



Lamellion to Liskeard Community College

Pedestrian Route Assessment

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PEDESTRIAN ROUTE ASSESSMENT

EDG0529-251 Lamellion 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. A further request from this location was received on 26 September 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 Lamellion, Liskeard to Liskeard School and Community College.

The route travels along the U6157 to join the C223. The route travels along a short section of the A38 before crossing to continue along the A390. The route continues along Plymouth Road (B3254) travelling through the town 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 September 2019 and as such represents an appraisal of conditions at that time.

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

Accident records for a 60 month period covering 01/04/14 to 31/03/19 were analysed and 15 accidents were recorded. Of these accidents, 2 involved pedestrians who sustained a slight injury, all of which occurred in the urban area.

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.

Whilst there is no traffic information for the U6137, analysis of traffic data for the neighbouring section west of the C223 shows a morning PCU count of 6 and an afternoon PCU count of 2. The section east of the U6137 shows a morning PCU count of 25 and an afternoon PCU count of 22. We are therefore confident that the U6137 must be below the 120 PCU limit.

The U6137 has no footway, however there are plentiful step-off opportunities by way of grass verges.

The C223 has a morning PCU count of 30 and an afternoon PCU count of 31. Whilst there are no footways, the road is of sufficient width to allow a vehicle to easily pass a pedestrian.

There is traffic flow of 270 across the A38 slip road; The A38/A390 has footway along this section of the route.

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.

Immediately beyond the property Great Gormellick, there are a series of bends where forward visibility is reduced to a maximum of 20 metres; driven speeds are reduced accordingly to approximately 10mph.

Due to the intrinsic nature of the road, it is not possible for a vehicle to be driven at greater speeds at this location.

Once past this section of the U6137, forward visibility is increased to 30 metres; driven speeds did not rise above 20mph.

Forward visibility along the C223 is at a minimum of 50 metres; however due to the narrow nature of the road, driven speeds did not rise above 25mph.

With pedestrian footway along the remainder of the route, the speed and visibility of traffic on the highway is not directly linked to pedestrian movements. The route therefore passes this test.

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.

On leaving the C223, the pedestrian will cross the A38 westbound on-slip at the uncontrolled pedestrian crossing point to continue along the route. This section of the route lies within a 30mph speed limit with excellent visibility of approaching traffic.

The route continues through the town to lead directly to the college.

Due to the urban nature of the majority of this route, crossing manoeuvres are common and expected along its length. At major junctions there are pedestrian islands and traffic lights to assist with crossing.

The route therefore passes the test.

6. Conclusion

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

Liskeard School and Community College

LISKEARD

Lamellion

0800-0900
269 PCUs/hr

1500-1600
237 PCUs/hr

*Estimated

0800-0900
30 PCUs/hr
13% HCVs

1500-1600hrs
31 PCUs/hr
13% HCVs

*(18/11/14)



Figure 1 - Lamellion, Liskeard to Liskeard School and Community College

PRA

Scale	NTS	Date	02/10/2019	Drawing No	EDG0529 - 251
Drawn by	BS	Originator	BS	Project Manager	AR
Revision No	-	Nature of Revision	Original	Grid Reference	X: 225127 Y: 064003

Route

Failed Sections of Route

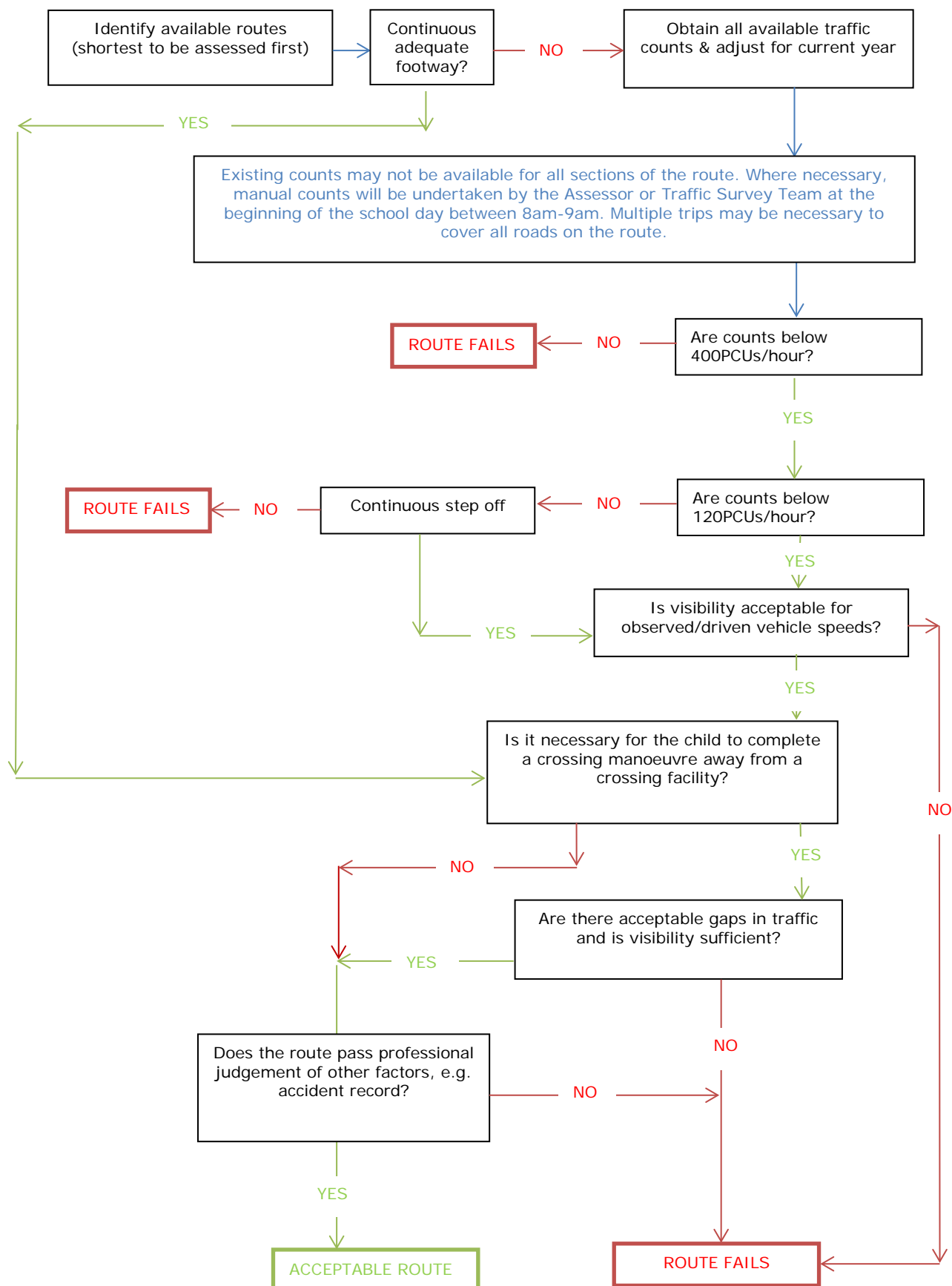
*These counts are factored by National Road Traffic Forecasts (Cornwall)
PCUs: passenger car units
HCVs: heavy commercial vehicles

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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

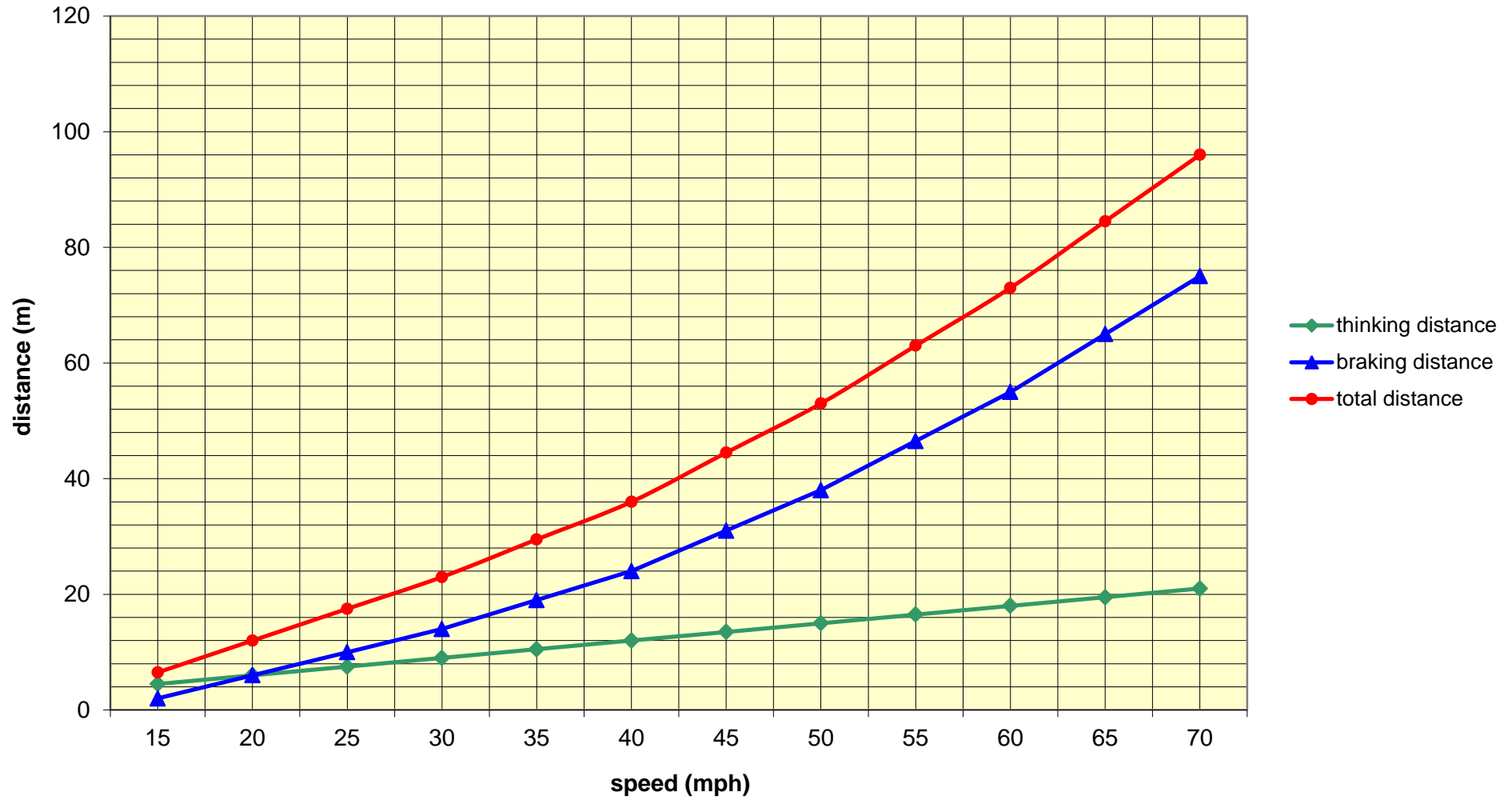
Passenger Car Units are used to convert classified vehicle counts into a new common unit that reflects the additional capacity and space requirements of larger vehicles. For example, one bus is taken to be equivalent to two passenger cars.

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.

<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.