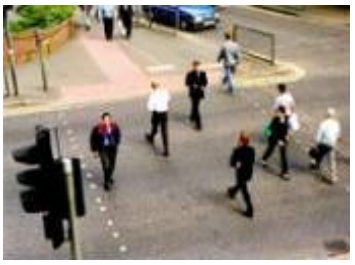
EXECUTIVE SUMMARY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Introduction

During consultation with stakeholders for the Sheffield and Rotherham Air Quality Action Plans, a suggestion was proposed that the air quality could be improved in Tinsley by upgrading Grange Lane, to divert traffic from Bawtry Road. FaberMaunsell has been commissioned by Rotherham Metropolitan Borough Council (RMBC) to study the potential for Grange Lane in this respect. In addition, opportunities for the Sheffield-Rotherham QBC were to be explored, as well as other potential benefits such as better links for sustainable transport modes.

Option Generation and Selection

The scheme was split into three distinct parts – Grange Lane north, Grange Lane south and Complementary Measures – and ideas for these sections, referred to as 'elements' were identified. These came from the Action Plan stakeholders, Grange Lane study Steering Group and FaberMaunsell. The options included:-

- For the northern section of Grange Lane, on-line improvements with removal of the bridge and off-line alignments to the east of the current road, cutting across the site used for slag reduction.
- For the southern section of Grange Lane, on-line improvements, plus two more radical options based on cutting across the sports fields to the east, or creating a smooth curved bend between Bawtry Road and Grange Lane.
- For complementary measures, HGV ban and traffic calming or bus gate on Bawtry Road in Tinsley, HGV ban in Brinsworth and bus lane on Sheffield Road approaching M1 J34(S).

These elements were evaluated by FaberMaunsell to eliminate those unlikely to proceed, and then the remainder taken to the Grange Lane study Steering Group for discussion at a workshop. The resulting schemes, following further evaluation work, led to the definition of two schemes to be taken forward for further assessment:-

- **Full Scheme**, comprising largely on-line improvements on Grange Lane, but with a signal junction at Sheffield Road and a roundabout on a realigned Bawtry Road. Complementary measures comprise a bus gate on Bawtry Road west of Park House Lane, an HGV ban in Brinsworth, a westbound bus lane on Sheffield Road, and one-way northbound plugs on Norborough Road and Harrowden Road; and
- **Lower Cost Scheme**, comprising more modest upgrades to Grange Lane by combining pedestrian and cycle facilities, and traffic lanes at junctions. The junction with Bawtry Road would be left without improvements, whilst the junction with Sheffield Road would still be signalised but to a lower standard. Complementary measures would include HGV bans in Tinsley and Brinsworth, traffic calming through Tinsley and possibly a reduced length westbound bus lane on Sheffield Road.

Scheme Alignment, Costs and Programme

The Full Scheme alignment would require the purchase of land from 3 three owners – Heckett Multiserv (SR), Exel Logistics and the Phoenix Sports and Social Club. No land appears to be required from Corus. The existing bridge is proposed to be removed, and land used by the slag reduction operation (owned by Heckett Multiserv) is assumed to require capping to prevent environmental contamination.

The scheme is predicted to cost **£7.8m** at current prices including 15% risk, with an estimated average annual maintenance cost of **£35,000**. Major cost risks include the diversion of buried plant such as pipelines and cables, and the cost of any environmental remediation, if required. The Lower Cost Alternative Scheme would be expected to cost in the region of **£5.4m** with 15% risk. These costs include Complementary Measures, which amount to £1.7m and £1.3m respectively for both schemes.

It is estimated that the scheme could open during 2011, allowing for a Public Inquiry should it be required.

Analysis

The Full Scheme broadly satisfies the scheme objectives, although the improvements brought about for pedestrians and public transport tend to be rather localised around access to the sites close to Grange Lane. Grange Lane improvements do not necessarily enable redevelopment of adjacent land, because site access can be gained from Sheffield Road. The proposals also do not contribute any improvements to the operation of the HA network, with possibly a slight increase in HGV traffic between M1 J34 and M1 J33.

The assessment in this study relies upon manual traffic reassignments and a limited amount of traffic data. It cannot be considered sufficiently robust for an Annex E submission, but it does indicate in general terms the likely outcome of any more detailed assessment.

An economic assessment of the scheme, broadly following the 'Transport Economic Efficiency' (TEE) principles required for Annex E submissions, indicates that **there is no transport economic case for the scheme**. This is principally because removing traffic from Bawtry Road, via Grange Lane, increases distance travelled and journey time and creates economic disbenefits for these road users which, when added to the cost of the scheme, outweigh the benefits which would accrue to users who do experience

time saving benefits, such as those in buses, or residents in Tinsley who can get onto the M1 more quickly (the latter is not modelled).

The scheme must therefore be promoted on the non-'transport economic efficiency' advantages it brings. At present, the DfT does not recognise a methodology which would enable the benefits of items such as noise, air quality and quality of life to be monetised. However, the New Approach To Appraisal (NATA) methodology included in this study does reveal qualitative benefits for residents living close to Bawtry Road. On the other hand, residents fronting Sheffield Road suffer some disbenefit, although these are fewer in number. To more fully present scheme benefits, air quality and noise assessments should be undertaken in Tinsley, and preferably in Brinsworth.

Conclusions and Recommendations

It can be concluded that:-

- A scheme to upgrade Grange Lane is viable from an engineering and traffic perspective;
- Any adverse effects on bus services can be mitigated by new bus lane;
- Traffic flow reductions can be achieved in Tinsley, although it is likely that this will only be significant if Bawtry Road is closed to general traffic; and
- The scheme, if promoted, should be promoted based upon 'quality of life' indicators (air quality, noise, severance) rather than 'transport economic efficiency' (journey time and capacity) results.

It is recommended that:-

- The cost of the scheme should be reviewed by RMBC to see if it is compatible with the Sheffield-Rotherham QBC, and whether RMBC consider the scheme value for money versus other potential schemes which could be bid for from government funds. Consideration should be given as to whether the scheme would enhance or detract from the QBC bid;
- Modelling is undertaking to determine the area wide effects of the scheme, and firm up on the economic case. Air quality and noise modelling should also be considered;
- Consultation on the scheme is undertaken to determine if there would be sufficient local support for the measures, using visual aids such as VISSIM to present perhaps 3 options (Do Nothing/Do Minimum, Full Scheme minus Bawtry Road closure, full Full Scheme); and
- The Grange Lane Steering Group should have a representative on the QBC Steering Group if this is felt appropriate.