GREEN LANE LINK SAFETY ASSESSMENT

Tarleton area - collision analysis

Introduction

This risk assessment of the Green Lane Link proposal makes a comparative assessment of previous development proposals

The study was undertaken by Kathryn Eastland (Engineer) from the Network Control team, Community Services department Lancashire County Council.

This report follows an investigation into road traffic collisions that have occurred on the Tarleton and Banks road network north of the A565 to the District boundaries of Southport and Preston to the west and east respectively. This large area was selected in order to produce a meaningful assessment of the existing safety problems on the local road network and conclude on the potential accident savings which may result from the implementation of the proposed Green Lane link road.

A full collision investigation was carried out on this area (5 year collision search 1.1.2010 to 31.12.2014) the summary of the findings are detailed below.

Description

The studied area encompasses all local roads north of the A565 within the West Lancashire District. The area is rural in nature, the village centres are subject to speed limits of 30mph and below and have systems of street lighting. Outside the main villages speed limits increase to 50mph and above and have either auxiliary street lighting or no lighting provision. The majority of traffic within the area is local, however there are a significant number of agricultural businesses such as nurseries which generate a large number of Large Goods Vehicle (LGV) movements to/from the area. It is LGV movements and the impact these have upon the local road network in the form of congestion/slow moving traffic which are the subject of investigation within this report.

Collision Summary

An evidence based approach was undertaken where the injury collision risk was assessed for all road user groups. This was based on potential collision savings which could be achieved due to reduced congestion and LGV movements resulting from the diversion of LGV's from the village centres.

An examination of the 5 year personal injury accident records reported to the police between 2010 and 2014 for the above studied area has identified the following:

There have been 137 reported injury collisions, involving 157 casualties.

Of these, there were 39 Killed and Serious Injury (KSI) collisions, 3 of which were fatalities, producing a higher than average 38% KSI.

An assessment of the above collision data in relation to the issues at hand showed that there were 11 total reported injury collisions which were considered to be directly related to LGV movements. Also, there were a further 18 collisions which could be partially attributed to congestion.

Of those, it was considered that the link may reduce the number of collisions involving LGV movements by up to 70% and congestion collisions by up to 10%. Therefore it was considered that a total of 10 collision savings may be achieved in 5 years if the Green Lane link road were to proceed.

Therefore the average number of collisions that could be saved if the Green Lane link were to proceed is 2 per year.

Conclusion:

In 2012 the proposed link road costs were projected to be in the region of £3.5 - £4 million. Therefore the projected First Year Rate of Return (FYRR) for the link road based on the potential collision savings is calculated below;

$$\text{FYRR} = 100 \times \frac{\text{No Collisions per year} \times \text{Average cost per collision}}{\text{Scheme costs}}$$

$$\text{FYRR} = 100 \times \frac{2 \times £104{,}900}{£3{,}500{,}000} = 6\% \text{ based on June 2007 prices}$$

The above 6% figure is very low, a scheme is expected to have at least 175% in order to get a place in Local Safety Scheme programmes in Lancashire.

It should be noted that the first year rate of return is usually reserved for the assessment of local safety schemes, which are schemes of relatively low cost targeting specific safety issues. Therefore whilst the above calculation may provide an insight into the potential casualty savings the link could provide in monetary values, a scheme of this size and nature would require Cost Benefit Analysis (COBA).

Overall, it can be surmised from the information detailed above that the number of potential collisions saved with the provision of the Green Lane link could not be used to justify the construction expenditure.