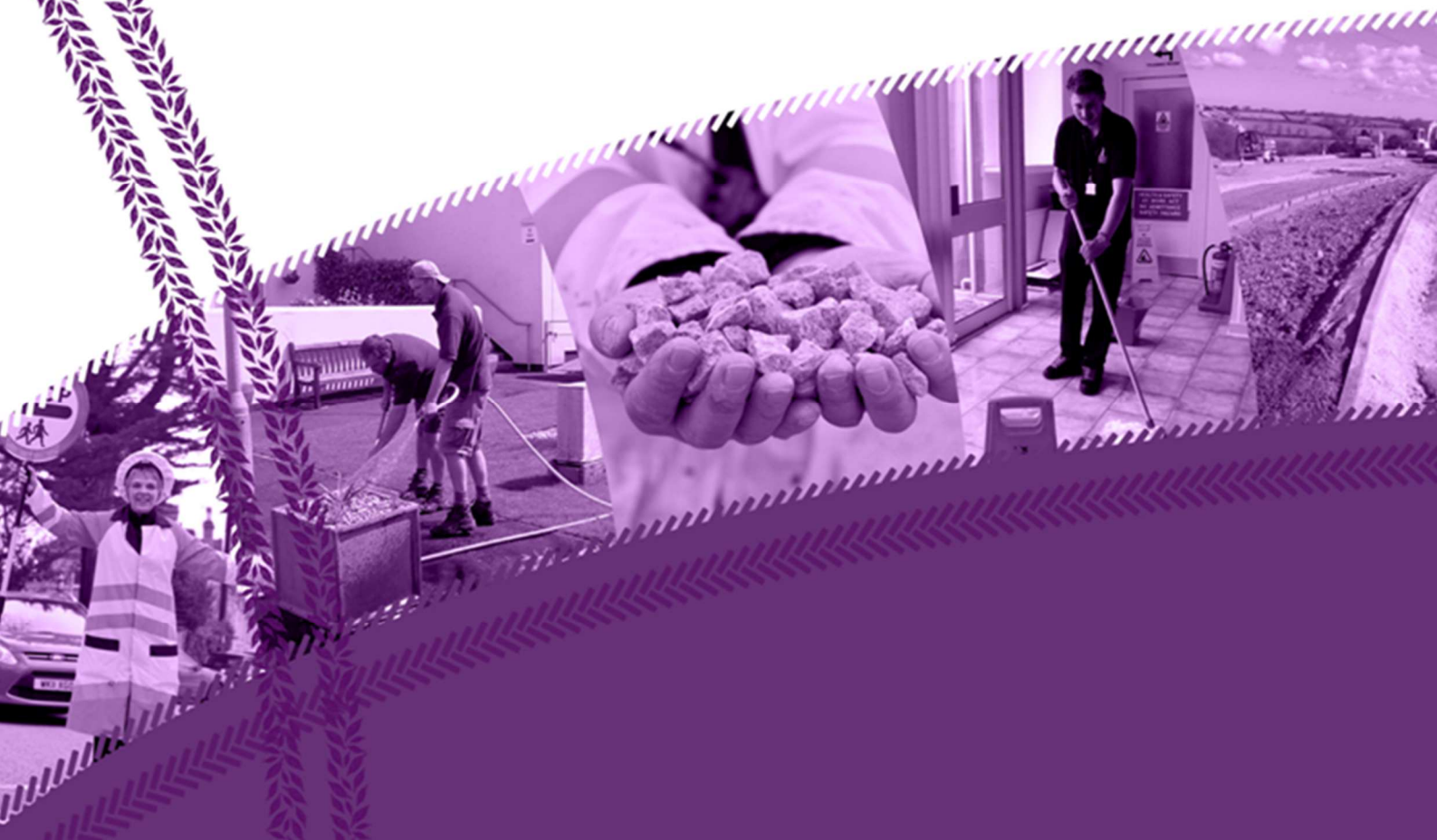


RadarClass

A388 Carkeel
September 2014
Report

03/10/2014

CORMAC Consultancy
Engineering Design Group
CORMAC Western Region,
Radnor Road, Scorrier, Redruth, Cornwall, TR16 5EH.



RadarClass

A388 Carkeel
September 2014

North-westbound / South-eastbound

Route №	Column №	Neighbourhood Service Area	RadarClass Unit ID	Ordnance Survey Grid Reference
A388	Post	East	Unit 10	241109 / 060481

Date of Deployment	End of Operation	Total Period of Operation
17/09/2014	24/09/2014	8 days

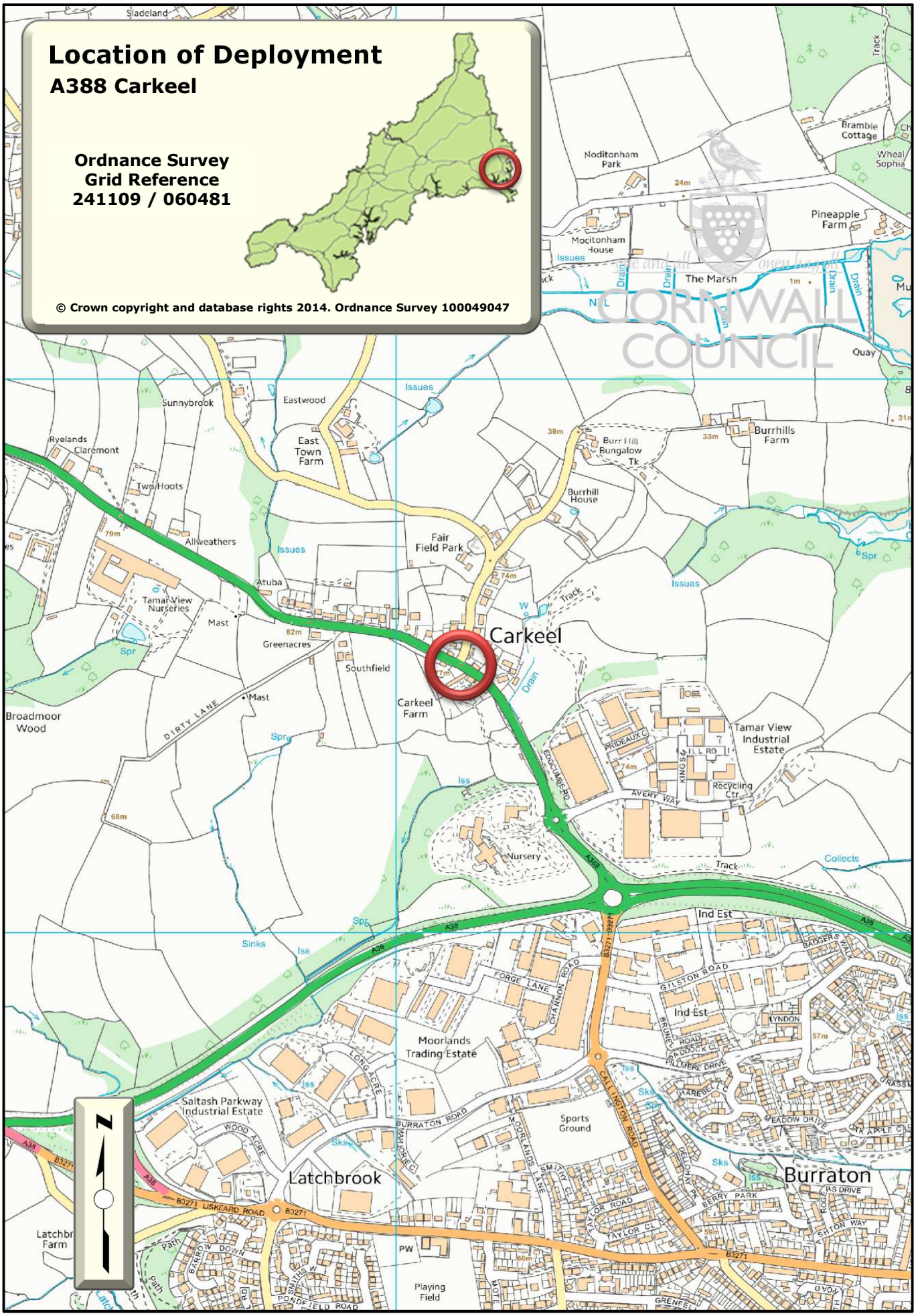
Summary Table

Speed Limit	All Observations		Weekdays		Weekends	
	North-westbound	South-eastbound	North-westbound	South-eastbound	North-westbound	South-eastbound
Number of Observations:	**44,754**	**46,579**	33,341	34,189	11,413	12,390
Mean Speed (mph):	**28.7**	**29.9**	28.6	29.6	29.2	30.8
85%ile Speed (mph):	**34**	**34**	33	34	34	34
Standard Deviation:	**5.0**	**5.0**	5.0	5.1	5.0	4.5
% ≤ 30 :	**67.2%**	**51.7%**	68.4%	54.0%	63.8%	45.2%
% 31 mph to 40 mph:	**31.4%**	**47.3%**	30.4%	45.1%	34.5%	53.4%
% >40 mph:	**1.4%**	**1.0%**	1.2%	0.9%	1.8%	1.5%

Comments:	

Data Submitted by:	Paul Taylor	Data Processed by:	Gareth Burnett

1. Location Map.



2. Glossary of Terms & Abbreviations.

RadarClass is a portable radar device that detects and records the speed of passing vehicles. The unit is housed in an unobtrusive rugged black anti-vandal housing which can be mounted on any item of roadside furniture without looking conspicuous.

The principal role of the unit is to detect and count passing vehicles and log the date, time and speed at which they passed. Data collected can be used to determine the volume of traffic flow on the road on which the unit has been deployed.

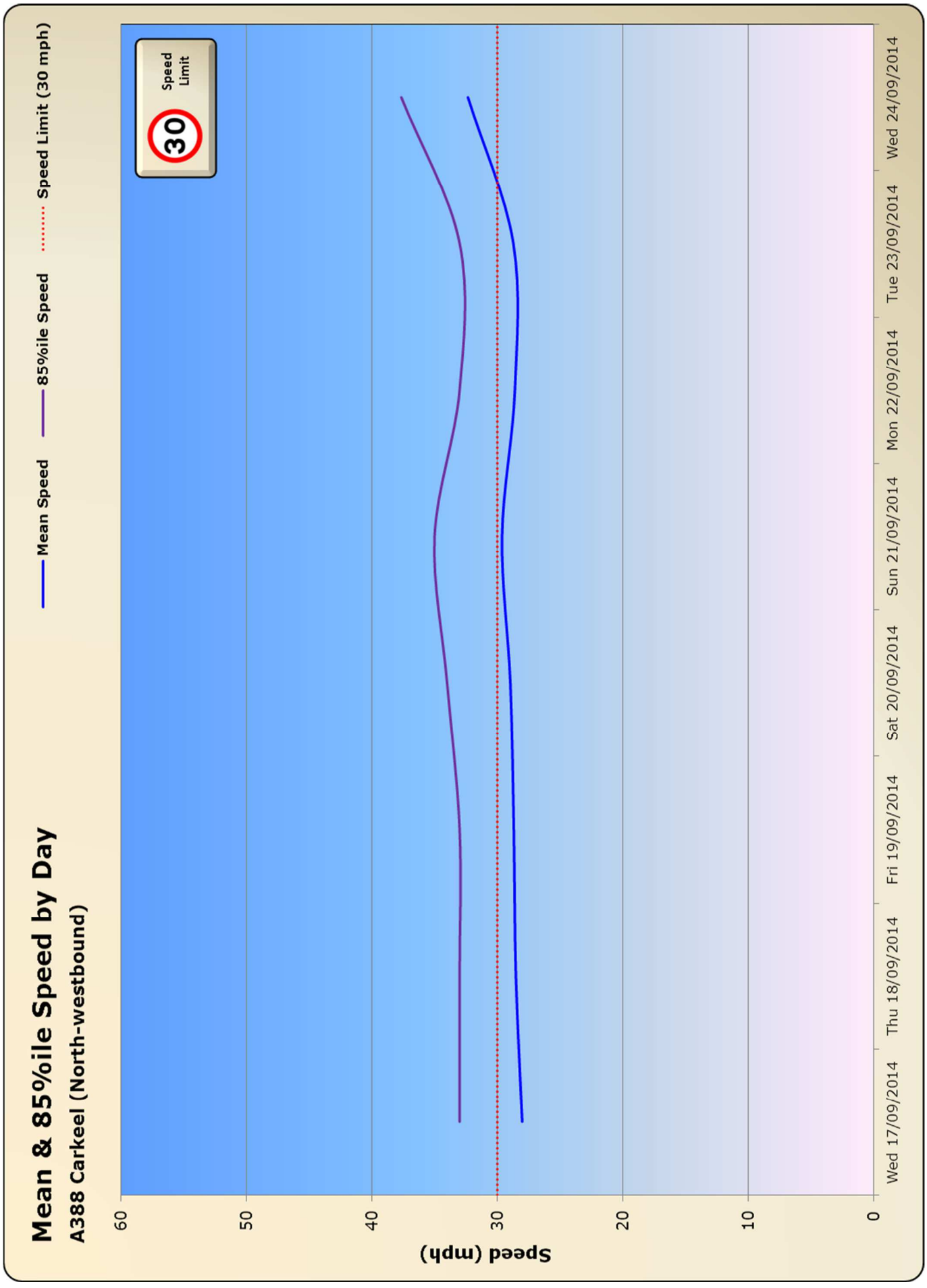
№ of Observations:	The number of readings recorded by the radar. This does not correspond to an exact count of vehicles passing the sign, since vehicles may pass the sign in a tightly packed group (or 'platoon'); the radar will only record data for the 'lead vehicle' that is determining the speed for the remainder of the platoon.
Mean Speed:	The arithmetic average of all the speed values recorded.
85%ile Speed:	The speed at or below which 85% of the vehicles recorded were travelling.
Standard Deviation:	A measure of how widely speeds are dispersed from the Mean Speed.
% ≤ 30 :	The percentage of vehicles travelling at speeds of 30 mph or below (i.e. the percentage of vehicles travelling at or within the 30 mph speed limit).
% 31 mph to 40 mph:	The percentage of vehicles travelling at speeds of between 31 mph and 40mph.
% >40 mph:	The percentage of vehicles travelling at speeds greater than 40 mph (i.e. the percentage of vehicles travelling at speeds in excess of 10mph above the 30 mph speed limit).

3. North-westbound Detailed Statistics.

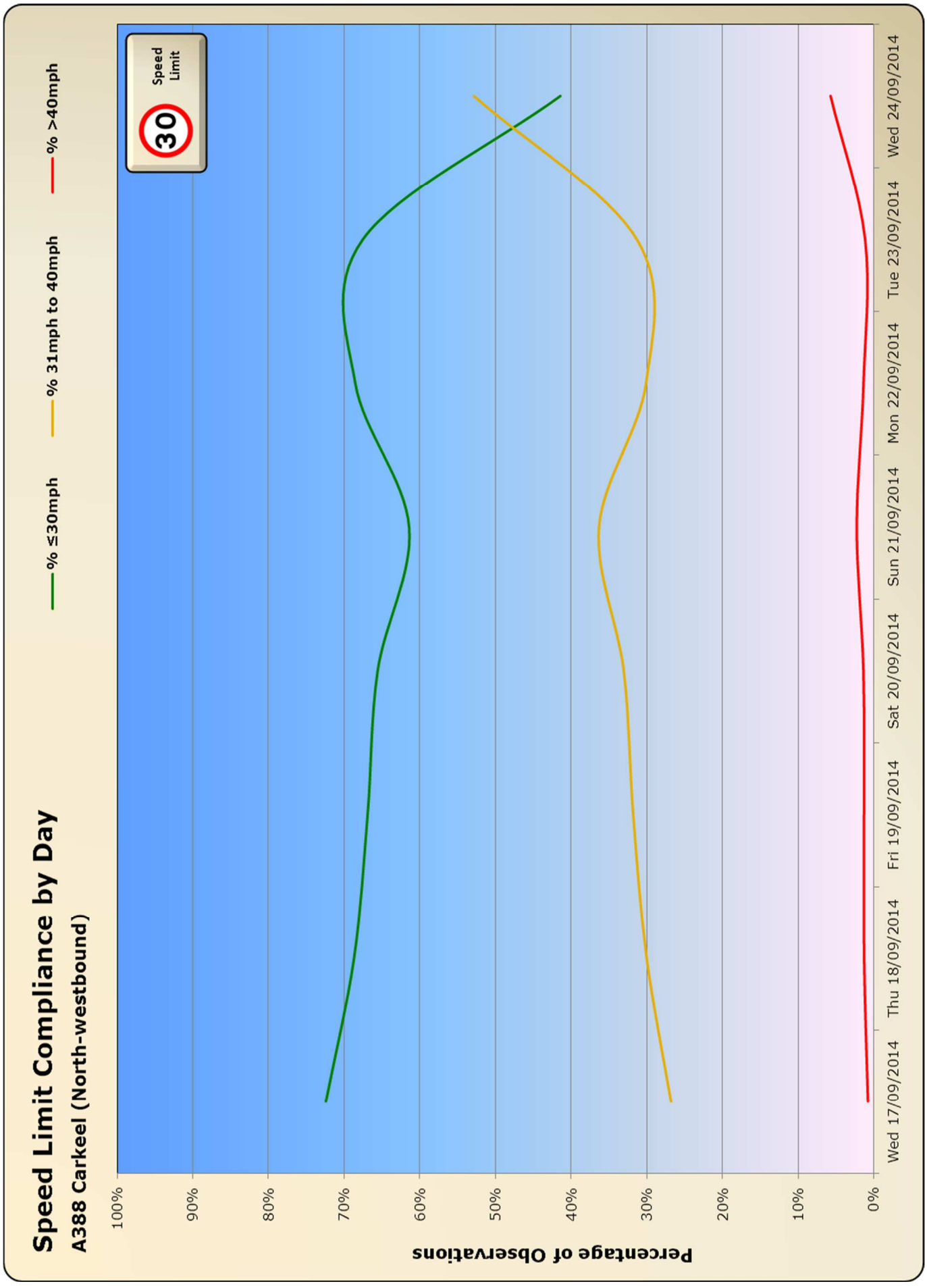
3.1.1. North-westbound Daily Summary Table.

Date	Mean Speed	85%ile Speed	Standard Deviation	% ≤ 30	% 31 mph to 40 mph	% >40 mph
Wed 17/09/2014	28.0	33	5.0	72.4%	26.8%	0.8%
Thu 18/09/2014	28.5	33	5.1	68.7%	30.0%	1.3%
Fri 19/09/2014	28.7	33	5.0	66.9%	31.8%	1.3%
Sat 20/09/2014	29.0	34	4.9	65.6%	33.0%	1.4%
Sun 21/09/2014	29.6	35	5.0	61.4%	36.3%	2.3%
Mon 22/09/2014	28.6	33	4.9	68.5%	30.1%	1.4%
Tue 23/09/2014	28.7	33	4.9	67.5%	31.3%	1.1%
Wed 24/09/2014	32.3	38	5.1	41.4%	52.9%	5.7%

3.1.2. North-westbound Mean Speed & 85%ile Speeds by Day Chart.



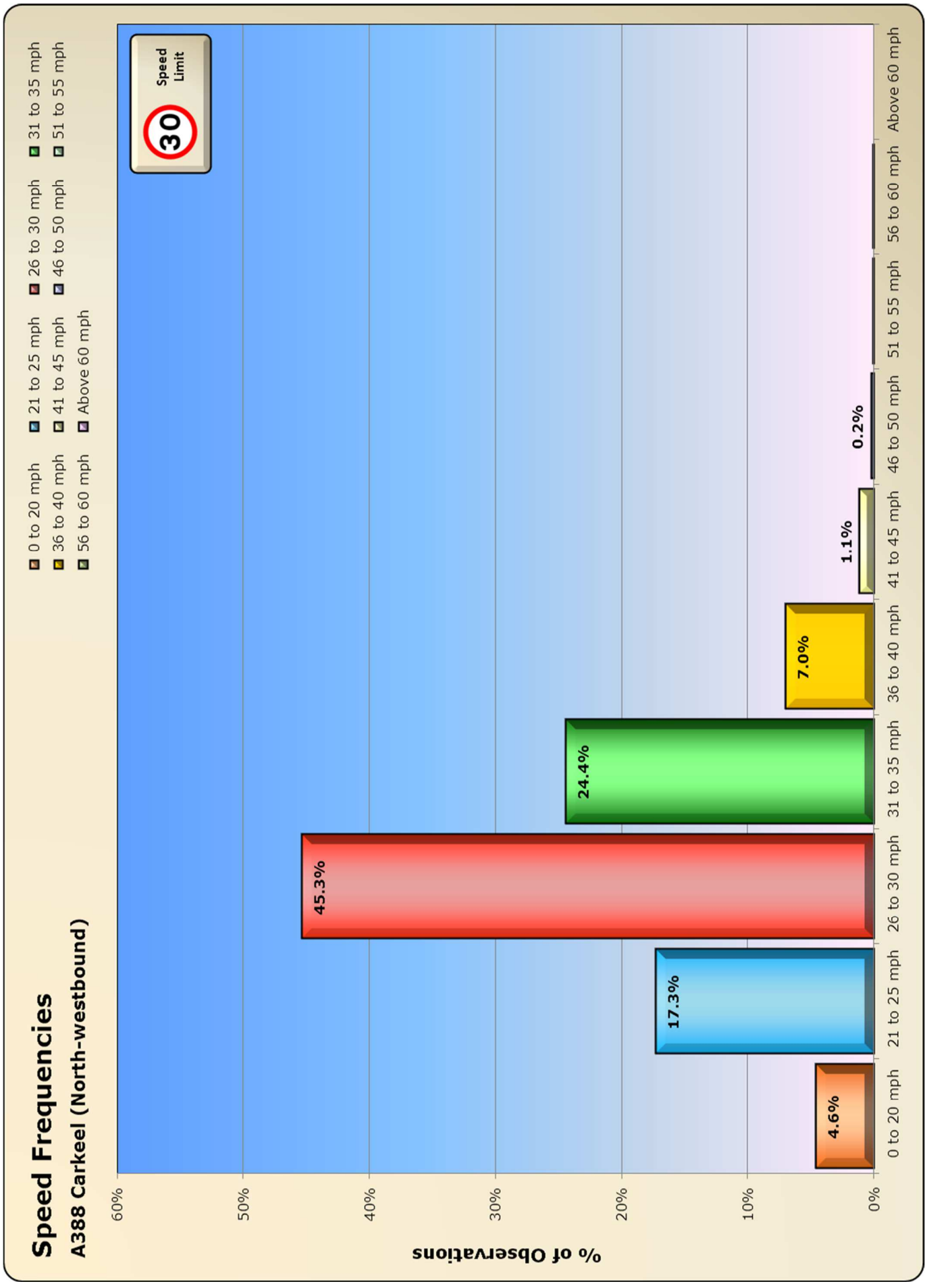
3.1.3. North-westbound Speed Limit Compliance by Day Chart.



3.2.1. North-westbound Speed Frequencies by Day Table.

Date	№ ≤ 30			№ > 30							Total
	0 to 20 mph	21 to 25 mph	26 to 30 mph	31 to 35 mph	36 to 40 mph	41 to 45 mph	46 to 50 mph	51 to 55 mph	56 to 60 mph	Above 60 mph	
Wed 17/09/2014	248	767	1,795	840	200	25	5	0	0	0	**3,880**
Thu 18/09/2014	388	1,357	3,376	1,757	481	81	13	0	1	0	**7,454**
Fri 19/09/2014	371	1,314	3,351	1,890	504	89	8	0	0	0	**7,527**
Sat 20/09/2014	274	991	2,992	1,654	491	74	12	3	0	0	**6,491**
Sun 21/09/2014	149	687	2,187	1,324	464	86	23	2	0	0	**4,922**
Mon 22/09/2014	323	1,301	3,235	1,680	454	83	12	0	1	0	**7,089**
Tue 23/09/2014	312	1,305	3,327	1,770	523	72	10	1	1	0	**7,321**
Wed 24/09/2014	0	5	24	21	16	4	0	0	0	0	**70**
Total	**2,065**	**7,727**	**20,287**	**10,936**	**3,133**	**514**	**83**	**6**	**3**	**0**	**44,754**
% of Total	**4.6%**	**17.3%**	**45.3%**	**24.4%**	**7.0%**	**1.1%**	**0.2%**	**0.0%**	**0.0%**	**0.0%**	**100.0%**

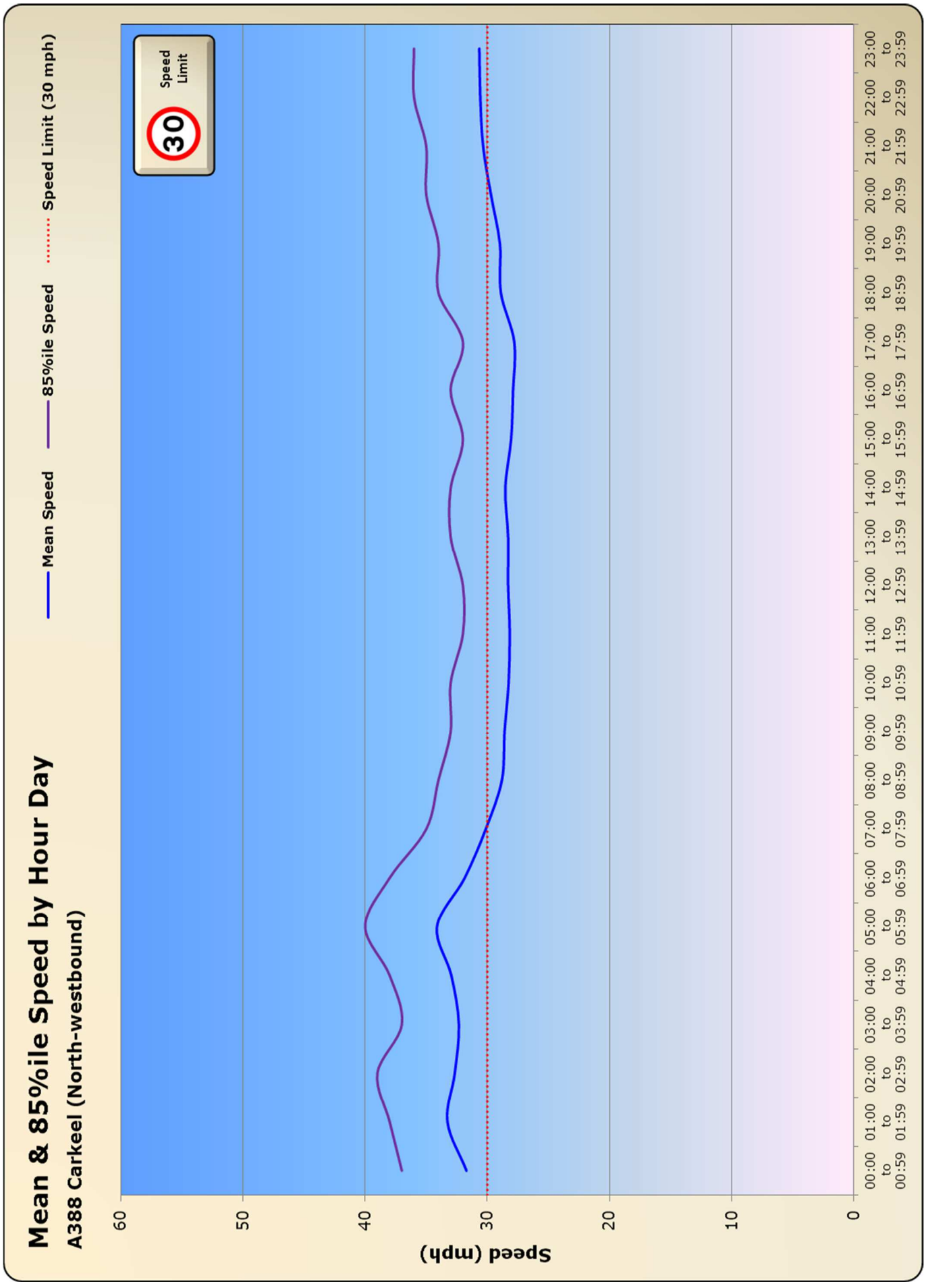
3.2.2. North-westbound Speed Frequencies Chart.



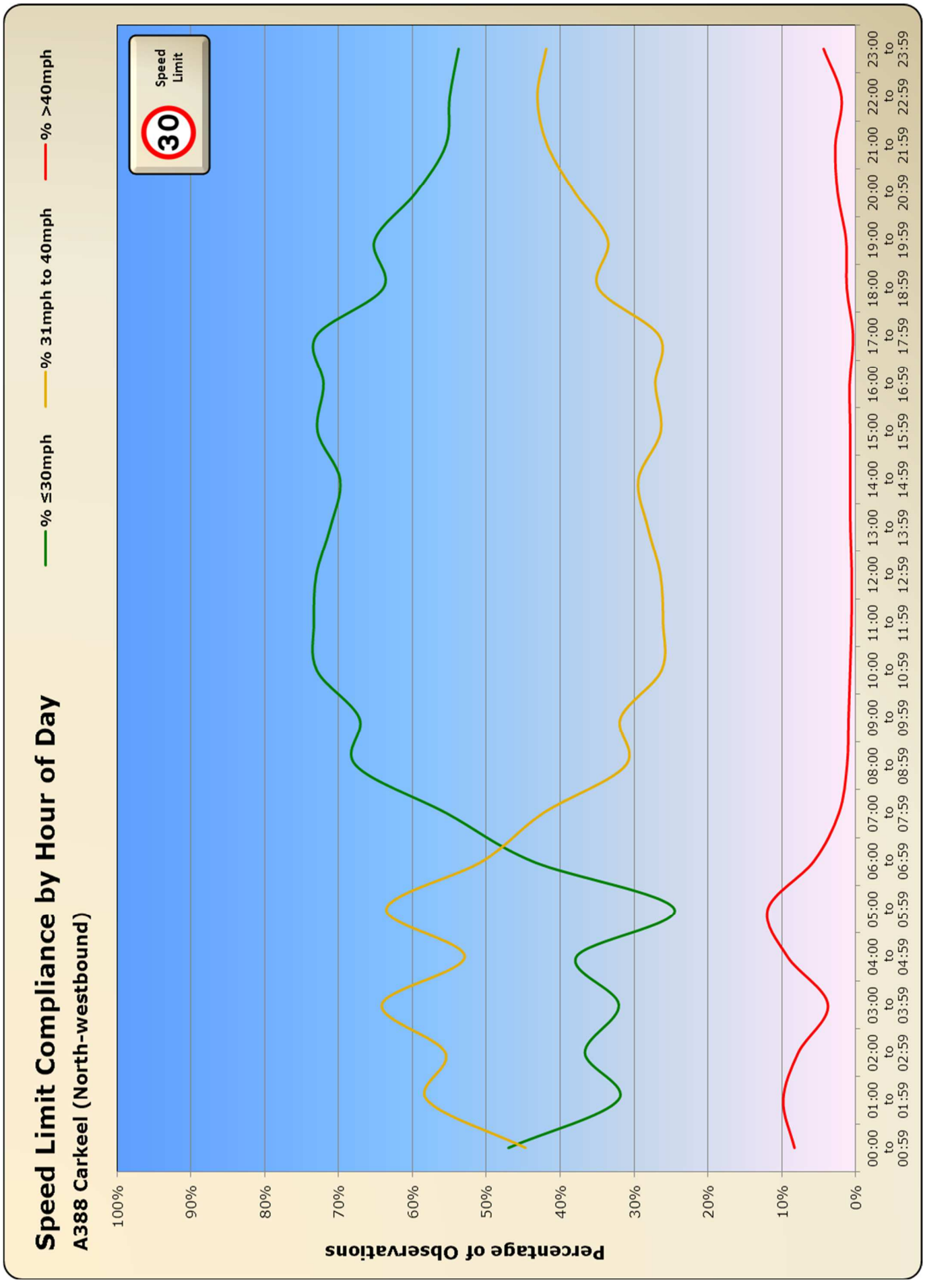
3.3.1. North-westbound Hour of Day Summary Table.

Hour of Day	Mean Speed	85%ile Speed	Standard Deviation	% ≤ 30	% 31 mph to 40 mph	% >40 mph
00:00 to 00:59	31.7	37	5.8	47.0%	44.7%	8.3%
01:00 to 01:59	33.3	38	5.7	32.1%	58.0%	9.8%
02:00 to 02:59	32.7	39	5.8	36.7%	55.6%	7.8%
03:00 to 03:59	32.3	37	5.6	32.1%	64.2%	3.8%
04:00 to 04:59	32.9	38	5.9	37.8%	52.9%	9.2%
05:00 to 05:59	34.1	40	5.8	24.6%	63.5%	11.9%
06:00 to 06:59	31.9	38	5.4	43.8%	50.6%	5.7%
07:00 to 07:59	30.1	35	5.2	55.4%	42.4%	2.3%
08:00 to 08:59	28.8	34	5.0	67.7%	31.1%	1.2%
09:00 to 09:59	28.6	33	5.1	67.2%	31.8%	1.0%
10:00 to 10:59	28.3	33	4.4	73.0%	26.3%	0.8%
11:00 to 11:59	28.2	32	4.4	73.3%	26.1%	0.6%
12:00 to 12:59	28.3	32	4.5	73.0%	26.4%	0.5%
13:00 to 13:59	28.3	33	4.6	71.1%	28.2%	0.7%
14:00 to 14:59	28.5	33	4.5	69.8%	29.4%	0.8%
15:00 to 15:59	28.1	32	4.7	72.9%	26.4%	0.8%
16:00 to 16:59	27.9	33	5.0	72.0%	27.1%	0.8%
17:00 to 17:59	27.8	32	4.9	73.1%	26.6%	0.4%
18:00 to 18:59	28.9	34	5.2	63.9%	34.8%	1.2%
19:00 to 19:59	29.0	34	4.9	65.1%	33.6%	1.3%
20:00 to 20:59	29.7	35	5.1	59.5%	38.0%	2.5%
21:00 to 21:59	30.3	35	5.0	55.5%	41.8%	2.8%
22:00 to 22:59	30.6	36	4.6	55.0%	43.1%	1.9%
23:00 to 23:59	30.7	36	5.3	53.8%	41.9%	4.3%

3.3.2. North-westbound Mean Speed & 85%ile Speed by Hour of Day Chart.



3.3.3. North-westbound Speed Limit Compliance by Hour of Day Chart.

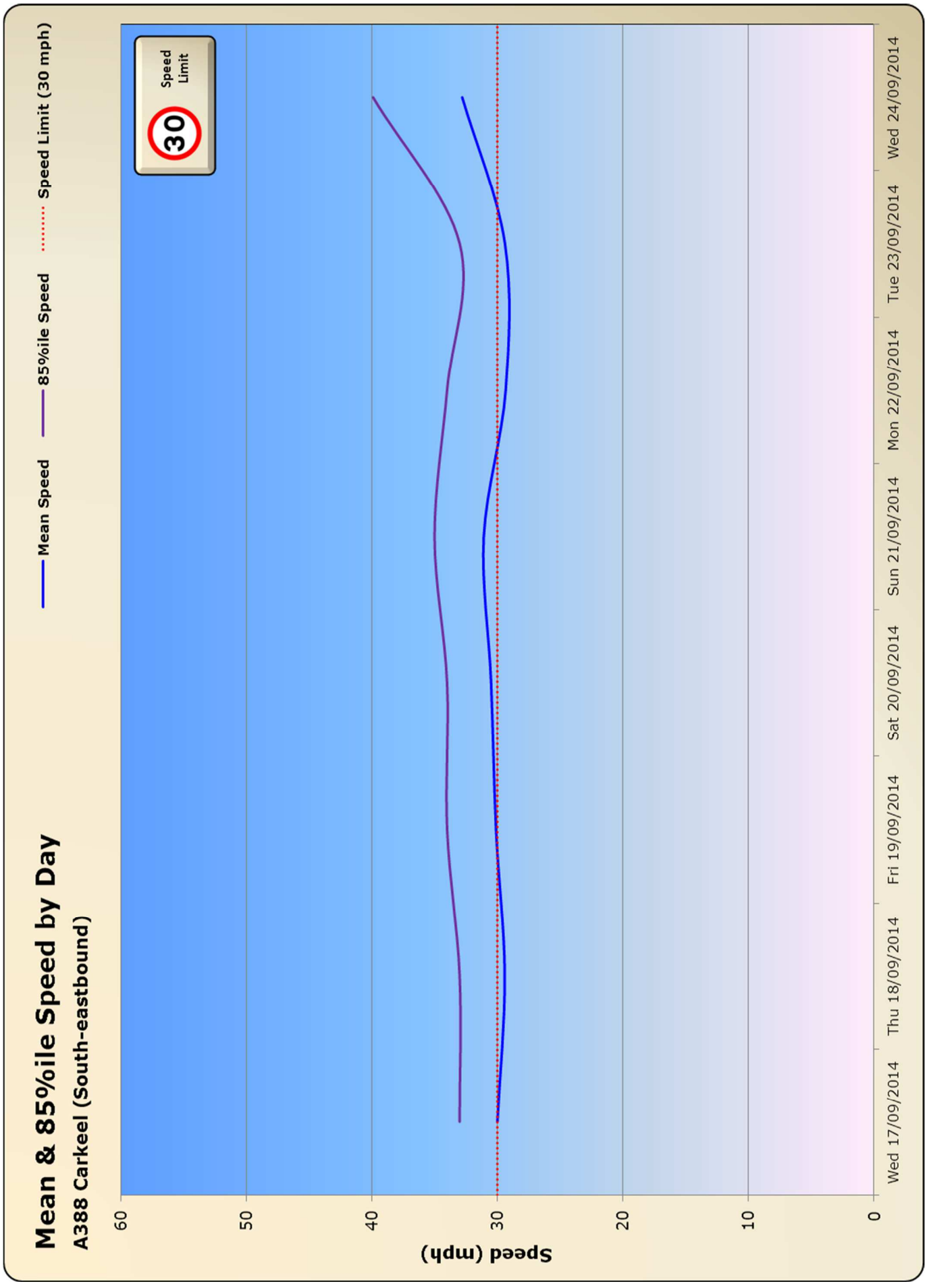


4. South-eastbound Detailed Statistics.

4.1.1. South-eastbound Daily Summary Table.

Date	Mean Speed	85%ile Speed	Standard Deviation	% ≤ 30	% 31 mph to 40 mph	% >40 mph
Wed 17/09/2014	30.0	33	4.3	55.8%	43.1%	1.1%
Thu 18/09/2014	29.4	33	5.2	55.5%	43.7%	0.8%
Fri 19/09/2014	30.1	34	4.4	51.4%	47.8%	0.7%
Sat 20/09/2014	30.5	34	4.6	46.8%	52.1%	1.1%
Sun 21/09/2014	31.1	35	4.3	43.1%	55.0%	1.9%
Mon 22/09/2014	29.3	34	5.9	52.1%	46.9%	1.0%
Tue 23/09/2014	29.4	33	5.2	56.4%	42.7%	0.9%
Wed 24/09/2014	32.8	40	7.3	43.6%	41.8%	14.5%

4.1.2. South-eastbound Mean Speed & 85%ile Speed by Day Chart.

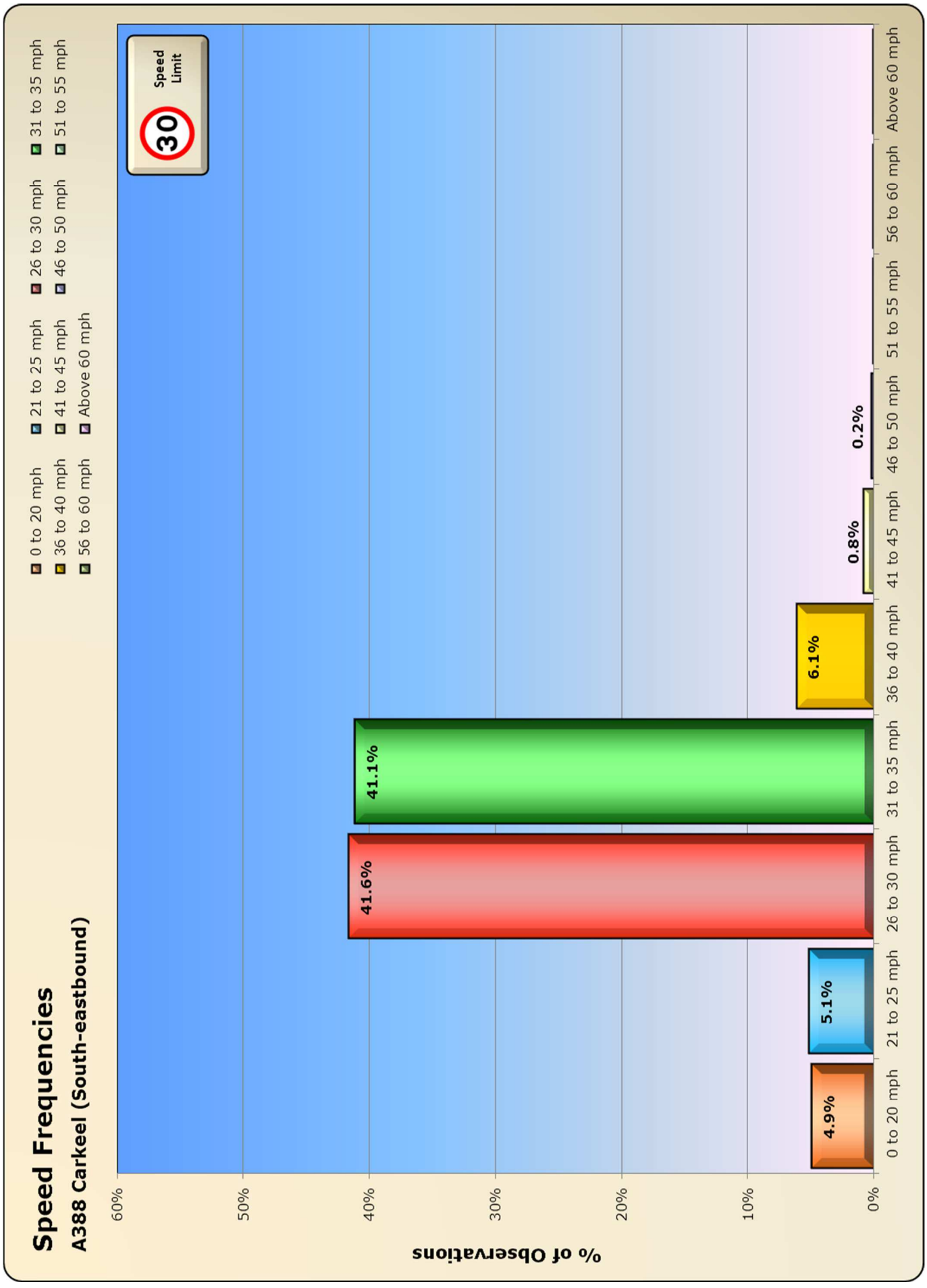


4.1.3. South-eastbound Speed Limit Compliance by Day Chart.

4.2.1. South-eastbound Speed Frequencies by Day Table.

Date	№ ≤ 30			№ > 30							Total
	0 to 20 mph	21 to 25 mph	26 to 30 mph	31 to 35 mph	36 to 40 mph	41 to 45 mph	46 to 50 mph	51 to 55 mph	56 to 60 mph	Above 60 mph	
Wed 17/09/2014	86	204	1,561	1,265	164	23	9	3	0	1	**3,316**
Thu 18/09/2014	473	509	3,343	3,005	397	46	10	3	0	0	**7,786**
Fri 19/09/2014	274	390	3,472	3,370	475	48	8	2	0	0	**8,039**
Sat 20/09/2014	242	290	2,707	3,100	507	64	10	3	0	0	**6,923**
Sun 21/09/2014	126	148	2,082	2,523	485	81	20	1	0	1	**5,467**
Mon 22/09/2014	602	355	2,811	2,961	432	58	13	1	2	0	**7,235**
Tue 23/09/2014	475	499	3,401	2,930	381	47	15	6	3	1	**7,758**
Wed 24/09/2014	2	3	19	13	10	4	4	0	0	0	**55**
Total	**2,280**	**2,398**	**19,396**	**19,167**	**2,851**	**371**	**89**	**19**	**5**	**3**	**46,579**
% of Total	**4.9%**	**5.1%**	**41.6%**	**41.1%**	**6.1%**	**0.8%**	**0.2%**	**0.0%**	**0.0%**	**0.0%**	**100.0%**

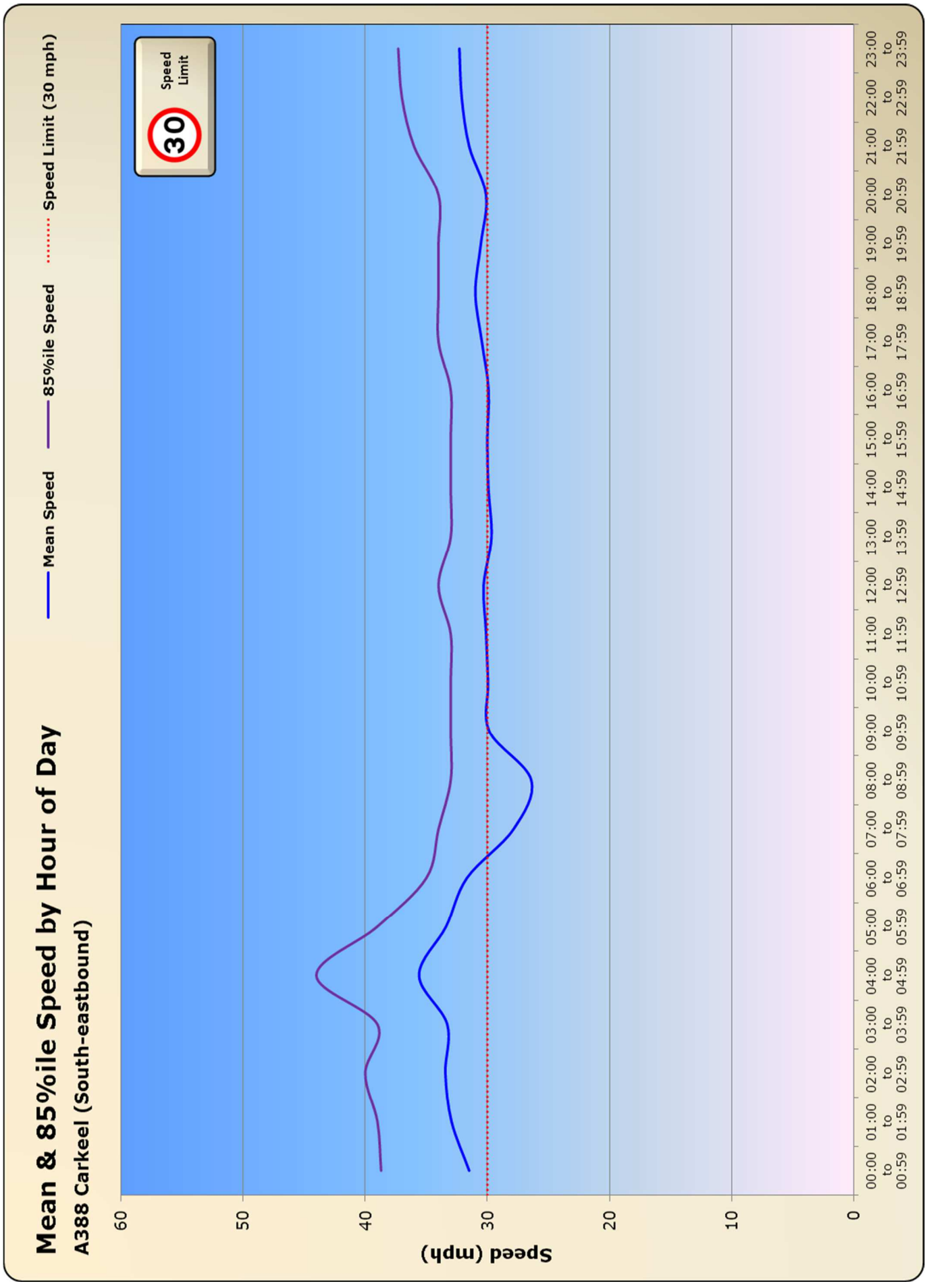
4.2.2. South-eastbound Speed Frequencies Chart.



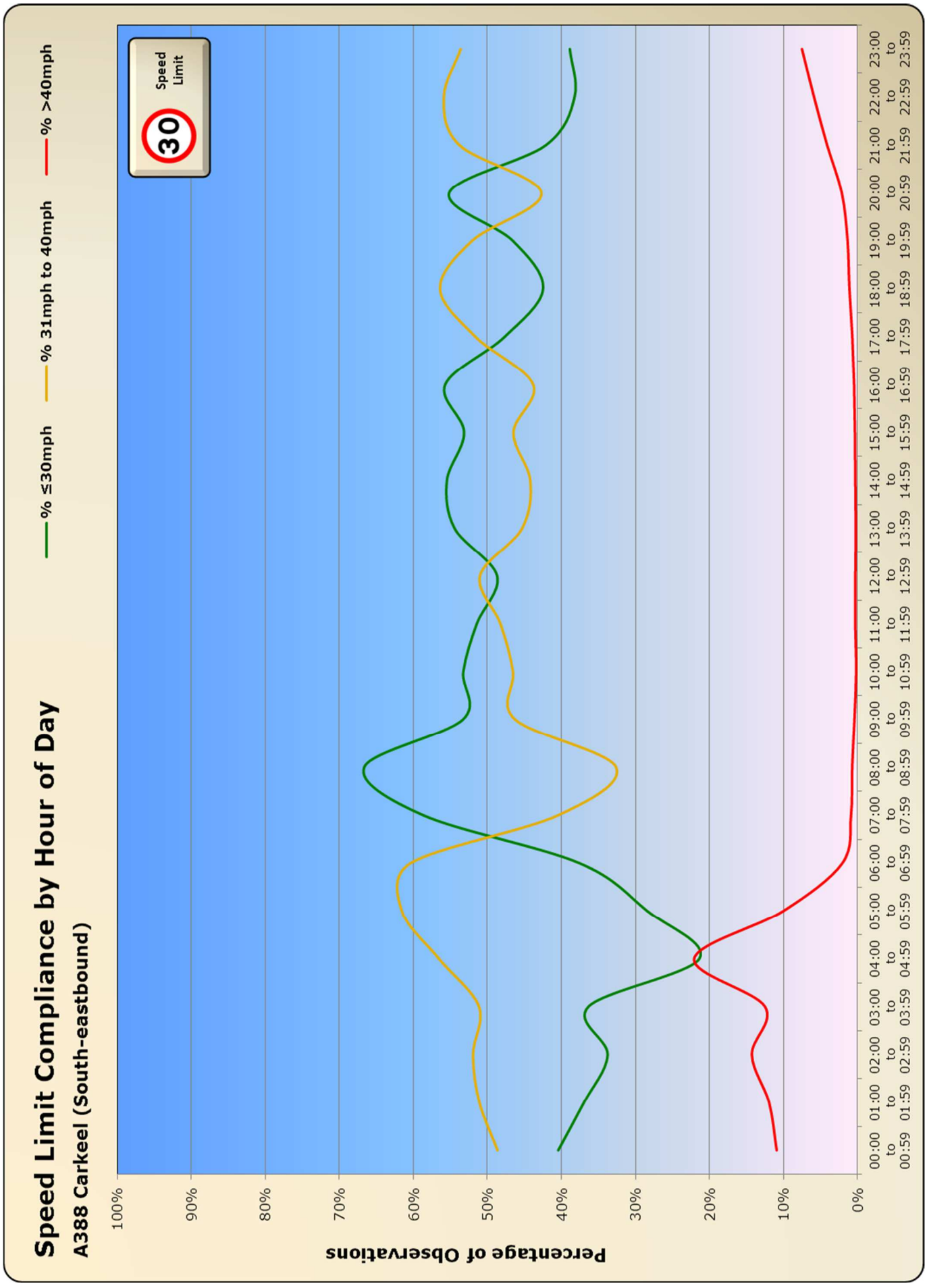
4.3.1. South-eastbound Hour of Day Summary Table.

Hour of Day	Mean Speed	85%ile Speed	Standard Deviation	% ≤ 30	% 31 mph to 40 mph	% >40 mph
00:00 to 00:59	31.5	39	7.4	40.4%	48.6%	10.9%
01:00 to 01:59	32.9	39	6.4	37.0%	51.1%	12.0%
02:00 to 02:59	33.4	40	6.7	33.8%	51.9%	14.3%
03:00 to 03:59	33.3	39	6.6	36.4%	51.1%	12.5%
04:00 to 04:59	35.6	44	7.5	21.4%	56.6%	22.1%
05:00 to 05:59	33.4	39	5.2	28.4%	61.6%	10.0%
06:00 to 06:59	31.7	35	4.3	37.6%	60.4%	2.1%
07:00 to 07:59	27.9	34	7.1	58.7%	40.4%	0.9%
08:00 to 08:59	26.4	33	7.6	66.6%	32.6%	0.7%
09:00 to 09:59	29.8	33	4.4	53.3%	46.3%	0.4%
10:00 to 10:59	29.9	33	4.1	53.3%	46.5%	0.2%
11:00 to 11:59	30.1	33	3.8	51.4%	48.2%	0.3%
12:00 to 12:59	30.3	34	4.0	48.7%	51.0%	0.3%
13:00 to 13:59	29.7	33	4.4	54.4%	45.3%	0.2%
14:00 to 14:59	29.9	33	3.8	55.5%	44.2%	0.3%
15:00 to 15:59	30.0	33	4.0	53.2%	46.5%	0.4%
16:00 to 16:59	29.9	33	3.9	55.7%	43.8%	0.5%
17:00 to 17:59	30.5	34	4.0	47.7%	51.6%	0.7%
18:00 to 18:59	31.0	34	4.2	42.5%	56.4%	1.1%
19:00 to 19:59	30.5	34	4.8	46.6%	52.1%	1.4%
20:00 to 20:59	30.1	34	4.9	55.2%	42.7%	2.1%
21:00 to 21:59	31.5	36	5.2	42.1%	53.8%	4.1%
22:00 to 22:59	32.1	37	6.0	38.2%	55.9%	5.9%
23:00 to 23:59	32.3	37	5.8	38.9%	53.6%	7.5%

4.3.2. South-eastbound Mean Speed & 85%ile Speed by Hour of Day Chart.



4.3.3. South-eastbound Speed Limit Compliance by Hour of Day Chart.



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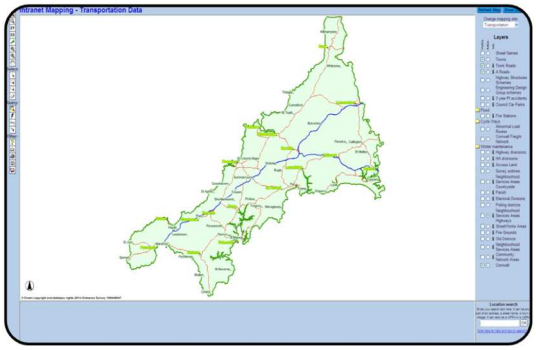
CORMAC SOLUTIONS
ENGINEERING DESIGN GROUP

Produced by
Engineering Design Group
Cormac Solutions Ltd

Speed Analysis

RadarClass is part of the
Engineering Design Group
Speed Analysis Programme



View the SpeedVISOR & RadarClass layer on Intranet mapping at

http://mapping.cornwall.gov.uk/files/Intranet_Mapping/ims_disclaimers.asp?&SITE=transportation

(Cormac and Cornwall Council employees only)

View the locations of all SpeedVISOR and RadarClass deployments since 2002
on an interactive map of Cornwall with an option to view and download speed analysis statistics reports.

To request a deployment and/or obtain a quote for
SpeedVISOR, RadarClass or Hand-held Radar deployment
please contact

Steve Ball
Engineering Design Group
☎ 01872 327256 ✆ 497256

Andrew McNeil
Engineering Design Group
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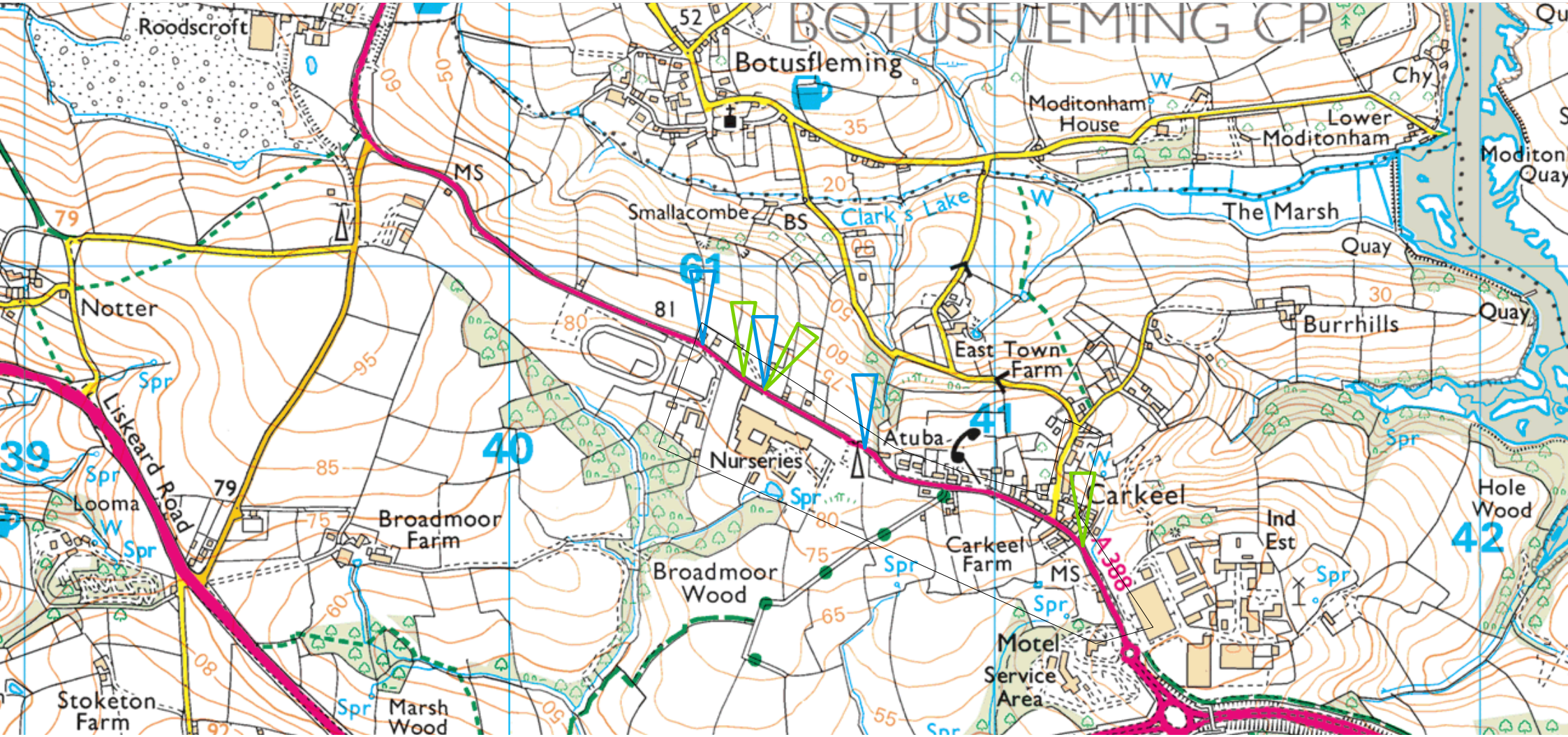
BOTUSFLEMING CP
Roodscroft
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52
Moditonham House
Lower Moditonham
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Smallacombe
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Clark's Lake
The Marsh
Quay
Burrhills
Notter
East Town Farm
Atuba
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Liskeard Road
Looma
Broadmoor Farm
Broadmoor Wood
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A388
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W

Details of Personal Injury Accidents for Period - 01/11/2016 to 30/11/2021 (61) months

Selection: **Notes:**
Selected using Pre-defined Query :

			Vehicles	Casualties
Police Ref.	Day	Location Description	Veh No / Type / Manv / Dir / Class	Sex / Age / Sev
	Date			
Road No.				
2nd Road No.	Time			
Grid Ref.	D/L			
	R.S.C			
	Weather			
	Speed			
	Account of Accident			
Causation Factor:				

17217080 Monday 14/08/2017 CARKEEL - OUTSIDE RYELANDS A388 Veh 1 M/C < 125 cc Going ahead RH bend NW to SE Dri M 23 Slight
R1: A 388
1456hrs
Daylight:street lights present
E 240,399
Wet/Damp
N 60,840
Raining without high winds
40 mph

Causation Factor:		**Participant:**	**Confidence:**
1st:	Slippery road (due to weather)	Vehicle 1	Possible
2nd:	Failed to look properly	Vehicle 1	Very Likely
3rd:	Poor turn or manoevre	Vehicle 1	

VEHICLE 1 TRAVELLING ALONG A388 TOWARDS CARKEEL, RIDER LOOKED DOWN TO CHECK SPEED AND WHEN RIDER LOOKED UP AGAIN THE RIDER WAS IN THE SLIP WAY AND COLLIDED WITH THE CRASH BARRIER

17259514 Friday 22/12/2017 CARKEEL A388 Veh 1 M/C > 500 cc Going ahead RH bend NW to SE Dri M 24 Serious
R1: A 388
2129hrs
Darkness: street lights present
E 241,182
Dry
N 60,424
Fine without high winds
30 mph

Causation Factor:		**Participant:**	**Confidence:**
1st:	Poor turn or manoevre	Vehicle 1	Possible
2nd:	Loss of control	Vehicle 1	Possible
3rd:	Careless/Reckless/In a hurry	Vehicle 1	Possible
4th:	Impaired by alcohol	Vehicle 1	Possible
5th:	Impaired by drugs (illicit or medicinal)	Vehicle 1	Possible

VEH1 (MOTORBIKE) WAS TRAVELLING ALONG THE A388 FROM CALLINGTON TOWARDS PLYMOUTH, VEH1 HAS LOST CONTROL ON A RIGHT HAND BEND. BIKE SLID INTO THE OPPOSITE CARRIAGEWAY AND RIDER PARTED COMPANY WITH THE BIKE AND LANDED IN THE NEARSIDE VERGE.

Details of Personal Injury Accidents for Period - 01/11/2016 to 30/11/2021 (61) months

Selection: **Notes:**
Selected using Pre-defined Query :

Police Ref. / Road No. / 2nd Road No. / Grid Ref.	Day / Date / Time / D/L / R.S.C / Weather / Speed / Account of Accident	Location Description	Vehicles: Veh No / Type / Manv / Dir / Class				Casualties: Sex / Age / Sev
19867306	Wednesday 24/07/2019 1047hrs	ST MELLION GARDEN CENTRE, A388 - 159 METRES FROM JUNCTION WITH UNCLASSIFIED ROAD	Veh 1 Car Starting SW to SE Veh 2 M/C > 500 cc Going ahead SE to NW Dri				M 61 Serious
R1: A 388							
R2: U	Daylight:street lights present						
E 240,527	Dry						
N 60,746	Fine without high winds						
	40 mph						

Causation Factor:		Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Following too close	Vehicle 2	Possible

V001 WAITING TO TURN ONTO THE CARRIAGE TURNING RIGHT. LEFT WAS CLEAR AND ON THE RIGHT V003 WAS TURNING INTO THE SITE WHERE V001 WAS LEAVING. V002 A MOTORBIKE WAS BEHIND V003. V003 HAS MOVED INTO A DESIGNATED SLIP WAY FOR THEM AND V002 HAS CARRIED
ONTHE MAIN CARRIAGEWAY. V001 SEEING THE OTHER V003 TURNING IN HAS MOVED OUT BELIEVING IT IS CLEAR AND HIT V002.

Police Ref. / Road No. / 2nd Road No. / Grid Ref.	Day / Date / Time / D/L / R.S.C / Weather / Speed / Account of Accident	Location Description	Vehicles: Veh No / Type / Manv / Dir / Class				Casualties: Sex / Age / Sev
201014042	Saturday 19/12/2020 1620hrs	A388 - TAMAR VIEW NURSERIES, CARKEEL	Veh 1 Car Going ahead NW to SE Dri Veh 2 Car Going ahead SE to NW				M 77 Serious
R1: A 388							
	Daylight:street lights present						
E 240,483	Wet/Damp						
N 60,775	Fine without high winds						
	40 mph						

Causation Factor:		Participant:	Confidence:
1st:	Fatigue	Vehicle 1	Very Likely

VEH1 DRIFTED ACROSS THE CARRIAGEWAY AND COLLIDED WITH ONCOMING VEH2.

Police Ref. / Road No. / 2nd Road No. / Grid Ref.	Day / Date / Time / D/L / R.S.C / Weather / Speed / Account of Accident	Location Description	Vehicles: Veh No / Type / Manv / Dir / Class				Casualties: Sex / Age / Sev
201015535	Wednesday 23/12/2020 1141hrs	A388 - OUTSIDE TAMAR VIEW NURSERY	Veh 1 Car Turning right SW to SE Dri Veh 2 Goods Unknown Wait go ahead held up NW to SE Veh 3 Car Going ahead SE to NW Dri				F 54 Slight F 19 Slight
R1: A 388							
R2: U	Daylight:street lights present						
E 240,527	Wet/Damp						
N 60,746	Raining without high winds						
	40 mph						

Causation Factor:		Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Junction restart	Vehicle 1	Very Likely
3rd:	Swerved	Vehicle 3	Very Likely
4th:	Junction overshoot	Vehicle 1	Very Likely

V1 PULLED OUT OF THE JUNCTION FROM TAMAR VIEW NURSERY, V1 AND V3 COLLIDED CAUSING V3 TO COLLIDE HEAD ON WITH V2

Details of Personal Injury Accidents for Period - 01/11/2016 to 30/11/2021 (61) months

Selection: **Notes:**
Selected using Pre-defined Query :

			Vehicles	Casualties
Police Ref.	Day	Location Description	Veh No / Type / Manv / Dir / Class	Sex / Age / Sev
	Date			
Road No.	Time			
2nd Road No.	D/L			
Grid Ref.	R.S.C			
	Weather			
	Speed			
	Account of Accident			
Causation Factor:				
201019419	Thursday 24/12/2020	A388 CARKEEL	Veh 1 Car Going ahead LH bend SE to NW Dri	F 25 Slight
R1: A 388	0108hrs			
	Darkness: street lights present			
E 240,733	Wet/Damp			
N 60,626	Fine without high winds			
	30 mph			

Causation Factor:	**Participant:**	**Confidence:**
1st: Impaired by alcohol	Vehicle 1	Very Likely

VEH1 WAS BEING DRIVEN ALONG THE A388. VEH1 HAS COLLIDED WITH THE NEARSIDE HEDGEROW. DRIVER OF VEH1 PROVIDED A POSITIVE BREATH TEST.

Accidents between dates **01/11/2016** **and** **30/11/2021** (61) months

Selection: **Notes:**

Selected using Pre-defined Query :

17217080 Road number **A 388** E **240399** N **60840** **14/08/2017** **Monday** Time **1456**

Day Road surface **Wet/Damp** **Raining without high winds**

VEHICLE 1 TRAVELLING ALONG A388 TOWARDS CARKEEL, RIDER LOOKED DOWN TO CHECK SPEED AND WHEN RIDER LOOKED UP AGAIN THE RIDER WAS IN THE SLIP WAY AND COLLIDED WITH THE CRASH BARRIER

Location **CARKEEL - OUTSIDE RYELANDS A388**

Vehicle **1** **Motor Cycle over 50 cc and up to 125c** Sex of driver **Male** Age of Driver **23**

Casualty **1** **Driver/rider** **Vehicle 1** **Slight** **Not a car passenger**

17259514 Road number **A 388** E **241182** N **60424** **22/12/2017** **Friday** Time **2129**

Dark: lights on Road surface **Dry** **Fine without high winds**

VEH1 (MOTORBIKE) WAS TRAVELLING ALONG THE A388 FROM CALLINGTON TOWARDS PLYMOUTH, VEH1 HAS LOST CONTROL ON A RIGHT HAND BEND. BIKE SLID INTO THE OPPOSITE CARRIAGEWAY AND RIDER PARTED COMPANY WITH THE BIKE AND LANDED IN THE NEARSIDE VERGE.

Location **CARKEEL A388**

Vehicle **1** **Motorcycle over 500cc** Sex of driver **Male** Age of Driver **24**

Casualty **1** **Driver/rider** **Vehicle 1** **Serious** **Not a car passenger**

19867306 Road number **A 388** E **240527** N **60746** **24/07/2019** **Wednesday** Time **1047**

Day Road surface **Dry** **Fine without high winds**

V001 WAS WAITING TO TURN ONTO THE CARRIAGE TURNING RIGHT. LEFT WAS CLEAR AND ON THE RIGHT V003 WAS TURNING INTO THE SITE WHERE V001 WAS LEAVING. V002 A MOTORBIKE WAS BEHIND V003. V003 HAS MOVED INTO A DESIGNATED SLIP WAY FOR THEM AND V002 HAS CARRIED ONTHE MAIN CARRIAGEWAY. V001 SEEING THE OTHER V003 TURNING IN HAS MOVED OUT BELIEVING IT IS CLEAR AND HIT V002.

Location **ST MELLION GARDEN CENTRE, A388 - 159 METRES FROM JUNCTION WITH UNCLASSIFIED ROAD**

Vehicle **1** **Car** Sex of driver **Male** Age of Driver **72**

Vehicle **2** **Motorcycle over 500cc** Sex of driver **Male** Age of Driver **61**

Casualty **1** **Driver/rider** **Vehicle 2** **Serious** **Not a car passenger**

201014042 Road number **A 388** E **240483** N **60775** **19/12/2020** **Saturday** Time **1620**

Day Road surface **Wet/Damp** **Fine without high winds**

VEH1 DRIFTED ACROSS THE CARRIAGEWAY AND COLLIDED WITH ONCOMING VEH2.

Location **A388 - TAMAR VIEW NURSERIES, CARKEEL**

Vehicle **1** **Car** Sex of driver **Male** Age of Driver **77**

Casualty **1** **Driver/rider** **Vehicle 1** **Serious** **Not a car passenger**

Vehicle **2** **Car** Sex of driver **Male** Age of Driver **70**

Accidents between dates **01/11/2016** **and** **30/11/2021** (61) months

Selection: **Notes:**

Selected using Pre-defined Query :

201015535 Road number **A 388** E **240527** N **60746** **23/12/2020** **Wednesday** Time **1141**

Day Road surface **Wet/Damp** **Raining without high winds**

V1 PULLED OUT OF THE JUNCTION FROM TAMAR VIEW NURSERY, V1 AND V3 COLLIDED CAUSING V3 TO COLLIDE HEAD ON WITH V2

Location **A388 - OUTSIDE TAMAR VIEW NURSERY**

Vehicle **1 Car** Sex of driver **Female** Age of Driver **54**

Casualty **1** **Driver/rider** **Vehicle 1** **Slight** **Not a car passenger**

Vehicle **2 Goods vehicle - unknown weight** Sex of driver **Male** Age of Driver **36**

Vehicle **3 Car** Sex of driver **Female** Age of Driver **19**

Casualty **2** **Driver/rider** **Vehicle 3** **Slight** **Not a car passenger**

201019419 Road number **A 388** E **240733** N **60626** **24/12/2020** **Thursday** Time **0108**

Dark: lights on Road surface **Wet/Damp** **Fine without high winds**

VEH1 WAS BEING DRIVEN ALONG THE A388. VEH1 HAS COLLIDED WITH THE NEARSIDE HEDGEROW. DRIVER OF VEH1 PROVIDED A POSITIVE BREATH TEST.

Location **A388 CARKEEL**

Vehicle **1 Car** Sex of driver **Female** Age of Driver **25**

Casualty **1** **Driver/rider** **Vehicle 1** **Slight** **Not a car passenger**

Accidents involving:

	Fatal	Serious	Slight	Total
Motor vehicles only (excluding 2-wheels)	0	1	2	3
2-wheeled motor vehicles	0	2	1	3
Pedal cycles	0	0	0	0
Horses & other	0	0	0	0
Total	0	3	3	6

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	0	1	3	4
Passenger	0	0	0	0
Motorcycle rider	0	2	1	3
Cyclist	0	0	0	0
Pedestrian	0	0	0	0
Other	0	0	0	0
Total	0	3	4	7

PEDESTRIAN COUNT SUMMARY

Filename : U9AEPD **Road No :** A388

Km : 0.81

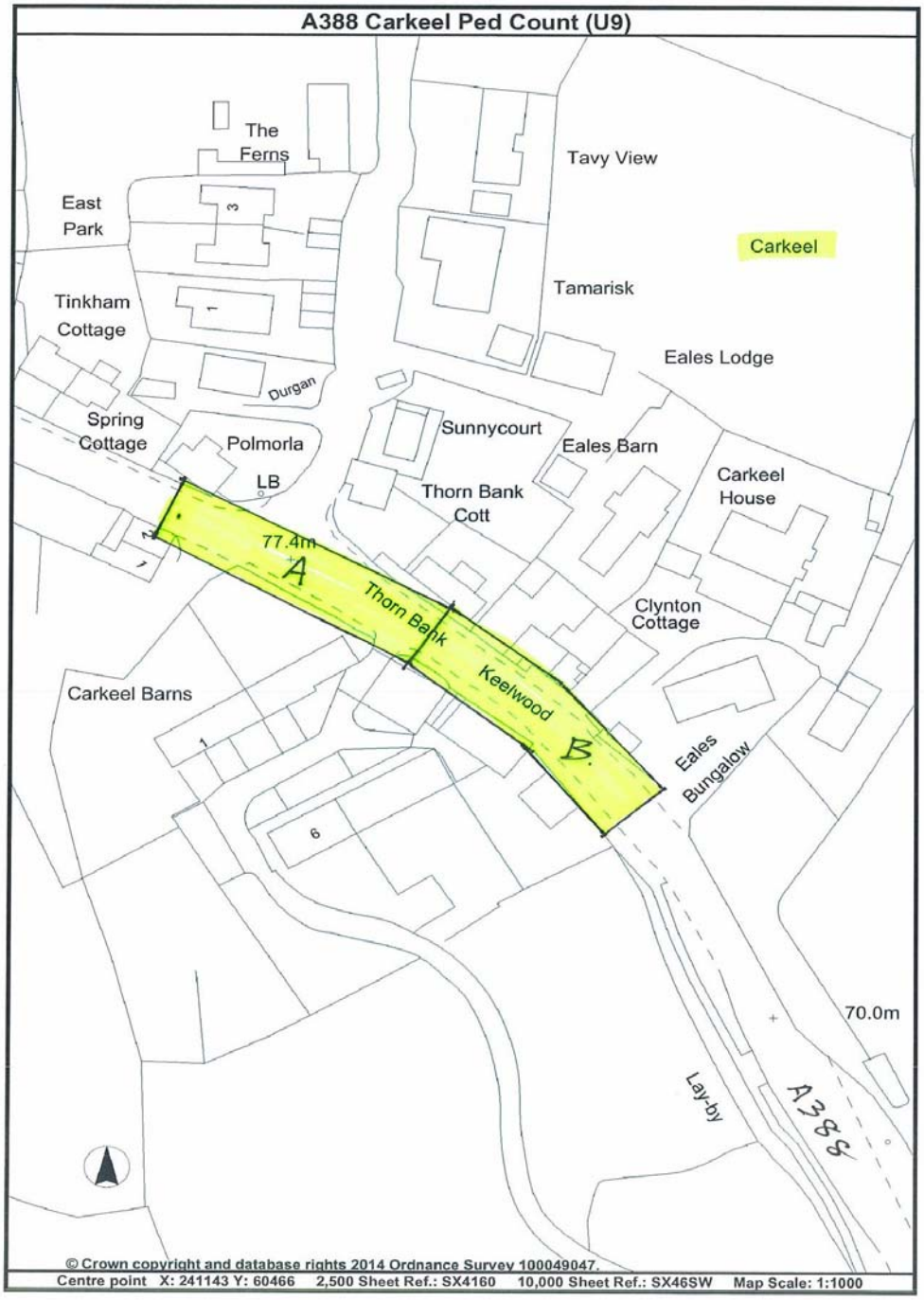
Location : CARKEEL, 30m SE of rd to FAIR FIELD Park

Area : Peds Xing for 50m NW from 30m SE of rd to FAIR FIELD Pk. **Link No :** 130/01

Countday : WEDNESDAY **Count date :** 26/02/2014 **Grid Ref :** 241137 060469

Hour Beginning	Weather	From : SW to NE					From : NE to SW					Grand Total	Peak Time/s
		Adults		Children			Adults		Children				
		crossing easily	having trouble crossing	with an adult	on their own	Total	crossing easily	having trouble crossing	with an adult	on their own	Total		
0700	CL	1	0	0	1	2	0	0	0	0	0	2	
0800	FI	1	0	0	0	1	2	0	0	0	2	3	800
0900	FI	1	0	0	0	1	0	0	0	0	0	1	
1000	FI	0	0	0	0	0	0	0	0	0	0	0	
1100	FI	0	0	0	0	0	0	0	0	0	0	0	
1200	FI	0	0	0	0	0	0	0	0	0	0	0	
1300	SH	1	0	0	0	1	0	0	0	0	0	1	
1400	SH	0	0	0	0	0	1	0	0	0	1	1	
1500	FI	1	0	0	2	3	0	0	0	0	0	3	1500
1600	FI	0	0	0	0	0	0	0	0	0	0	0	
1700	CL	0	0	0	0	0	0	0	0	0	0	0	
1800	SH	0	0	0	0	0	0	0	0	0	0	0	
Total		**5**	**0**	**0**	**3**	**8**	**3**	**0**	**0**	**0**	**3**	**11**	

Remarks :


A388 Carkeel Ped Count (U9)
The Ferns
Tavy View
East Park
Carkeel
Tamarisk
Tinkham Cottage
Eales Lodge
Durgan
Spring Cottage
Polmorla
Sunnycourt
Eales Barn
LB
Thorn Bank Cott
Carkeel House
77.4m
A
Thorn Bank
Clynton Cottage
Keelwood
B
Carkeel Barns
Eales Bungalow
70.0m
Lay-by
A388
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Centre point X: 241143 Y: 60466 2,500 Sheet Ref.: SX4160 10,000 Sheet Ref.: SX46SW Map Scale: 1:1000