

St Cleer to Liskeard School

Pedestrian Route Assessment

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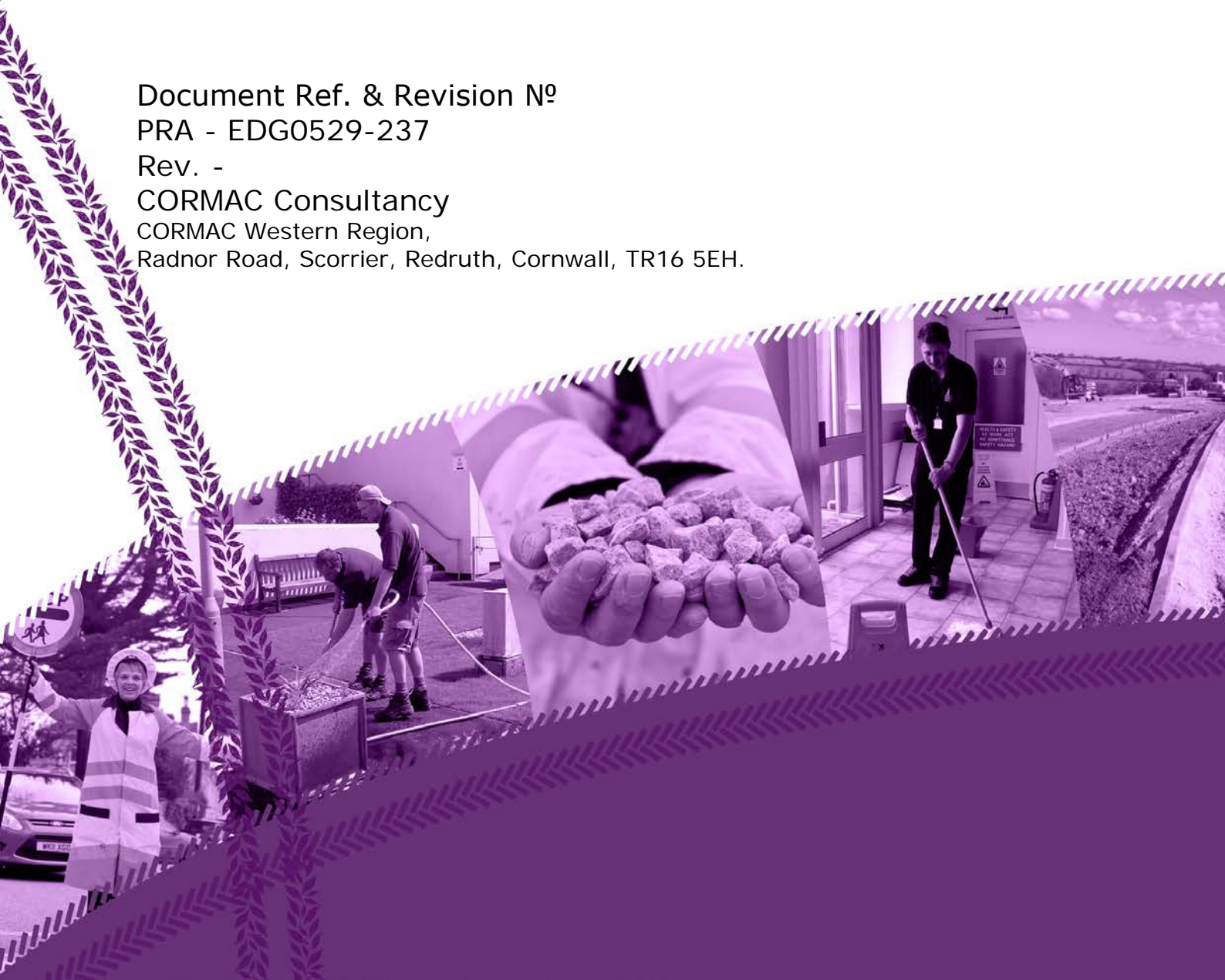
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PEDESTRIAN ROUTE ASSESSMENT

EDG0529-237 St Cleer to Liskeard School

1. Introduction

The Engineering Design Group has been commissioned by the Education, Health and Social Care Directorate to assess the pedestrian route between St Cleer and Liskeard School. This request was made on 14 January 2019.

2. The Assessment Procedure

The scope of this evaluation is limited to the dangers faced by children either walking adjacent to traffic, or in crossing the road. It does not cover issues relating to personal security. This limitation has been determined by case law, specifically in the provision of school transport. The law presumes that the child is "accompanied as necessary", and there is no age limit attached to this condition.

A procedure has been developed by Cornwall Council for objectively assessing pedestrian routes and identifying those which are unacceptably hazardous for school pedestrian use. This is set out in 'Pedestrian Route Assessments: Walked Routes to Schools' [<https://www.cornwall.gov.uk/education-and-learning/schools-and-colleges/school-transport/unsuitable-walking-routes-to-school/>].

A summary flow chart is included at the end of this report. The procedure is based upon national guidelines for the assessment of walked routes to school, published by Road Safety GB. The assessments are undertaken by the Engineering Design Group, CORMAC Solutions Ltd. It must be emphasised that no route can ever be entirely safe or free from hazards; the assessment concentrates on estimating the degree of risk associated with a route.

As part of a full assessment, the following information is considered:

- Vehicle counts
- Pedestrian Facilities
- Forward Visibility
- Speed
- Accident history
- Identification of hazards

The assessment is centred on answering four key questions, namely: -

- 1) What is the volume of traffic that a child is exposed to along a given route and does it exceed the threshold values of passenger car units (PCUs) per hour?
- 2) What is the level of provision for the pedestrian (i.e. footways, verges etc) and how does this relate to traffic flow?

- 3) Is the visibility available to the pedestrian adequate, given the observed vehicle speeds?
- 4) If the pedestrian needs to undertake crossing manoeuvres, are there sufficient gaps in the traffic or crossing facilities. Is visibility sufficient for the speed of traffic?

Where traffic flow on a section of a route with no footway or continuous step-off exceeds 120 PCU, the route would generally fail the first test, and no further consideration need be given. However, in accordance with the Route Assessment policy, where there are significant mitigating factors professional judgment can be applied and the route may be considered acceptable for pedestrian use, particularly if the flow exceeds 120 PCU by only a small margin. Examples of such factors could be: that the section of route is within a village environment where pedestrians are frequently found; has a low (generally urban) speed limit with good compliance; has very low actual speeds (generally <20mph); is over only a short length with otherwise acceptable safety factors. Any application of professional judgement will be explained within the report.

Where footpaths form part of a potential route they will be assessed to ensure they are physically passable and suitable for use by children (accompanied as necessary).

A glossary of terms and abbreviations has been appended at the back of this study for those unfamiliar with the technical language used in this report.

3. The Route

This PRA assesses one route from St Cleer to Liskeard School.

The route travels through residential roads and continues along Well Lane and Fore Street (C43) to take footpath 624028. The route continues along the U6174 for approximately 500 metres to join the C266 (Venslooe Hill). At Barras Cross (C266) the route continues along Tremeddan Lane (U6159) to Greenbank Road (B3254) to lead directly to the school.

Figure 1 shows the route assessed.

4. Traffic Flows

Traffic counts are obtained from data held by the Highway Information Services Section of the County Council. These counts are factored by the National Road Travel Forecasts (Cornwall) to make them compatible with present day flows by adding growth for the intervening years. These are presented on **Figure 1**.

5. The Assessment

The route is assessed against the key questions listed in section 2 above. The flow chart included in this report, shows the process of assessment and any points at which routes would fail.

It is recognised that conditions along the route are liable to change (e.g. traffic volumes, vegetation). The route was assessed during a site visit in February 2019 and as such represents an appraisal of conditions at that time.

The first step is to analyse accident records along the routes.

There have been no recorded accidents involving pedestrians in the last five years.

The first test considers traffic flows on roads which have no continuous footways.

Well Lane has a morning PCU count of 305 and an afternoon PCU count of 265. There is footway for the majority of Well Lane except for a short length of approximately 50 metres between Jasper Farmhouse and Tremar Lane. Whilst this is above the 120 PCU limit, Well Lane has good visibility and low speeds constrained by the road layout.

Pedestrian movements are common within this village environment which lies within a 30mph speed limit, with pedestrians regularly walking to local amenities and the public house at the north-western end of Well Lane. Therefore professional judgment can reasonably be applied to this short section of the route allowing it to pass.

Fore Street has footway along its length up to the point where the pedestrian will cross to access the footpath.

The U6174 (road from Swallow Cottage to Venslooe Hill) has a morning PCU count of 5 and an afternoon PCU count of 2. This section of the route has step-off opportunities by way of grass verges.

The northern end of Penslooe Hill (C266) has a morning PCU count of 9 and an afternoon PCU count of 6; the southern end has a morning PCU count of 20 and an afternoon PCU count of 14. Whilst there is no footway along the C266, there are ample step-off opportunities throughout this section of the route.

There is footway from the top of Penslooe Hill (C266) leading to the school.

The route therefore passes this test.

The second and third tests look to assess if the visibility available to the pedestrian is adequate given the observed vehicle speeds, and the level of facilities available to the pedestrian.

There is good visibility throughout the village; driven speeds did not rise above 30mph.

Visibility along the U6174 is in excess of 25 metres in either direction; driven speeds did not rise above 20 mph.

With footway along Fore Street, the speed and visibility of traffic on the highway is not directly linked to pedestrian movements.

Forward visibility along the southern end of the C266 is at a minimum of 40 metres; driven speeds did not rise above 30mph. On the bends on approach to the railway bridge, forward visibility is reduced to 25 metres with driven speeds reduced to approximately 15mph.

Beyond the railway bridge, forward visibility is increased however; due to the steep gradient of the road driven speeds were below 25mph. Due to the intrinsic nature of the road it is not possible for a vehicle to be driven at greater speeds.

At the time of assessment the footpath was in good repair and easily accessible. The footpath was uneven and muddy underfoot in places therefore the use of appropriate footwear is advised.

At no point along the route was visibility considered to be unacceptable due to speed levels; the route therefore passes this test.

The fourth test looks at the crossing manoeuvres a pedestrian must undertake along the route.

The pedestrian will first cross along Well Lane prior to the property, Jasper Farmhouse in order to increase their forward visibility. This section of the route lies within the village environment; several crossing manoeuvres were observed at this location during the assessment.

The next crossing manoeuvre is outside St Cleer Garage where the pedestrian should cross to access the footpath. This location has excellent visibility in either direction; driven speeds were below 30mph. On the homeward journey only, on leaving the footpath the pedestrian should step to their left and cross outside 1 Windsor View in order to increase their visibility of approaching south-bound traffic.

On leaving the footpath, the pedestrian will cross the C260 to continue along the route. Forward visibility at this location is at a minimum of 30 metres in either direction; driven speeds did not rise above 20mph. Due to its quiet location it is also possible to hear approaching vehicles.

The pedestrian will need to cross Penslooe a number of times when a bend in the road is encountered; it is advisable to cross to the outside of bends to afford both pedestrian and driver the greatest level of visibility. Due to its quiet location it is also possible to hear approaching vehicles.

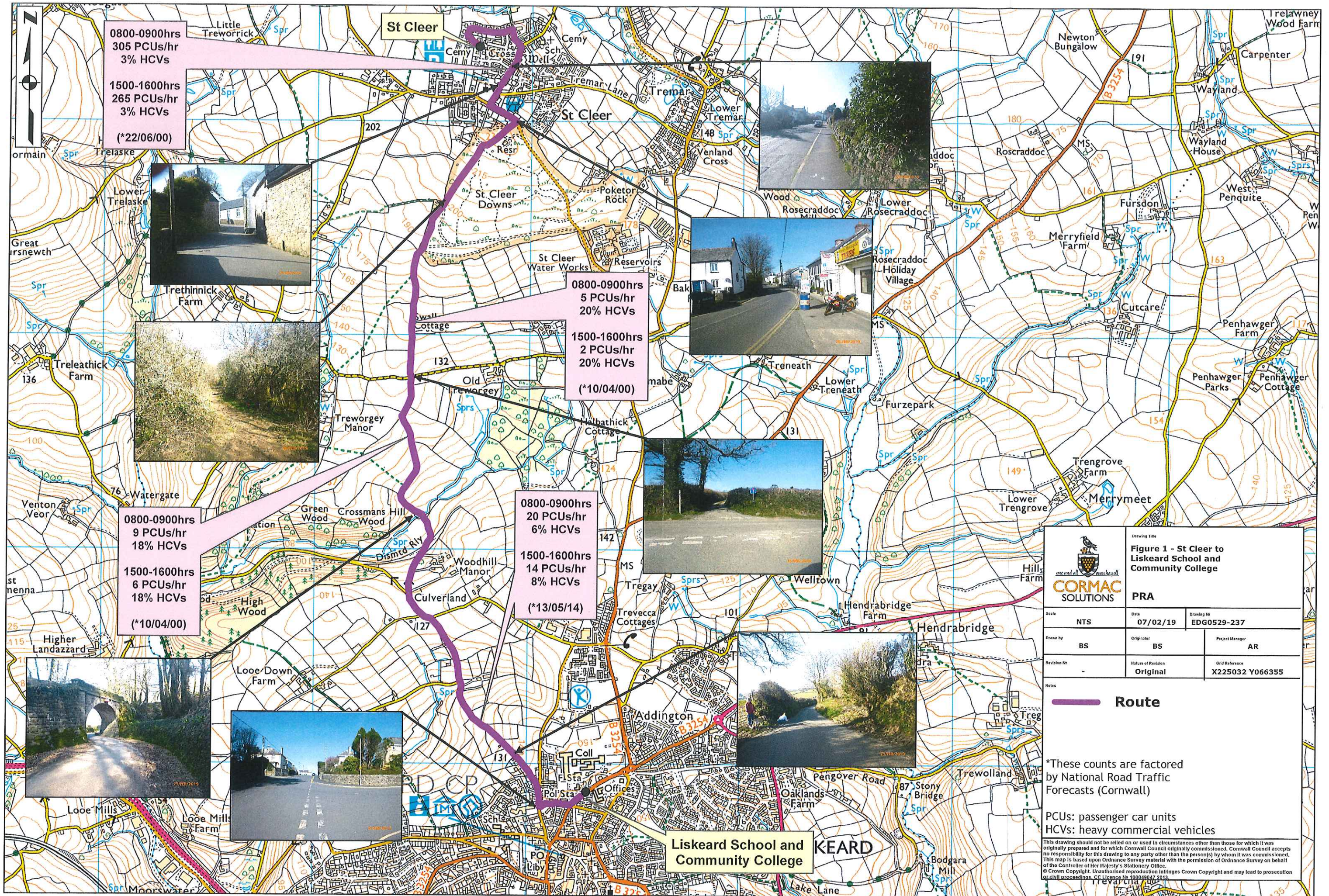
With low speeds and adequate visibility at all likely crossing points along this section, crossing manoeuvres are considered acceptable.


The final crossing manoeuvre is at Barras Place; due to the urban nature of the remainder of the route, crossing manoeuvres are common and to be expected along its length.

The route therefore passes this test.

6. Conclusion

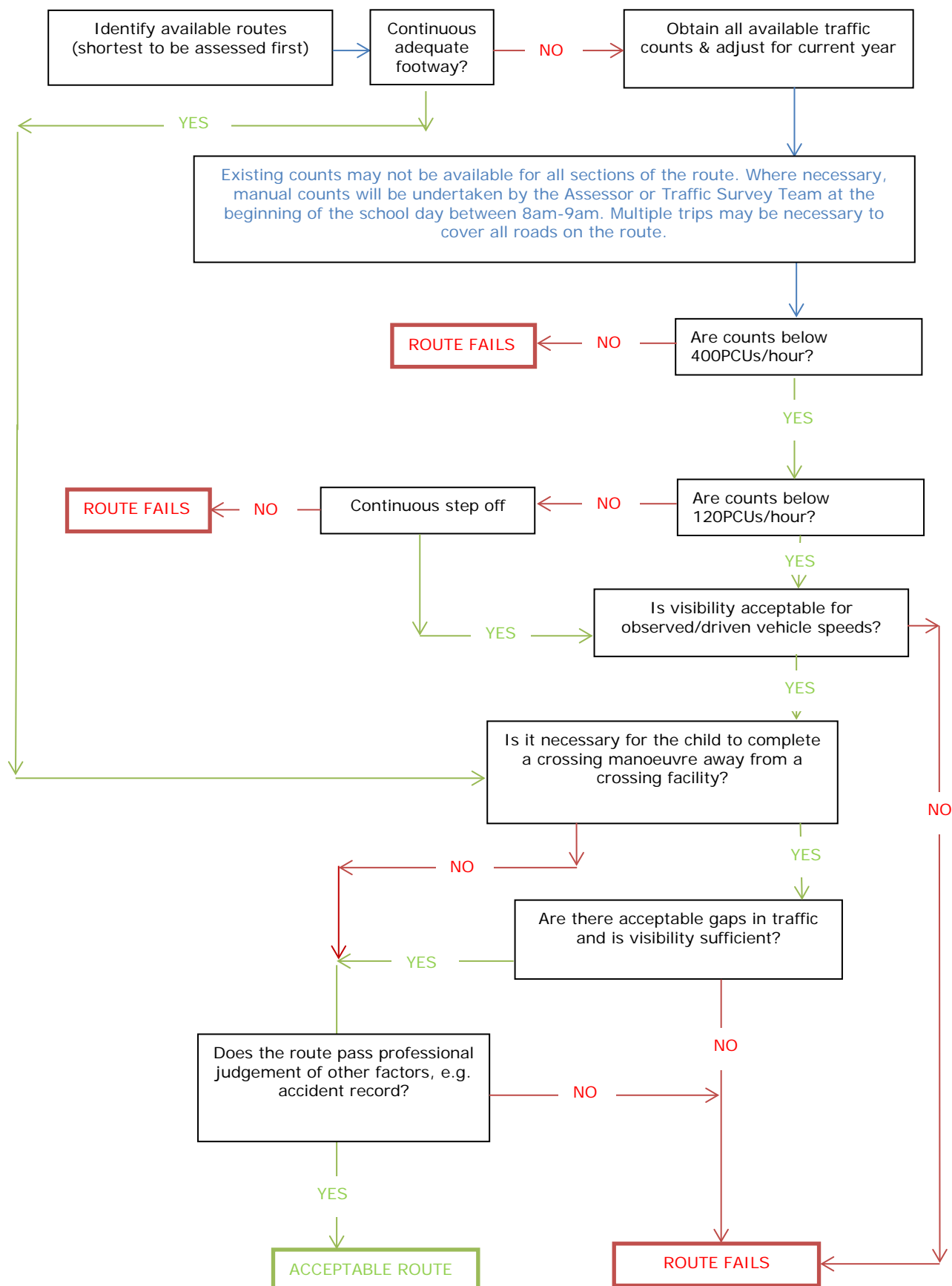
The route passed all tests presented to it and is therefore considered acceptable for school pedestrian use.



			Figure 1 - St Cleer to Liskeard School and Community College PRA		
Scale	NTS	Date	07/02/19	Drawing No	EDG0529-237
Drawn by	BS	Originator	BS	Project Manager	AR
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The Assessment Procedure

The flowchart below summarises the assessment procedure which will be undertaken to determine a route's suitability for school pedestrian use. Definitions and further explanation of the criteria used can be found in the 'Pedestrian Route Assessments – Walked Routes to School' Policy.



Explanation of Passenger Car Units

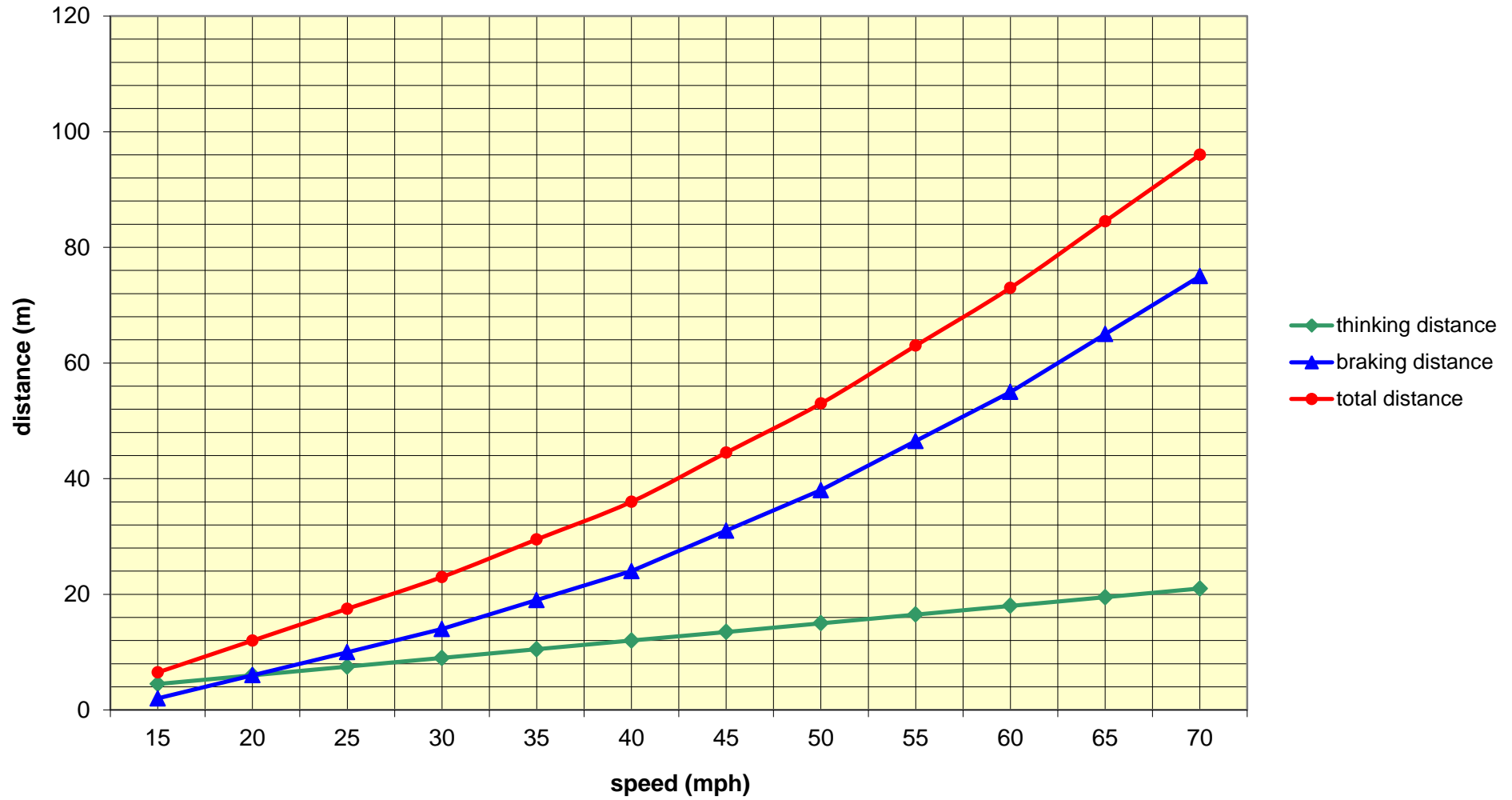
Passenger Car Units are used to convert classified vehicle counts into a new common unit that reflects the additional capacity and space requirements of larger vehicles. For example, one bus is taken to be equivalent to two passenger cars.

The following conversion factors were taken from the Local Road Safety Officers' Association Guidelines: Identification of Hazards and the Assessment of Risk of Walked Routes to School.

<u>Vehicle type</u>	<u>pcu factor</u>
pedal cycle	0.3
motorcycle	0.5
car	1.0
light goods vehicle (up to 3.5 tonnes)*	1.0
bus/coach (over 3.5 tonnes)*	2.0
medium goods vehicle (over 3.5 tonnes)*	2.0
large/heavy goods vehicle (over 7.5 tonnes)*	2.0

* This refers to maximum gross vehicle weight.

Figure 2: Typical Stopping Distances



Glossary of Terms and Abbreviations

85%ile Speed	The speed at or below which 85% of the vehicles in a speed measurement sample were travelling.
ATC	Automatic Traffic Count, vehicle counts conducted using either inductive loops buried below the road surface or less frequently now, via pneumatic tubes placed across the road.
Available Route	A route along which a child accompanied as necessary can walk and walk with reasonable safety.
Crossing Flow	The vehicle flow to which a child is exposed when completing a crossing manoeuvre.
Footway	A footway or roadside strip is a facility which is of adequate useable width (usually 1 metre) and in reasonable condition, suitable for walking.
Gap	The time in seconds between successive vehicles in a vehicle stream passing a fixed point.
HCV	Heavy Commercial Vehicle, any vehicle with a gross weight exceeding 7.5 tonnes.
Link Flows	The flow to which a child is exposed when walking along a road (as opposed to crossing flows).
Link Threshold Flow	The flow level at which it is considered necessary to have a continuous footway or step-off facility. This procedure sets this limit at 500 pcu's/hour.
Neutral Months	These are months which are deemed to be independent of any seasonal influence, they include: April, May, June, September and October.
PCU's	Passenger Car Units, a conversion rate for application to classified counts to reflect the additional capacity and space requirements of larger vehicles.
Platoon	In a traffic stream faster vehicles catch up with the slower vehicles ahead, thus creating moving queues.
Public Rights of Way	These are legally classified as footpaths, bridleways, byways open to all traffic and roads used as public paths.
Road Crossing Time	The time in seconds to cross a given carriageway width, normally assumes a pedestrian walking speed of 0.91

metres/second.

Route Segment	A continuous section of a route that shares similar characteristics e.g. speed limit, footway provision, carriageway width.
Shortest Stopping Distance	The Highway Code provides typical stopping distances for a given speed, these have two components:- a) thinking distance and b) braking distance.
Step-off	The term step-off refers to the facility for pedestrians to step-off, clear of the roadway onto a reasonably even and firm surface. This need not be suitable for walking along, merely that it is suitable for pedestrians to momentarily step-off the roadway for a short period of time.
Visibility	The horizontal distance of unobstructed vision when measured from the eyepoint of a driver, taken as being 1.05m from the road surface.
Walking Distance	Cornwall Council has adopted the policy of defining walking distance as 2 miles for Primary aged children and 3 miles for Secondary age.
Walking Speed	An average walking speed of approximately 1.4 m/s is assumed, which equates to approximately 400m in five minutes or three miles per hour.