
Project:	Little East Street, Brighton	Job No:	1000001826
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1 Introduction

Brighton & Hove City Council (BHCC) have drawn up proposals to revise traffic movements in the Old Town area of Brighton which were subject to a public inquiry in July 2013. The Inspector supported a number of the proposals including the closure of the northern section of Ship Street and the restriction of Heavy Goods Vehicle (HGV) movements into the area between 11am and 7pm.

During the public inquiry the Inspector highlighted a number of potential safety issues which may result from the proposed diversion of traffic along Little East Street. These were as follows:

- The increased use of Little East Street by HGV traffic;
- The anticipated speeds of vehicles using Little East Street;
- The safety of pedestrians within the shared space area of Little East Street;
- The safety of pedestrians emerging into Little East Street from frontages and the car park footpath.

BHCC officers have subsequently reviewed the proposals and developed a number of measures designed to mitigate the issues raised by the Inspector. This report provides an independent assessment of the extent to which the revised proposals address these issues from a road safety perspective.

The assessment is based upon the following information provided by BHCC:

- Sketch Drawing 001, providing details of an initial design proposal; namely, guard rail and a speed reducing feature (thought to be detailed as a speed cushion)
- Speed Survey Data
- Peter Brett Associates (2013) Proposed Traffic Regulation Orders Impacts Technical Note (Draft)
- BHCC Little East Street Road User Safety Assessment
- Public Inquiry Inspector's Report Extract

2. Risk Assessments on Identified Issues

Based upon the issues identified by the Inspector noted in Section 1 above, specific risk assessments have been carried out to attempt to quantify the likely effect of the revised proposals. The Risk Assessment process is outlined in Appendix A and used within this section. It should be borne in mind that these risk assessments are based upon engineering judgement in the absence of any reliable collision control data.

2.1 The increased use of Little East Street by HGV traffic

Existing Layout

- Likelihood of conflict – Very Low (very low pedestrian movement and low traffic volumes) – Score 1
- Consequence of conflict – Low (very low speed of vehicles) – Score 2
- Risk Score – 2 – Low

Proposed Layout

- Likelihood of conflict – Low (very low pedestrian movement and slightly increased traffic volumes associated with the removal of restrictions) - Score 2
- Consequence of conflict – Low (very low speed of vehicles) - Score 2
- Risk Score – 4 – Low

There is an increase in risk associated with the project, although the realisation of that increased risk may not be observable or measured by evidence of collisions. However it is noted that HGVs (over 7.5 tonnes) will only be able to enter the Old Town (via Black Lion Street) before 11am. As East Street will be open at this time, it could be expected that they would continue to use this route and not Little East Street (albeit the restriction is removed). It is likely that more vehicles up to 7.5 tonnes will use Little East Street between 11am and midnight but these will be the only vehicles which can enter the Old Town at this time.

Conclusions

The introduction of a speed reducing feature is unlikely to materially alter risk levels as observed speeds are very low and any speed hump may not directly reduce vehicle speeds. The consequence of any collision may still be medium / low due to the vehicle mass of HGVs.

2.2 The anticipated speeds of vehicles using Little East Street (based on small vehicles)

Existing Layout

- Likelihood of conflict – Very Low (very low pedestrian movement and low traffic volumes) – Score 1
- Consequence of conflict – Very Low (very low speed of vehicles) – Score 1
- Risk Score – 1 – Very Low

Proposed Layout

- Likelihood of conflict –Low (very low pedestrian movement and slightly increased traffic volumes associated with the removal of restrictions) - Score 2
- Consequence of conflict – Low (very low speed of vehicles) - Score 1
- Risk Score – 2 – Low

There is a slightly increased risk associated with the project, although the realisation of that increased risk may not be observable or measured by evidence of collisions.

Conclusions

The introduction of a speed reducing feature is unlikely to materially alter risk levels as observed speeds are very low and any speed hump may not directly reduce speeds of small vehicles. The consequence of any collision will be low due to continuing low speeds.

2.3 The safety of pedestrians within the shared surface area of Little East Street

Existing Layout

- Likelihood of conflict – Very Low (very low pedestrian movement and low traffic volumes) – Score 1
- Consequence of conflict – Very Low (very low speed of vehicles) – Score 1
- Risk Score – 1 – Very Low

Proposed Layout

- Likelihood of conflict –Low (very low pedestrian movement and slightly increased traffic volumes associated with the removal of restrictions) - Score 2
- Consequence of conflict – Very Low (very low speed of vehicles) - Score 1
- Risk Score – 2 – Low

There is a slightly increased risk associated with the project, although the realisation of that increased risk may not be observable or measured by evidence of collisions.

Conclusions

The introduction of a speed reducing feature is unlikely to materially alter risk levels as observed speeds are very low and any speed hump may not directly reduce speeds of small vehicles. The consequence of any collision will be low due to continuing low speeds.

2.4 The safety of pedestrians emerging into Little East Street from frontages and the car park footpath

Existing Layout

- Likelihood of conflict – Very Low (very low pedestrian movement and low traffic volumes) – Score 1
- Consequence of conflict – Very Low (very low speed of vehicles) – Score 1
- Risk Score – 1 – Very Low

Proposed Layout

- Likelihood of conflict –Low (very low pedestrian movement and slightly increased traffic volumes associated with the removal of restrictions) - Score 2
- Consequence of conflict – Very Low (very low speed of vehicles) - Score 1
- Risk Score – 2 – Low

There is a slightly increased risk associated with the project, although the realisation of that increased risk may not be observable or measured by evidence of collisions.

Conclusions

The introduction of the guardrail feature is unlikely to materially alter risk levels as observed speeds are very low and pedestrians have a notional footway area delineated by colour contrasted surface and the guardrail is unlikely to materially alter pedestrian behaviour at this location. The consequence of any collision will be low due to continuing low speeds.

2 Conclusions

To establish what affect the proposed remedial measures will have on road safety a formal Risk Assessment process has been undertaken, in the absence of any reliable collision control data.

The major influence in any increased risk, associated with removal of the restrictions to traffic movements along Little East Street, will be increased traffic volumes. Increased volumes will increase the 'exposure to risk' of any vulnerable user, particularly pedestrians. Traffic volumes are predicted to rise by 683 vehicles (PBA, 2013), over an eight hour period, from an estimated baseline figure of 123 vehicles – representing a 555% increase. Whilst this increase is substantial in percentage terms, it still means that traffic volumes along Little East Street are still low in absolute terms; indeed it has been estimated that the peak hourly traffic flow along Little East Street will be in the region of 85 vehicles per hour – this can be classified as very low flow.

The Risk Assessments carried out in Section 2 of this report do indicate marginal increases in risk scores, in line with increased traffic volumes associated with the removal of traffic restrictions, although the risk increases are minimal and may not be associated with increased collision rates.

The introduction of traffic calming measures and improved pedestrian protection features are unlikely to have a significant (or measurable) benefit on risk score levels, as traffic volumes will remain low (in absolute terms) and traffic speeds will be low regardless of the introduction of speed reducing features (vehicle speeds directly over the features may not be altered).

Overall, whilst it is likely that there will be an increased risk associated with greater traffic flows, the absolute traffic flow volume through Little East Street will remain very low and so absolute risk increases are unlikely to be apparent to users. The existing nature of Little East Street is one of a shared surface and this appears to operate effectively. With the proposed revisions to the traffic orders, vehicular flow will remain low in absolute terms and the shared surface principle has been shown to be a valid measure in managing potential conflict between road user groups.

Whilst it is acknowledged that some user groups, such as blind and partially sighted pedestrians, can feel vulnerable on shared surfaces there are measures that can ameliorate issues and these revolve around better delineation of routes for these users, with the strategic location of street furniture such as seating and bollards, along with strong contrast colour differentiation between notional vehicle paths and pedestrian areas. There may be a need to locally increase such delineation, particularly at the major pedestrian attractor of the car park access.

3 Recommendations

In terms of increased risk for vulnerable users it is recommended that the relocation of street furniture that is likely to be necessary should guide more vulnerable users away from potential conflict with vehicular traffic, whilst retaining suitable areas for large vehicles to manoeuvre. In conjunction with street furniture redesign it is considered appropriate to review the need for improved delineation (by contrast colour / texture) between nominal footway and carriageway areas whilst a similar approach would be appropriate for the drainage channel. It is recommended that local disability groups are consulted on these issues.

Appendix A: Evaluating Risks

To assess the costs and benefits associated with improving road infrastructure it is necessary to identify hazards and the relative risks associated with colliding with them. A prioritisation of features or locations can then be carried out to rank action by means of the findings of a Risk Assessment process. Identifying costs associated with remedial measures will then allow cost / benefit analyses to be carried out and ensure a 'value for money' approach to taking action.

The section below describes the process of risk assessment and provides definitions of terms associated with this method.

Risk Assessment Processes

To accurately assess the cost and benefits of carrying out remedial measures the likely risk of collisions should be understood. A formal Risk Assessment Process can be carried out within the context of road safety.

In brief, Risk Assessments assess both the *likelihood* of an event occurring along with the potential *consequence* of such an event. The combination of these two elements establishes the risk associated with an event. Such assessments are comparative in nature, but bring some limited objectivity to an otherwise subjective area of concern.

Factors affecting the *likelihood* of a collision on Little East Street can be summarised as being associated with traffic volume and vulnerable user volume (and the interaction of the two).

The probable *consequences* of injury resulting from a collision will depend on vehicle speed and the vulnerability of the road user to injury (e.g. a pedestrian). In a formal Risk Assessment a matrix of *Likelihood* versus *Consequence* gives us risks that can be defined as High, Medium or Low. Acceptable risk is one that is considered to be As Low As Reasonably Practicable (ALARP) and this should, ideally, be defined with the use of control collision data and based on Cost- Benefit Criteria.

The risk assessments reported in the previous section are based on a 4 X 4 matrix. The layout of this 4 X 4 matrix is shown below (a score of 4 is considered high, whilst 1 is low). When combining scores a relative risk score can be used to identify High (Red), Medium (Yellow) and Low (Green) risk features.

		Consequence			
		4	3	2	1
Likelihood	4	16	12	8	4
	3	12	9	6	3
	2	8	6	4	2
	1	4	3	2	1

High Risk – is unacceptable and requires immediate action to reduce risk

Medium Risk - is undesirable and requires some action to reduce risk

Low Risk – is considered acceptable and no action may be required

When remedial action is proposed the risk assessment process can be used again to establish the reduction in risk associated with the measures implemented.