

South East Blackburn Growth Corridor

Option Appraisal Summary Report
November 2019



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1. Introduction

This report has been produced to summarise the key highway and transport options considered to improve traffic and travel conditions across south east Blackburn. The South East Blackburn Growth Corridor Scheme is divided into three distinct intervention elements, defined as follows:

- Widening of the A6077 Haslingden Road between Lions Drive and Shadsworth Road to four lanes with associated geometric improvements at junctions;
- Delivery of the Blackamoor Link Road including two new junctions at Roman Road and Blackamoor Road and associated changes at the existing Roman Road / Blackamoor Road junction; and
- Improvements to the Haslingden Road / Old Bank Lane junction to also include a new access to the Royal Blackburn Teaching Hospital.

Traffic flow conditions across south east Blackburn, as well as various intervention options to address identified issues have been previously considered as part a number of assessments of the route, both across the study area and at locations.

Issues across the South East Blackburn Growth Corridor area can be summarised as follows:

- Highway capacity issues along the A6077 Haslingden Road and more widely across south east Blackburn;
- Queueing, congestion and blocking back during peak travel periods;
- Poor air quality at specific locations across the south east Blackburn; and
- Reduced viability of potential development sites across south east Blackburn as a result of poor level of service provided by the local highway network.

Further details can be found in the Baseline Conditions Report also submitted as an Appendix to the main business case document. The aims of the scheme are defined as follows:

- Enable Blackburn with Darwen Borough Councils growth ambitions to be realised without adversely impacting on the existing level of service (congestion) provided by the Haslingden Road corridor and adjoining local highway network;
- Improve air quality at the Blackamoor Road / Roman Road junction to bring nitrogen dioxide levels within the (annual mean) objective as specified in the Air Quality (England) Regulations 2000 (as amended) to enable the revocation of the Blackamoor AQMA;

- Enable further development of employment opportunities by facilitating the delivery of over 47,894sqm of new commercial floorspace creating approximately 3,862 jobs;
- Supporting future housing growth by enabling the delivery of approximately 643 additional houses within the borough; and
- Improve the facilities for walking and cycling along Haslingden Road, providing a safer environment to encourage participation in active travel.

This report summarises the broad options considered at specific locations across the South East Blackburn Growth Corridor area, as well as identify the preferred intervention option at each location.

2. Initial Sifting and Assessment

The DfT's Early Assessment Sifting Tool (EAST) spreadsheet has been completed for the South East Blackburn Growth Corridor Scheme and is provided in conjunction with this Technical Note.

The EAST is a decision support tool developed to quickly summarise and present evidence on options in a clear and consistent format. It provides decision makers with relevant, high level, information to help them form an early view of how options perform and compare. It provides an effective method for comparing a broad range of intervention options and ruling out those which do not address identified issues and meet scheme objectives.

The EAST assessment considered highway options both at specific locations across south east Blackburn, as well as a number of corridor wide alternative mode options.

3. A6077 Haslingden Road

3.1 Identified Issues, Uncertainties and Constraints

Key challenges and issues to be addressed by the proposed scheme can be summarised as follows:

- Link and junction capacity issues along the A6077 Haslingden Road, notably between Guide junction and the Shadsworth Road junction during peak periods;
- Extended journey times, congestion and blocking back along the route during peak periods, with a poor level of service constraining local growth ambitions; and
- Potential future air quality issues associated with heavy traffic and congestion.

Key uncertainties and constraints identified along the A6077 Haslingden Road are summarised as follows:

- Land adjacent to the existing carriageway not under local authority ownership or within current highway boundary, with a number of private residential properties constraining any potential carriageway widening; and
- Continued growth in traffic demand and development of land along the corridor in future years.

3.2 Intervention Options Summary

A number of historical appraisals and option reviews have been undertaken to assess potential intervention options along the A6077 Haslingden Road. For addressing the identified issues along the corridor, the following options were considered and reviewed in the EAST assessment provided with this Technical Note:

- Provision of a two-lane dual-carriageway (D2);
- Single carriageway with two lanes (S4) in each direction (Preferred);
- Single carriageway with two lanes in alternating directions;
- Tidal flow lanes (Next Best);
- Junction improvements only (Low Cost); and
- Do – Nothing.

Each of these options focuses on providing additional carriageway and junction capacity along Haslingden Road aimed at reducing congestion and blocking back occurring along link sections during both peak travel periods.

The provision of dual-carriageway, with complementary roundabout improvements, would likely provide the most significant increase in carriageway capacity, maximising traffic flows and reducing journey times. However, there is unlikely to be sufficient available width between existing dwellings and business uses to provide full D2 carriageway along the route. A Single Four (S4) arrangement without a central reservation is more likely to be achievable and cost-effective.

Conversely, junction only improvements are unlikely to sufficiently mitigate existing congestion and capacity issues and will not provide capacity for future growth along the corridor. Current link capacities are likely to continue to provide a constraint to traffic flow without widening.

The implementation of tidal flow lanes has the potential to provide additional capacity during the peak period without the land requirements of an S4/D2 configuration. However, this option is likely to be prohibitively expensive, would require the existing roundabout junctions to be replaced with signalised junctions, as well as further infrastructure which would also be required to control the direction of flow on lanes.

The provision of S4 carriageway, providing two lanes in both directions with associated improvements to existing roundabout junctions is considered to be the best performing, most cost-effective and most viable option for providing capacity improvements along the A6077 Haslingden Road. This option will be taken forward as the 'preferred option' for further appraisal.

4. Old Bank Lane Royal Blackburn Hospital Access Junction

4.1 Identified Issues, Uncertainties and Constraints

Access improvements to the RBH site are required in order to mitigate against existing access issues as well as provide an enhanced access arrangement to cater for future growth and development across the Blackburn Royal Teaching Hospital site. Limited access arrangements for the hospital creates problems on the local highway network, with traffic blocking back from the electronic arm-controlled accesses to the main visitor car park onto Haslingden Road.

Uncertainties and constraints to developing enhanced access arrangements to the RBH site are detailed as follows:

- Uncertainty surrounding proposed development and internal layout of the RBH site and the likely access requirement; and
- The availability of land and development proposals around the existing Old Bank Lane junction.

4.2 Intervention Options Summary

A new access to the RBH is proposed adjacent to the Old Bank Lane/ Haslingden Road priority junction to the south west of the site. In order to facilitate this access, the following junction interventions were appraised and have been reviewed in the EAST assessment:

- Fully signalised junction (Next Best);
- Compact Roundabout (Preferred);
- Mini Roundabout;
- Priority (Low Cost); and
- Do-Nothing.

Review and appraisal of each of these options indicates that a roundabout option provides greater capacity benefits than a signalised junction, with a compact roundabout the best performing of the junction options assessed. This is considered the preferred option for development of a new access to the RBH site at this location.

A signalised junction would provide additional qualitative benefits, reducing severance across Haslingden Road and improving crossing provision for pedestrians, and is therefore considered the next best option.

5. Blackamoor Road Link Road

5.1 Identified Issues, Uncertainties and Constraints

Key challenges and issues to be addressed by the proposed scheme can be summarised as follows:

- Heavy congestion around the existing Roman Road/ Blackamoor Road Junction;
- Poor air quality, with areas across the junction designated an Air Quality Management Area (AQMA);
- Poor pedestrian provision and safety across the junction, with narrow footways and little crossing provision; and
- High HGV turning proportions, with tight turning radii through the junction limiting the capacity of specific movements.

Uncertainties and constraints identified along Roman Road and Blackamoor Road are detailed as follows:

- Continued high demand and high HGV proportions expected in future years, with further development and traffic growth forecast; and
- Private dwellings and other local amenities acting as a physical constraint on the carriageway, particularly at the existing Roman Road/ Blackamoor Road junction, limiting the scope for widening the carriageway and providing additional capacity.

5.1 Intervention Options Summary

The following highway intervention options were considered for providing additional highway capacity between Blackamoor Road and Roman Road and have been reviewed in the EAST assessment:

- Link Road Scheme with an all vehicle ban on the existing Blackamoor Road (Blackamoor Road / Roman Road changes to a three-arm signalised junction); (Preferred)
- Link Road Scheme with an HGV ban on the existing Blackamoor Road; (Next Best)
- Link Road Scheme with an upgrade to the Blackamoor Road/ Roman Road junction;
- Upgrade to the Blackamoor Road / Roman Road junction only (Low Cost); and
- Do-Nothing.

Provision of the Blackamoor Road Link Road forms an integral part of the overall scheme. It has been identified in the Blackburn with Darwen Local Transport Plan 2 and is considered essential for unlocking land to the south of the Fishmoor Reservoir for development.

Significant physical constraints around the existing Roman Road/ Blackamoor Road junction limit potential options and the overall feasibility for providing junction only improvements at this location. Pedestrian provision at the junction is poor, with a clear requirement to enhance the public realm at this location and increase safety for pedestrians. There is also a need to improve air quality in the designated AQMA.

Provision of the Blackamoor Road Link Road with an all vehicle ban on the existing Blackamoor Road is considered to be the best performing and most appropriate option for meeting each of the scheme's aims. Provision of the link road will reduce the overall traffic demand through the existing Roman Road/ Blackamoor Road junction and facilitate wider development of the area.

This option allows the public realm around the Roman Road/ Blackamoor Road to be expanded, with an improved phasing and staging traffic signal sequence from the three-arm arrangement. Redistribution via the link road will reduce the overall distance travelled for some users, with delay savings from an improved junction arrangement expected to outweigh any increases in distance travelled for others, with an overall reduction in journey times. This option also limits the requirement for HGVs to make turning movements with tight turning radii through the junction.

6. Alternative Mode Option Appraisal

The EAST assessment also considered a number of corridor-wide sustainable travel mode options as an alternative to highway interventions.

An option to provide dedicated bus lanes along the A6077 Haslingden Road and more widely across the area has been considered. A low number of bus services operate across south east Blackburn, with small number of low frequency services operating along Haslingden Road. As a result, utilisation of dedicated bus lanes is likely to be low, there is unlikely to be sufficient demand to implement new bus service routes. Dedicated bus lanes would also reduce capacity for existing private vehicle traffic, potentially exacerbating current traffic capacity and congestion issues for private car traffic. This option is considered not to sufficiently address the identified challenges and will not be considered further.

Further to this, an option to implement a dedicated shuttle bus service associated with the RBH was also considered during the EAST assessment. This could incorporate key residential and employment areas across south east Blackburn and enhance connectivity with Blackburn Town centre. While this may improve connectivity across the local area, it is unlikely to address the overall traffic congestion and capacity issues, with a significant proportion of trips traveling via the strategic route network and from wider areas.







An option to promote active travel across the corridor was considered, with provision of segregated cycle ways adjacent to key routes across the area, including the A6077 Haslingden Road and the B6231 Blackamoor Road to encourage use of active travel modes. This option was not deemed of sufficient scale to address the identified challenges across the corridor. Uptake of active travel modes is likely to be low, with steep gradients across the area making these travel modes unattractive.

Active travel mode users will be considered in the design of highway interventions across the corridor, with enhanced public realm and provision for pedestrians proposed at a number of junctions, particularly around the Roman Road/ Blackamoor Road junction. A shared cycleway is likely to be developed adjacent to the Blackamoor Road Link Road as part of the preferred option, tying in with the existing Weavers Wheel cycle network.

7. Summary and Conclusions

A RAG analysis summary from the EAST assessment for each option can be found in Table 7.1 overleaf, with the preferred option at each location highlighted in yellow.

RAG analysis of each option across expected impacts is completed on the following scale:

	Green	Positive Impact
	Amber/green	Slight Positive Impact
	Light Blue	Neutral/ No Impact
	Amber	Slight Negative Impact
	Red/amber	Negative Impact
	Red	Highly Negative Impact

A completed EAST assessment for all scheme options is provided below and is available on request if not accessible.



CB EAST Scheme
Assessment.xls

Table 7.1. EAST Assessment RAG Summary

Option	Economic Growth	Carbon emissions	Socio-distributional impacts	Local environment	Well being
Corridor Bus Lanes	Orange	Orange	Light Blue	Orange	Light Blue
Active Travel Provision and Segregated Cycle Ways	Light Blue	Light Blue	Light Blue	Green	Light Blue
Provision of enhanced RBH Shuttle Bus Services	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
A6077 Haslingden Road: Provision of D2 Carriageway	Dark Green	Green	Green	Green	Orange
A6077 Haslingden Road: Provision of S4 Carriageway	Dark Green	Green	Green	Green	Orange
A6077 Haslingden Road: Provision of Alternating S3 Carriageway	Light Blue	Green	Light Blue	Green	Orange
A6077 Haslingden Road: Provision of Tidal Flow Lanes	Green	Green	Light Blue	Green	Orange
A6077 Haslingden Road: Junction Only Improvements	Green	Light Blue	Light Blue	Light Blue	Light Blue
A6077 Haslingden Road: Do-Nothing	Orange	Orange	Orange	Orange	Orange
Old Bank Lane Junction: Traffic Signals	Green	Light Blue	Light Blue	Light Blue	Green
Old Bank Lane Junction: Midi Roundabout	Green	Light Blue	Light Blue	Light Blue	Light Blue
Old Bank Lane Junction: Mini Roundabout	Green	Light Blue	Light Blue	Light Blue	Light Blue
Old Bank Lane Junction: Enhanced Priority Junction	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
Old Bank Lane Junction: Do-Nothing	Orange	Orange	Orange	Orange	Orange
Blackamoor Road: Link Road with All Vehicle Ban on existing Blackamoor Road	Dark Green	Orange	Green	Green	Green
Blackamoor Road: Link Road with HGV Ban on existing Blackamoor Road	Dark Green	Orange	Green	Green	Green
Blackamoor Road: Link Road with improvements to Blackamoor Road Junction	Dark Green	Orange	Green	Orange	Orange
Blackamoor Road: Improvements to Blackamoor Road Junction Only (no Link Road)	Orange	Orange	Orange	Orange	Orange
Blackamoor Road: Do-Nothing)	Orange	Orange	Orange	Orange	Orange

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