



# Higher Coombe to Liskeard School and Community College

## Pedestrian Route Assessment

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## PEDESTRIAN ROUTE ASSESSMENT

### EDG0529-286 Higher Coombe to Liskeard School and Community College

#### 1. Introduction

The Engineering Design Group has been commissioned by the Transport Coordination Service to assess the pedestrian route between Lamellion, Liskeard and Liskeard School and Community College. This request was made on 20 August 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 two routes from Higher Coombe, Liskeard to Liskeard School and Community College.

#### **Route 1**

The route travels along the U6158 for a short distance before joining the B3254 to lead directly to the school.

#### **Route 2**

The route travels north along the U6158 towards Lamellion, west on the C257 then north on the U6157 to Old Road.

The remainder of the route is assessed under report EDG529-246. The route picks up the footpath to New Road, travels east on Gwel An Nans Close, Limes Lane and Dean Street, then north on Barras Street and Greenbank Road to the school.

**Figure 1** shows the routes 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 October 2019 and as such represents an appraisal of conditions at that time.

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

##### Route 1

Accident records for a 60 month period covering 01/04/14 to 31/03/19 were analysed and 1 accident was recorded. This was a slight injury accident where two cars collided on the bend in Lamellion. This accident gives no cause for concern with regard to pedestrian safety or to the intrinsic nature of the road layout.

##### Route 2

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

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

##### Route 1

The U6158 is a single track road with warning signs advising of the layout. There are a number of passing places along its length and traffic flow is low at 23 PCUs in the afternoon. The PCU level is set at 120 PCUs for pedestrians walking adjacent to traffic; all roads are well below this traffic flow level.

The B3254 has a morning PCU count of 187 and an afternoon PCU count of 170 and is without footway or step-off for a distance of 100 metres.

The route therefore fails this test.

## Route 2

The route follows route 1 to the point where the U6158 joins the C257

The C0257 through Lamellion has a low traffic count at 55 PCUs, leading to the U6157 with flows at 43 PCUs. The PCU level is set at 120 PCUs for pedestrians walking adjacent to traffic; all roads are well below this traffic flow level.

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.

The U6158 has no footway, however there are plentiful step-off opportunities and the road is wide enough to move to the side to allow vehicles to pass. Speeds along this section of the road are around 30mph on the straight sections, slowing to approximately 15-20mph at the bends under the viaduct. At this section there is approximately 32m of visibility. This allows for a suitable stopping distance at the speeds assessed.

The C0257 through Lamellion passes through a number of properties and over a bridge, the area is a small hamlet where pedestrians would be expected. Speeds are around 20-25mph, slowing at bends and over the bridge. Visibility is considered suitable and pedestrians are advised to cross to the outside of bends where necessary to afford themselves the greatest amount of visibility.

The U6157 is a single track road with passing places, leading to Old Road. The road has good visibility and speeds are kept low at between 15-25mph due to the narrow width, forcing cars to use passing places. 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 is not necessarily required to cross along the rural section of the route however, should the need arise, with low speeds and adequate visibility at all likely crossing points, crossing manoeuvres are considered acceptable. Due to its quiet environment it is also possible to hear approaching vehicles. The route therefore passes the test.

From Old Road the route picks up the previously assessed route (EDG529-246) Dobwalls to Liskeard School. This route also passed all tests presented to it.

## 6. Conclusion

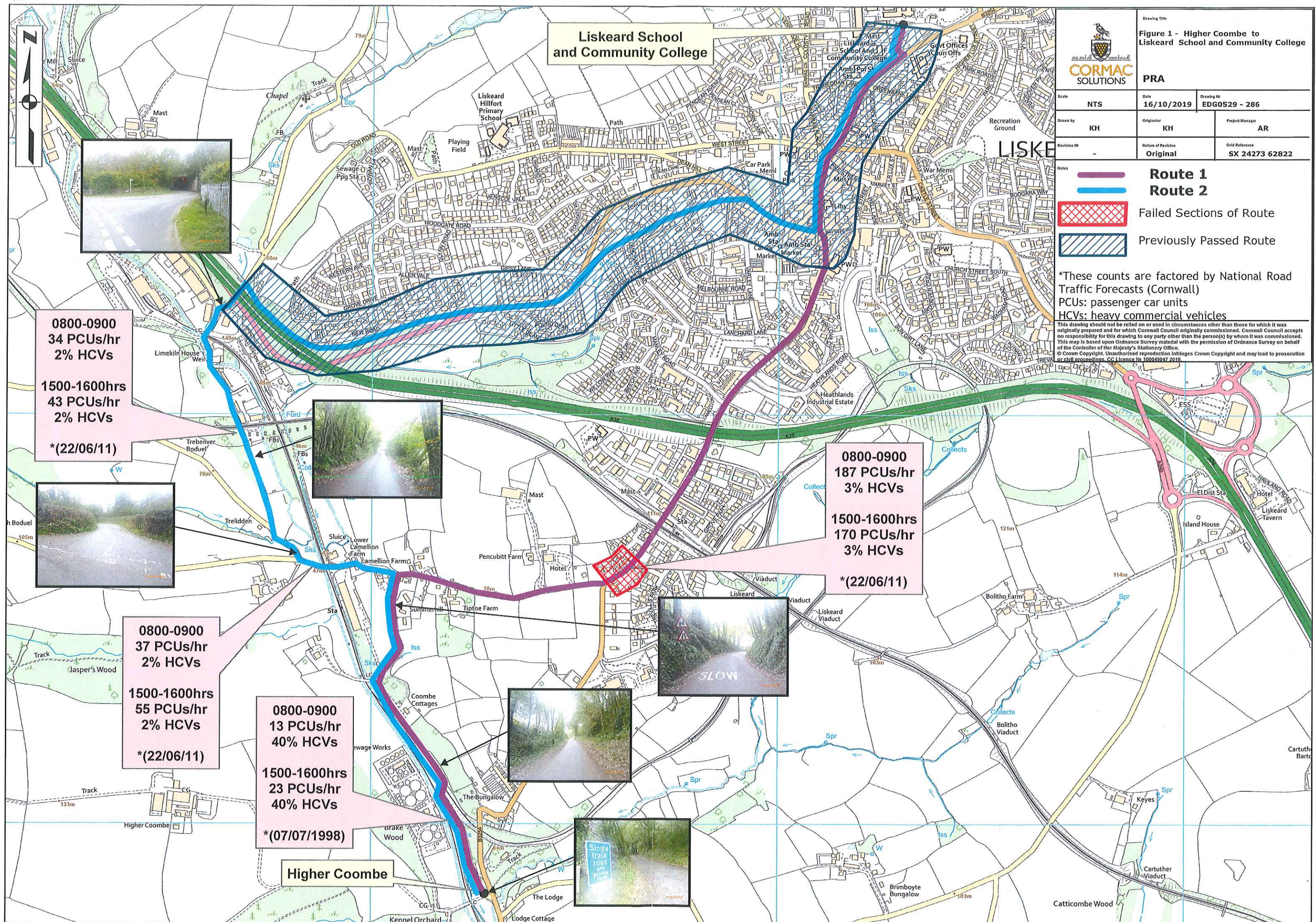
### Route 1

The route failed the traffic count presented to it and is considered unsuitable for school pedestrian use.

## **Route 2**

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





**CORMAC SOLUTIONS**

Drawing Title  
**Figure 1 - Higher Coombe to Liskeard School and Community College**

PRA

Scale <b>NTS</b>	Date <b>16/10/2019</b>	Drawing No <b>EDG0529 - 286</b>
Drawn by <b>KH</b>	Originator <b>KH</b>	Project Manager <b>AR</b>
Revision No <b>-</b>	Nature of Revision <b>Original</b>	Grid Reference <b>SX 24273 62822</b>

Notes

- Route 1**
- Route 2**
- Failed Sections of Route**
- Previously Passed Route**

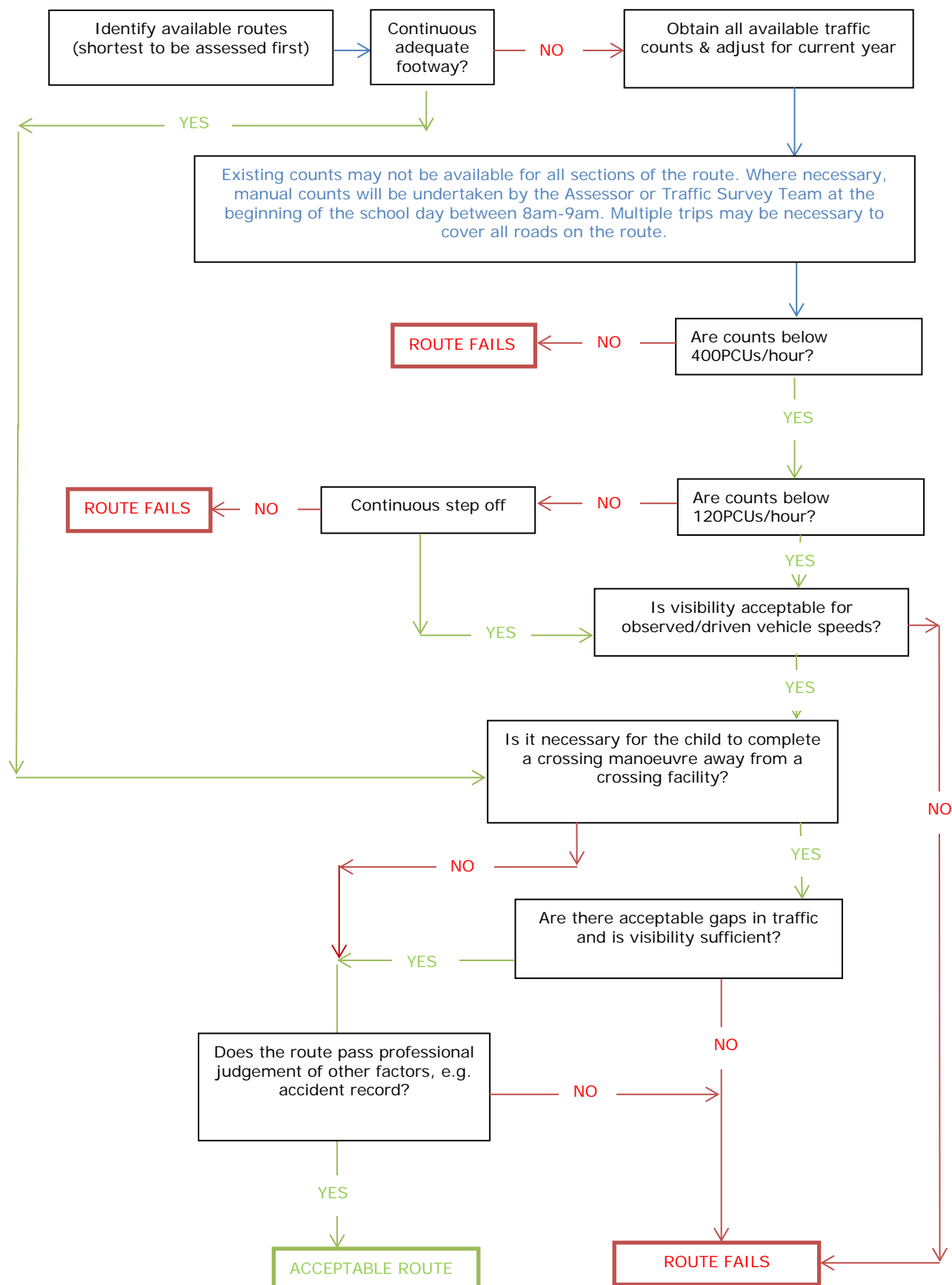
\*These counts are factored by National Road Traffic Forecasts (Cornwall)  
PCUs: passenger car units  
HCVs: heavy commercial vehicles

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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.

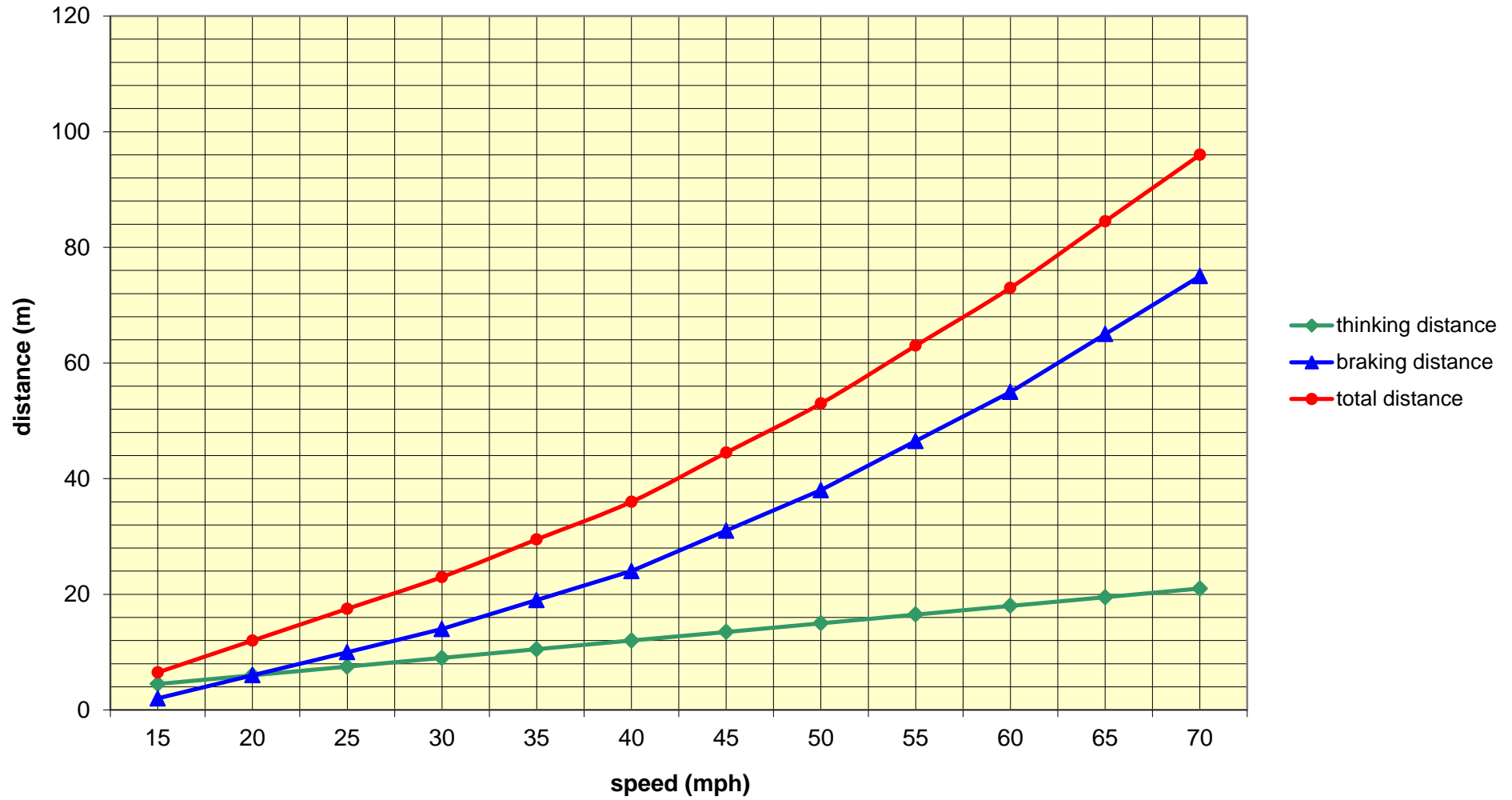
The following conversion factors were taken from the Local Road Safety Officers' Association Guidelines: Identification of Hazards and the Assessment of Risk of Walked Routes to School.

<b><u>Vehicle type</u></b>	<b><u>pcu factor</u></b>
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**

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



metres/second.

<b>Route Segment</b>	A continuous section of a route that shares similar characteristics e.g. speed limit, footway provision, carriageway width.
<b>Shortest Stopping Distance</b>	The Highway Code provides typical stopping distances for a given speed, these have two components:- a) thinking distance and b) braking distance.
<b>Step-off</b>	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.
<b>Visibility</b>	The horizontal distance of unobstructed vision when measured from the eyepoint of a driver, taken as being 1.05m from the road surface.
<b>Walking Distance</b>	Cornwall Council has adopted the policy of defining walking distance as 2 miles for Primary aged children and 3 miles for Secondary age.
<b>Walking Speed</b>	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.