

Overview of the A38 Bromsgrove Major Scheme

The A38 Bromsgrove Major Scheme will support the sustainable growth of Bromsgrove, Redditch and South Birmingham by enhancing the existing A38 Bromsgrove Eastern Bypass. The full scheme comprises ten junction enhancements on the A38 corridor between its junctions with M5 (Junction 4) to the north and the B4091 in the south, as shown on **Figure 1** and is to be delivered in 5 packages.

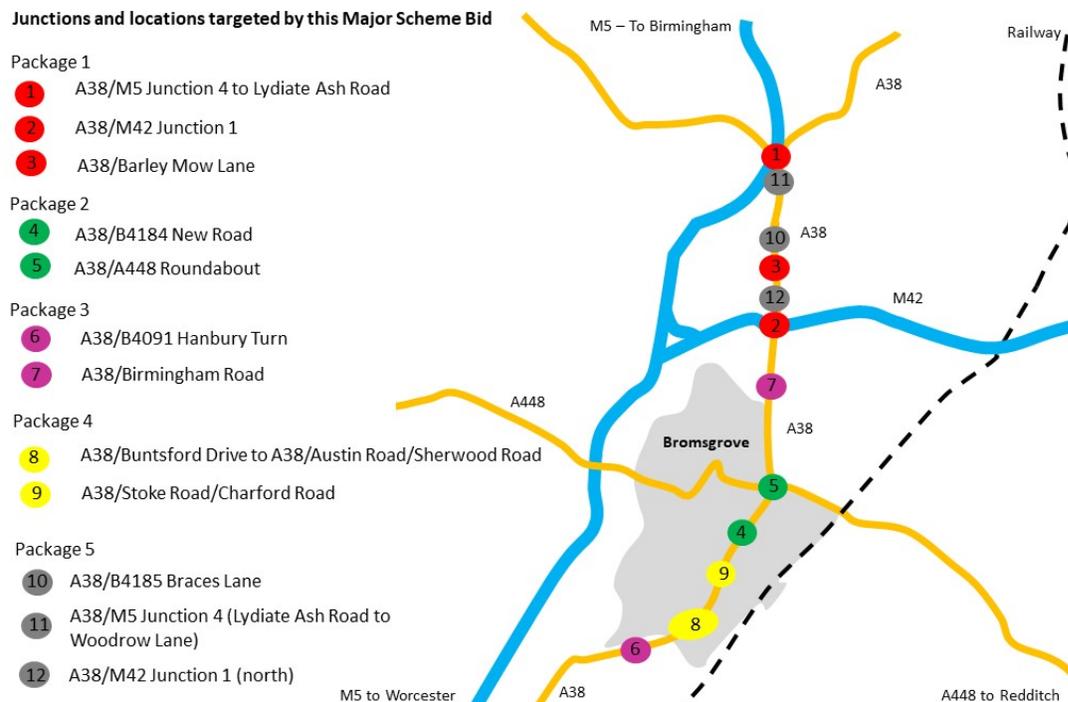
The A38 is an important corridor for traffic travelling between residential areas in Bromsgrove and Redditch and employment areas in South Birmingham. Bromsgrove and Redditch are recognised as important areas of development and economic growth for Worcestershire as a County and for the rest of the West Midlands as a whole.

This Major Scheme targets locations where delay and congestion are currently experienced, and where conditions are predicted to deteriorate further without intervention. The proposed works differ at each junction but typically include carriageway widening, lengthening of approach lanes, creation of new lanes for turning traffic, reconfiguration of traffic signals and enhanced pedestrian facilities.

Thus, the scale of growth proposed in Bromsgrove and Redditch cannot be satisfactorily accommodated on the Strategic Road Network without improvement to M42 Junction 1 and M5 Junction 4. To sustain the level of growth envisaged, additional highway capacity will be required to ensure that the additional economic growth does not lead to deterioration in the functionality of the highway network.

Indeed, Highways England (HE), in its responses to both the Bromsgrove District Plan and the Redditch Local Plan, identified that improvements to both M42 Junction 1 and M5 Junction 4 were necessary due to the cumulative traffic impacts of planned development arising. This was accepted at the examination in public of the two Local Plans and the improvement of both M42 Junction 1 and M5 Junction 4 are recorded in the Infrastructure Development Plans of both authorities as a key transport infrastructure requirement. Therefore, whilst no individual allocated site has planning conditions (i.e. a Grampian condition) that restrict development to delivery of the A38 corridor Schemes, including Package 1, there are linkages between the A38 Major Scheme and the wider Local Plan requirements.

Figure 1 – Junction Improvement Location and Package Plan.



Package 1 - M42 Junction 1, M5 Junction 4 and A38 / Barley Mow Lane

The A38 within Bromsgrove fulfils two primary functions. It is the principle distributor for Bromsgrove town, as well as acting as a through route to the M42 and M5 motorways and thus into Birmingham. Between M42 Junction 1 and M5 at Junction 4, the A38 has an additional 'pseudo-strategic' role as a consequence of the absence of west facing slip roads at M42 Junction 1. This attribute of M42 junction 1 means that traffic originating in the Bromsgrove area and wishing to access the M5 (and vice versa) has to route via the A38 between M42 Junction 1 and M5 Junction 4 to access the M5 motorway for destinations to the north of the town. A substantial amount of traffic at M42 Junction 1 is, therefore, 'through traffic' which crosses the circulatory and continues along the A38 to access the M5 at Junction 4.

- Improvements to M42 Junction 1 comprising:
- Widening of the A38 southbound approach to Junction 1 to add a 3rd lane (flare) on the existing approach;
- Widening of the northbound circulatory to accommodate 4 lanes on the existing western bridge deck structure;
- Widening of the A38 Birmingham Road northbound away from Junction 1 to 2 lanes, for a distance of approximately 35 metres before merging to tie-in to the existing road layout at the Topaz Business Park;
- A service road for the properties facing the A38 southbound approach to allow vehicles to access their properties safely and without affecting traffic on the A38 once it has been widened. The service road would be a level surface with non-motorised users; and

- Widening of the M42 entry slip to accommodate 2 lanes from the existing roundabout for approximately 30 metres. The two lanes then merge into one along the slip road where a retaining wall, approximately 200 metres long, will be required.

Improvements to M5 Junction 4, including:

- Widening of the A38 Halesowen Road northbound approach to the motorway roundabout. Two lanes will be provided from around 100 metres in advance of the existing stop line, increasing to three lanes for the last 35 metres;
- Widening of the A38 Halesowen Road southbound away from Junction 4 to 2 lanes, merging back to the existing single lane prior to Lydiate Ash Road;
- The repositioning of the footway to accommodate the southbound widening; and
- This improvement requires two parcels of land in third party ownership. On the western side of the road, land is required to create the proposed visibility splay for the A38 northbound approach. On the eastern side, land is required for the road widening and new footway. It is hoped that this land can be secured by agreement with the land owner. If this is not possible, then there may be a requirement for a CPO process.

Improvements to the junction with Barley Mow Lane, including:

- The conversion of the junction to a ghost island junction;
- Retention of the existing footways, with the signalised pedestrian crossing being relocated further north from its current position;
- Relocation of two bus stops; and
- The existing road width is sufficient, so no road widening is required.

These works are prioritised as Package 1 because:

- These junctions play a strategic role on the wider network and are key strategic links between the local road network (A38) and the Strategic Road Network;
- These junctions are a source of delay to cars, lorries and public transport services; and
- Completion of improvements at these junctions will provide housing and business interests with confidence to realise the full development potential of allocations in both the Bromsgrove District Plan and the Redditch Local Plan, helping to support the aims of both the Worcestershire Local Enterprise Partnership (WLEP) and the Greater Birmingham and Solihull Local Enterprise Partnership (GBSLEP) which focus on creating stronger conditions for growth.

Package 2 - A38/New Road Junction

The A38 southbound approach to the A38/New Road intersection experiences significant congestion in both periods associated with the provision of a restrictive single lane entry for the A38 southbound ahead movement. Forecast modelling suggests these conditions will persist in future with weekday evening peak hour conditions particularly bad with queue lengths of circa 40 pcus predicted during this period.

The proposals for the A38/New Road signals are to provide two lanes for the A38 southbound ahead movement. The proposals are shown in Drawing No. 473946.LS.00.10-06. Examination of the site suggests that this cannot be achieved by simple nearside widening as the noise bund on this site would be too adversely affected, and properties behind the bund are too close to the A38. As such, the space is proposed to be created by widening to the north and realignment of the exit here and the A38 northbound approach. This widening will require some minor shaping of the bund on this side with vegetation clearance and the potential loss of some mature trees along this section. As with the

A38/Charford Road signals, it is also proposed to upgrade the existing signals and provide nearside pedestrian aspects with on-crossing and kerbside detection.

Package 2 - A448 Oakalls Roundabout

Forecast ARCADY modelling shows that the A38/A448 (Oakhill roundabout) is predicted to operate well in excess of capacity with significant queue of over 100 pcus predicted in both periods on the A38 (south) arm. Extensive queuing is also expected on the A448 (east) Bromsgrove Highway approach during the weekday evening peak hour, with queue lengths of circa 60 pcus. These operational issues can be attributed to restricted entry geometry on the A38 (south) arm which has a single lane approach with two lanes provided over a short flare on entry to the roundabout.

The proposed Option 1 changes at Oakalls roundabout are shown in Drawing No. 473946.LS.00.10-07. The changes proposed widen the A38 (south), the A38 (north) and the A448 (east) entries to the roundabout, as well as widening of the A38 northbound exit in order to allow both lanes on the A38 (south) arm to cater for the A38 northbound movement. The scheme also includes ancillary relining and signing of the circulatory carriageway. The latter allows both lanes on the A448 Stratford Road approach to be used for the ahead movement to the A448 Bromsgrove Highway, so achieving better utility of the currently underused outside lane.

The proposed widening works to the A38 (north) and the A448 Bromsgrove Highway arms can be achieved within existing highway land by taking existing verge. However, the widening of the A38 (south) approach will require reshaping of the noise bund and relocation of the retaining wall to the back of the nearside verge, with vegetation clearance and the potential loss of some mature trees. The ADS and wicket signs along the nearside verges will also need to be relocated, with the latter updated as required to reflect the increases in approach lanes and the change in their formal designation. A small number of lighting column within this verge will also need to be relocated.

Package 3 - Hanbury Turn Junction

The A38 Redditch Road/Hanbury Road (Hanbury Turn) signal controlled junction is expected to be operating in excess of capacity in 2023, particularly during the weekday evening peak hour when a heavy A38 southbound flow results in notable queuing on this arm. There are limited opportunities to widen the approaches to the signals because of property boundaries tight to the highway on the north-western and south-western corners of the intersection. An extensive remodelling of the junction is therefore unlikely to be feasible. The signals already operate under MOVA.

Some widening on the A38 southbound arm could be achieved to extend the existing left turn give-way slip lane using the available verge on the southern side of the A38. Examination of the forecast turning movements indicates that this could be benefit because of the high volume of traffic turning left from this arm in each period. The proposed layout with the left turn lane extended by some 60 metres is shown in Drawing No 473946.LS.00.10-01.

An examination of the site on Google Street-view suggests that sufficient width is available for a 3.0 metre lane with a 1.8 metre footway behind without interfering with the mature trees along the highway boundary line. However, Ordnance Survey mapping suggests that the available width is limited. A topographical survey will therefore be required in order to confirm the extent of widening that can be achieved.

Package 3 - A38 / Birmingham Road

The current layout at this junction is a signalised T-Junction. It operates within a 40mph speed limit area. The signal operation is such that southbound A38 traffic is stopped within every cycle of the junction, resulting in delays to southbound traffic blocking back to M42 Junction 1. The primary purpose of the signals for the southbound A38 traffic is due to the current pelican crossing being within the operating area of the traffic signal junction. There is no opposing vehicular traffic flow for the A38 SB. However, the signals need to be called within each signal cycle to ensure that should the pelican crossing be used that drivers are used to seeing a red signal at this location, to aid safety.

The junction is proposed to be upgraded as an option which requires further investigation, within the Bromsgrove IDP an allowance has been made to upgrade the signal controller to MOVA operation.

It is proposed that in addition to upgrading of the signal controller that the pelican crossing is reconfigured/relocated such that southbound A38 traffic is not stopped every cycle, which will aim to clear the blocking back traffic from M42 Junction 1. Upon investigation the scheme may also require an extension to be provided to the right turn lane, this is factored into the anticipated scheme costs at this location.

Package 4 Buntsford Drive to Austin Road

The A38 northbound section between Buntsford Drive and Austin Road roundabouts experiences severe congestion during the weekday evening peak period. This was confirmed by base year modelling with forecast modelling predicting a worsening of conditions during this period by 2023. These issues arise because of restricted approach geometry on the A38 northbound approach to the Austin Road roundabout, with the A38 northbound exit link geometry restricting the dominant northbound flow to a single entry lane.

To resolve these issues, it is proposed to widen the northbound A38 through this section to two lanes with two lanes extending through the Austin Road roundabout and northwards to tie-in with the existing two lane approach to the Charford Road signals. The northbound approach to the A38/Buntsford Drive roundabout is also proposed to be widened to maintain capacity through this intersection and provide a consistent tie-in with the widening to the north. The proposals are shown in Drawing Nos. 473946.LS.00.10-02.

The works to the south-west of Austin Road are all within highway, although a key issue will be the potential impact on screening vegetation on the north side of the section between the Buntsford Drive and Austin Road roundabouts. As shown, the 'minimum' planting width could be reduced to 0.70m in order to widen the carriageway and retain a 2.0 metre footway. Any services in the existing verge taken out by the widening would have to be installed in the footway, whilst re-location of existing Advance Direction Sign (ADS) would need some consideration.

It is not considered necessary to alter the footprint of the Austin Road roundabout, although designated lane allocations will be formalised. The link widening to the north will require land take outside the highway to create two 'continuous' northbound lanes together with a 2.0 metre footway and 1.8 metre verge strip. This would require a strip of land off the recreation ground bounding the north side of the A38 along most of this length, and critically a short length of the open space to the back of the Charford First School and Nursery. The proposals also include a new Puffin crossing on the A38 north of the Aldi egress, as crossing this section was noted to be extremely difficult during site visit.

Package 4 - Charford Road/Stoke Road Junction

The A38/Charford Road signal controlled junction is predicted to be over-capacity in 2023 with congestion on the Charford Road arm in the morning peak hour and Stoke Road and A38 (south) arms in the evening peak hour. The intersection footprint is already large with little opportunity to increase geometric capacity for the A38 approaches. Additionally, the Method of Control does not give much latitude for rationalisation as the Charford Road and Stoke Road arms already run concurrently in Stage 3.

Consequently, it is considered that improvements to the side roads are the key to getting more capacity out of the intersection. The proposed changes increase capacity on Stoke Road to get the relatively high flow turning left moving more freely with less impedance. These widening works will require an extension of the existing culvert on this approach.

The signals at the site also appear to be quite dated, so it is also considered that an equipment upgrade to the signals could help, since all the pedestrian crossings currently have long fixed clearance periods. Providing near-sided aspects with on-crossing detection should enable lower crossing clearance times, freeing up green time for traffic movements.

Package 5 - A38 / Braces Lane / Golden Cross Lane (Marlbrook Crossroads)

The current layout of this junction operates as a four arm signalised crossroads. The corridor provides two lanes SB on the A38 (Lane 1 Ahead/Left; Lane 2 right Only), on the A38 NB there are two lanes providing ahead movements with lane one permitting left turn movements. Right turns are not permitted at the junction from the A38 NB, as this is catered for by the Birmingham Road junction to the south of Marlbrook Crossroads.

Braces Lane provide a dedicated right turn lane, plus an ahead and left lane, whilst Golden Cross Lane is a single lane approach for all movements. The A38 is subject to a 40mph limit, and the minor roads a 30mph limit.

The available highway land at this junction is constrained by the proximity of the petrol filling station and local shops in the western quadrants of the junction.

As part of the scheme development consideration was given to providing a roundabout junction at this location. However this was discounted as adequate entry path curvature was unlikely to be feasible for A38 Northbound traffic, In addition, the geometry of the Golden Cross Lane approach is likely to have required purchase of the petrol filling station to accommodate the necessary highway alignment changes. From a capacity perspective, it was likely that Braces Lane and Golden Cross Lane, would find it difficult to egress onto a roundabout given the high A38 North to South traffic flows.

The preferred option at this location looked at providing improved capacity on the A38 corridor within existing highway land.

Package 5 - M5 Junction Four (Lydiate Ash to Woodrow Lane)

The current layout of this junction operates as a wide single carriageway, encompassing a single lane in each direction tying into the latest Pinch Point Programme scheme at M5 J4, which provides three lanes on approach to the junction and two lanes on exit merging to a single lane. The carriageway within this

section is subject to the National Speed Limit. The current layout exists with a number of departures from standard in so far as forward visibility is below DMRB standards as set out in TD9/93, junction visibility is also sub-standard (as per DMRB TD42/95 for the current speed limit of the carriageway (60mph) at Lydiate Ash Road and the Business Park access.

Two options have been considered at this motorway junction, both are similar in that they provide an increased two lane carriageway in the vicinity of Junction Four over varying lengths. Option 1 (preferred) extended two lanes on approach to the junction as far as the Woodrow Lane junction, whilst Option 2 provided a two lane carriageway as far as the existing bus stops to the south of Lydiate Ash Road.