

# Dobwalls to Liskeard School and College

## Pedestrian Route Assessment

Document Ref. & Revision N<sup>o</sup>

PRA - EDG0529-246

Rev. -

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## Issue & Revision Record

| Revision | Date     | Originator | Purpose of Issue / Nature of Change |
|----------|----------|------------|-------------------------------------|
| -        | 07-03-19 | B Sherriff | Original                            |



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# PEDESTRIAN ROUTE ASSESSMENT

## EDG0529-246 Dobwalls to Liskeard School and College

### 1. Introduction

The Engineering Design Group has been commissioned by the Education, Health and Social Care Directorate to assess the pedestrian route between Dobwalls and Liskeard School and College. This request was made on 21 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 two routes from The Highwayman, Dobwalls to Liskeard School and College.

#### **Route 1**

The route travels along the C773 to Moorswater for approximately 1.60 miles to join Old Road (U6159). The route continues through the town to lead directly to the school and college on Greenbank Road.

#### **Route 2**

The route is as Route 1 to the point where Old Road is reached. Immediately after passing under the A38, the route follows the footpath running parallel with the A38 which emerges on the slip road to Liskeard. The footpath then joins New Road (B3254), crosses to access Limes Lane and continues through the town to the school and college on Greenbank Road.

**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 March 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**

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

##### **Route 2**

Accident records for a 60 month period covering 01/06/2013 and 30/06/2018 were analysed and 12 accidents were recorded, 3 of which involved pedestrians sustaining slight injury. One incident involved a pedestrian who had come out of a public house and stepped out in front of an oncoming vehicle; this pedestrian was impaired by alcohol. One incident involved a pedestrian crossing the road in between traffic that was struck by a vehicle. Another involved a pedestrian who was struck in the middle of his back by an oncoming vehicle passing too closely to him.

Given the high pedestrian and vehicle movements and the length of the route, the number of accidents is typical of an urban area. The number of accidents is no cause for concern with regard to pedestrian safety or to the intrinsic nature of the road layout.

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

##### **Route 1**

The route has footway along its length up to the point where the route travels along the rural section of Old Road.

Old Road (U6159) has a morning PCU count of 166 and an afternoon PCU count of 185. As this is above the PCU limit imposed on roads with no continuous footway no further assessment of this route was necessary. The sections of failed route are marked clearly on the plan within this report.

While it is acknowledged that the traffic count for Old Road is from 1994, there has been no significant change to the surrounding environment in recent years and it is unlikely that traffic flows have reduced. We are therefore confident that the PCU calculator gives a reasonable reflection of traffic flow. Additionally there is a second route available.

## **Route 2**

Route 2 has footway along its length up to the point where the route travels along Limes Lane.

Limes Lane (U6161) has a morning PCU count of 98 and an afternoon PCU count of 58. Whilst there are no footways along this section, pedestrian movements are common within this residential area which lies within a 30mph speed limit, with pedestrians regularly walking to local amenities and the schools.

Beyond Limes Lane there is footway through the town 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.

## **Route 2**

With footway as far as Limes Lane, the speed and visibility of traffic on the highway is not directly linked to pedestrian movements.

Forward visibility along the western end of Limes Lane is at a minimum of 50 metres with driven speeds of approximately 30mph.

Beyond Doniert's Close, the road narrows and forward visibility is reduced to 35 metres with driven speeds of approximately 20mph. The eastern end of Limes Lane has forward visibility of 30 metres with driven speeds of approximately 15mph.

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.

## **Route 2**

There are a number of crossing manoeuvres along the C773 section of the route, all of which are via purpose-built uncontrolled pedestrian crossing points.

On reaching Moorswater Estate Road, the pedestrian should cross outside the Furniture Superstore at the dropped kerb where the footway ends to continue along the route. Visibility at this location is in excess of 70 metres in either direction; this section of the route lies within a 30mph speed limit.

Once under the A38 overbridge, the pedestrian should cross from the western side of the carriageway at the entrance to the Caradon Trail to access the footpath. Visibility is at a minimum of 60 metres in either direction with driven speeds between 25 – 30mph

On New Road, the pedestrian should cross in the vicinity of the property 'The Chapters' via the pedestrian island to continue along the route. Forward visibility is at a minimum of 60 metres in either direction with driven speeds of approximately 30mph.

Although the pedestrian is not necessarily required to cross along Limes Lane, should the need arise with low speeds and adequate visibility at all likely crossing points along this section, crossing manoeuvres are considered acceptable. This section of the route is well used by pedestrians walking to the town and local schools.

All other likely crossing manoeuvres are undertaken within residential areas and the town where pedestrian movements are common and to be expected.

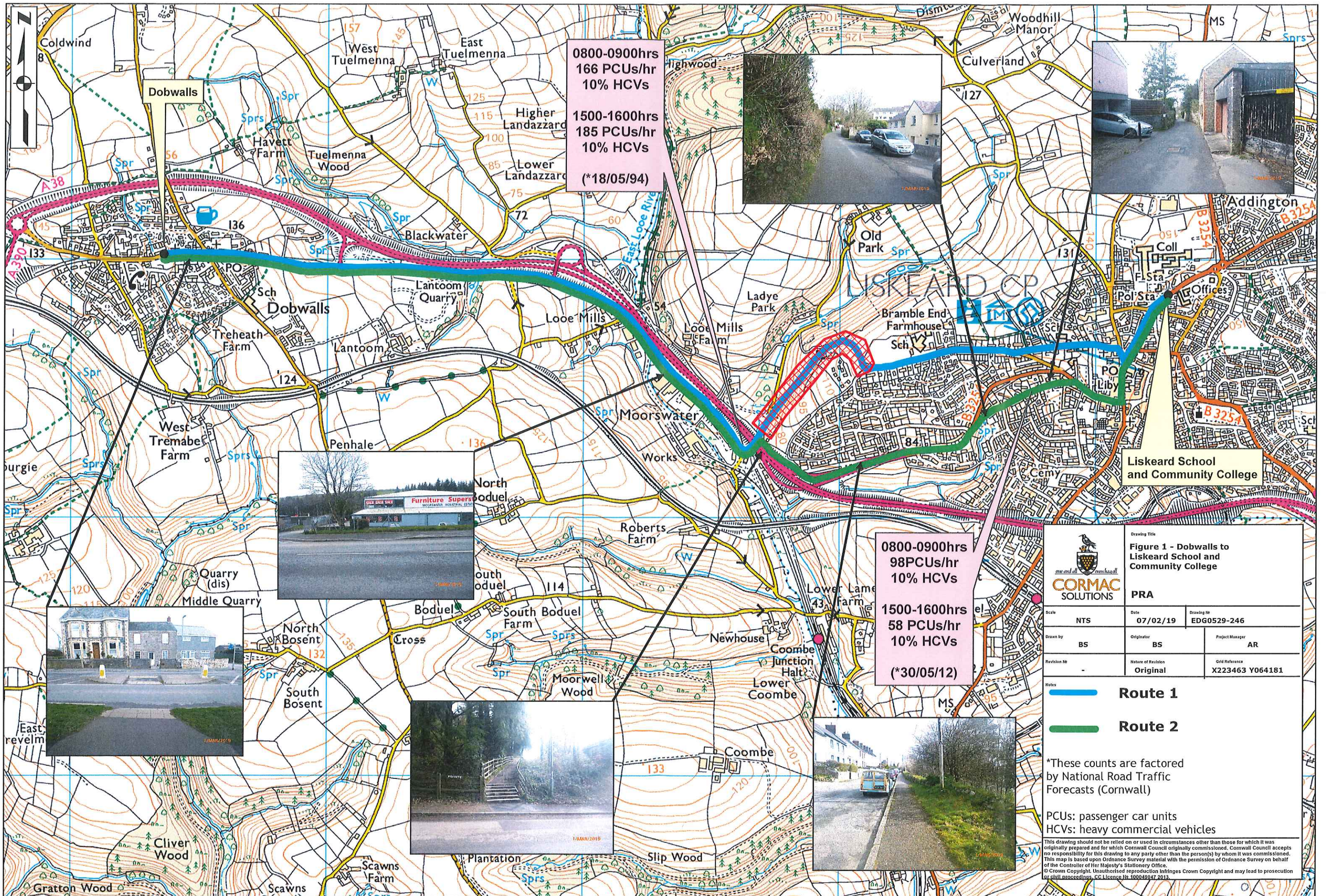
The route therefore passes this test.


## **6. Conclusion**

Route 1 failed the traffic count test and is considered to be unacceptable for school pedestrian use.

Route 2 passed all tests presented to it and is therefore considered acceptable for school pedestrian use.



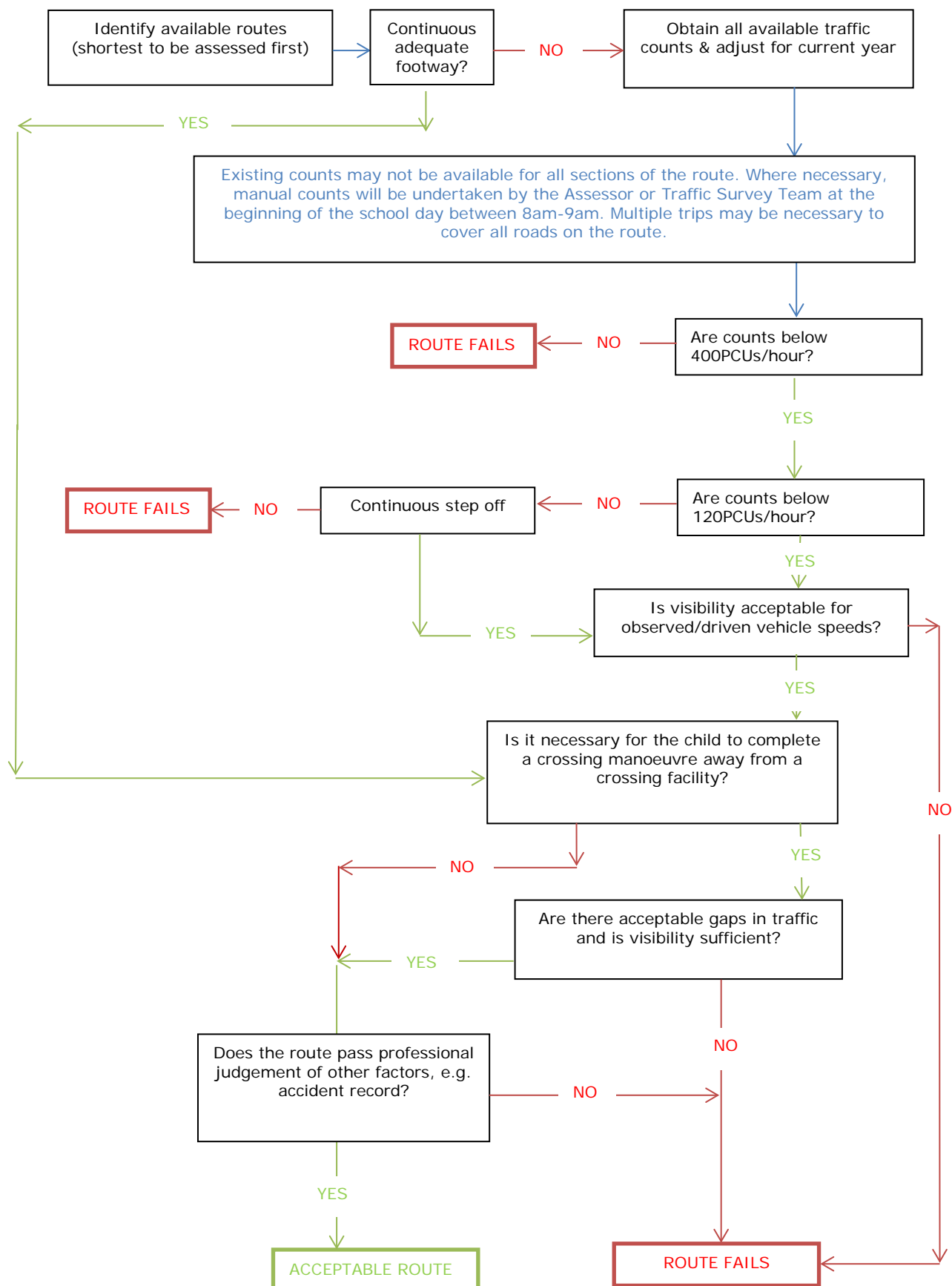


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|---|--|--|--|--|--|--|--|--|--|--|--|--|
|  |  |  | Drawing Title<br><b>Figure 1 - Dobwalls to Liskeard School and Community College</b> |  |  |  |  |  |  |  |  |  |
| <b>PRA</b>  |  |  | Date<br><b>07/02/19</b>  |  |  | Drawing No<br><b>EDG0529-246</b>         |  |  | Project Manager<br><b>AR</b>             |  |  |  |
| Scale<br><b>NTS</b>   |  |  | Originator<br><b>BS</b>  |  |  | Nature of Revision<br><b>Original</b>    |  |  | Grid Reference<br><b>X223463 Y064181</b> |  |  |  |
| Drawn by<br><b>BS</b>   |  |  | Revision No<br><b>-</b>  |  |  | Grid Reference<br><b>X223463 Y064181</b> |  |  |  |  |  |  |



## 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.

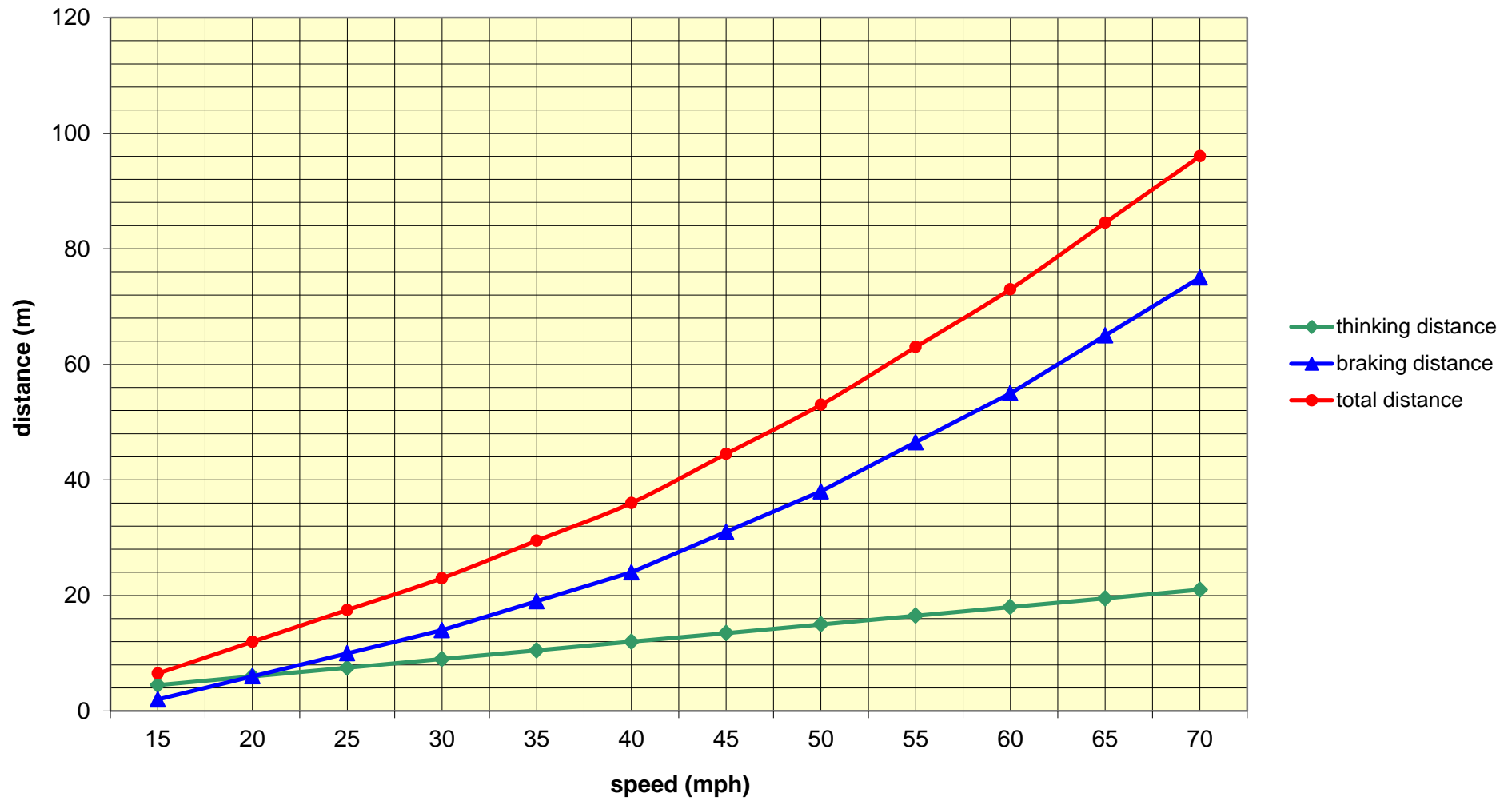
The following conversion factors were taken from the Local Road Safety Officers' Association Guidelines: Identification of Hazards and the Assessment of Risk of Walked Routes to School.

| <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.  |