

# A38 Manadon Interchange | Design Funding

## Project details

### Assessment author

Robin Saines

### Project summary

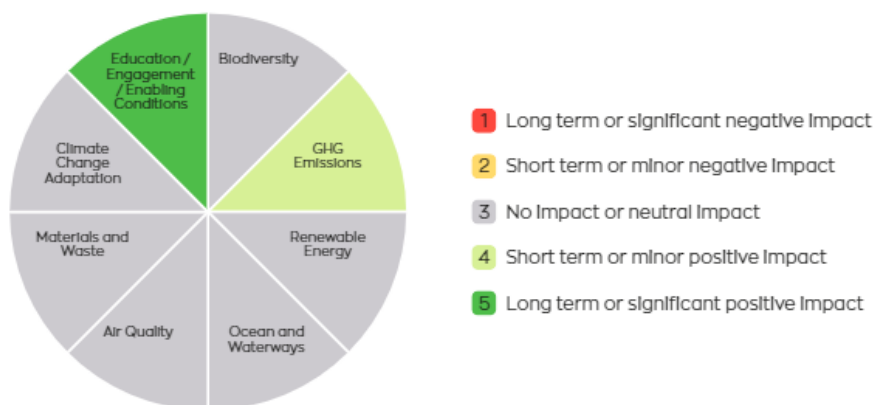
The Plymouth and South West Devon Joint Local Plan 2014-2034 (JLP) identifies Derriford and the Northern Corridor as a Growth Area because of its potential to deliver a regionally significant scale of growth in new jobs and new homes. The A38 Manadon Interchange is the primary access point which connects the A38 trunk road to the A386 Tavistock Road, the primary route to the Derriford area, and Outland Road and Mannamead Road from the City Centre. The A38 Manadon Interchange currently experiences significant congestion and delays, particularly at peak times, and is one of the worst performing junctions on the South West Strategic Road Network.

The Manadon scheme will seek to increase capacity on all arms of the junction as well as providing significant improvements to walking and cycling facilities, including a new cycle bridge across the A38.

Objectives of the scheme:

- Reduce congestion
- Support economic growth and rebalancing
- Support housing delivery
- Support all road users
- Support the Strategic Road Network (SRN)

## Summary of assessment



Tackling climate change is one of the Council's top priorities, and in March 2019, PCC declared a Climate Emergency. The Council, through its Annual Action Plans, is committed to encouraging sustainable and cleaner transport, and decarbonising the transport system. To support this, the proposed A38 Manadon Interchange scheme includes high-quality infrastructure for active travel modes, including a new cycle bridge over the A38, which will provide a step-change in facilities and remove a key gap in provision which acts as a barrier to increasing active travel users. Environmental enhancements are also included, through opening up of areas of greenspace, and providing extensive landscaping and tree-planting. The scheme will reduce journey times for buses on the major bus corridor linking the City Centre to northern Plymouth, and will reduce carbon emissions from vehicle transport.

## Assessment scores

### Biodiversity

#### Score

(3) No impact or neutral impact

#### Score justification

A desk-based review has been carried out to appraise the impact of proposals on biodiversity, which has included a review of the Devon Biodiversity Action Plan. The approach follows the five-step general approach to appraising 'environmental capital' described in TAG Unit A3 Section 5. The assessment has used the Biodiversity Appraisal Worksheet. The scheme requires small-scale localised losses of habitats; the assessment notes that with replacement planting the biodiversity effect can be mitigated and there is potential to achieve a beneficial impact. The proposed scheme does not affect any nature conservation designations.

#### Mitigatory measures applied:

The design and implementation of the scheme has considered the environment throughout the scheme development processes, and the proposals include environmental enhancements, including improved connectivity to and within areas of green-space for the local community, and extensive landscaping and tree planting. The proposals aim to meet high environmental standards, through biodiversity net gain allowances, carbon impacts and full consideration of other environmental impacts.

### GHG Emissions

#### Score

(4) Short term or limited positive impact

#### Score justification

The carbon impact of the scheme was assessed using the Greenhouse Gas workbook (November 2021 version). This used outputs from the TUBA assessment which have been carried out as part of the economic appraisal. Greenhouse Gas emissions data was taken from the TUBA models, which were developed to cover the full 8760 hours of the year. The assessment has calculated there would be a decrease in non-traded carbon (38,371 tonne reduction) and traded carbon (335 tonne reduction) over the 60 year appraisal period. This results in carbon benefits of £2,795,194

#### Mitigatory measures applied:

The design and implementation of the scheme has considered the environment throughout the scheme development processes, and the proposals include environmental enhancements, including improved connectivity to and within areas of green-space for the local community, and extensive landscaping and tree planting. The proposals aim to meet high environmental standards, through biodiversity net gain allowances, carbon impacts and full consideration of other environmental impacts.

### Renewable Energy

#### Score

(3) No impact or neutral impact

#### Score justification

The A38 Manadon Interchange scheme will have no impact on Renewable Energy use in Plymouth.

## Ocean and Waterways

### Score

(3) No impact or neutral impact

### Score justification

The scheme is mostly within Flood Zone 1 and is unlikely to flood; the drainage strategy will result in a negligible increase in flood risk. The scheme will not have a significant impact on any watercourses.

### Mitigatory measures applied:

Water management will be part of the environmental enhancements as part of the project including improved drainage and SUDS .

## Air Quality

### Score

(3) No impact or neutral impact

### Score justification

The assessment has been based on guidance in DMRB (Volume 11, Section 3 Part 1) and WebTAG Unit A3 Section 3. The assessment follows the 5 steps as specified in TAG as follows:

1. Scoping to determine the study area for assessment;
2. Quantification of air quality impacts;
3. Assessment of local and regional air quality impacts;
4. Monetary valuation of air quality impacts; and
5. Consideration of the distributional impacts of air quality changes.

Step 2 uses the methodology in DMRB Volume 11 to quantify the air quality impact, and has used traffic flow data from the Plymouth HAM3 supporting traffic model. 4.5.12 Sections of the A386 (Outland Road, Manadon Hill and Tavistock Road) and B3250 (Mannamead Road) are covered by the Plymouth Air Quality Management Area (AQMA). The air quality assessment concludes that for all receptors within the AQMA, changes in NO<sub>2</sub> are imperceptible or small; no receptors are predicted to experience an increase of more than 2µg/m<sup>3</sup>, with concentrations of NO<sub>2</sub> below the objective threshold of 40µg/m<sup>3</sup> in all cases. Similarly for PM<sub>10</sub>, the change in concentration is negligible or small, with total concentrations below the threshold in all cases. It is therefore concluded that the scheme will have a negligible impact on the Plymouth AQMA.

## Materials and Waste

### Score

(3) No impact or neutral impact

### Score justification

Best practice waste management techniques will be adopted throughout construction. A Site Waste Management Plan (SWMP) will ensure that the principles of the waste management hierarchy (i.e. reduce, reuse, recycle) will be adopted. The reuse of site won materials will be prioritised and retained where possible. A Construction

Environmental Management Plan (CEMP) will also support scheme delivery.

## Climate Change Adaptation

### Score

(3) No impact or neutral impact

### Score justification

The A38 Manadon Interchange scheme has been reviewed with consideration of the Climate Emergency declaration, and has been developed to incorporate measures to minimise carbon. This includes providing extensive improvements for active travel modes, and environmental enhancements including extensive tree planting. The A38 Manadon Interchange scheme supports the National policy objectives and commitments in terms of climate change and reducing transport emissions, through:

- Providing high-quality infrastructure for active travel modes, which will provide a step-change in facilities and remove the existing gap in provision across the A38;
- Reducing journey times and improving journey time reliability for bus journeys on the key bus corridor from the City Centre to Derriford which travel through the junction;
- Reducing vehicle carbon emissions over life of the scheme by reducing congestion and queuing;
- Providing environmental enhancements through extensive landscaping and tree-planting to meet Biodiversity Net Gain requirements and provide carbon benefits.

### Mitigatory measures applied:

The design and implementation of the scheme has considered the environment throughout the scheme development processes, and the proposals include environmental enhancements, including improved connectivity to and within areas of green-space for the local community, and extensive landscaping and tree planting. The proposals aim to meet high environmental standards, through biodiversity net gain allowances, carbon impacts and full consideration of other environmental impacts.

## Education / Engagement / Enabling Conditions

### Score

(5) Long lasting or extensive positive impact

### Score justification

The scheme will provide significant improvements for active travel modes to allow safe, direct, segregated access through the junction, removing the current gap in provision across the A38. The scheme design includes the provision of high-quality pedestrian and cycle facilities, to encourage travel by active modes, provide better facilities for the local community and to improve links to open-up areas of community greenspace. In particular, the scheme includes:

- Providing a continuous two-way north-south cycleway which is largely off-road, linking from the existing provision on Outland Road (in the south) to Boniface Lane (in the north). This includes a new cycle bridge across the A38, filling the gap in current provision;
- Replacing and widening the existing footbridge over the A386 Tavistock Road, to make it suitable for pedestrians and cyclists;
- Replacing and widening the existing footbridge over the A38 to the west of Manadon Interchange, to make it suitable for pedestrians and cyclists.

The improvements for active modes have been designed to follow the principles in the Government's Gear Change vision, and have aimed to provide safe direct and segregated cycle facilities wherever possible, to provide for and encourage cyclists of all abilities and disabilities. The new cycle bridge over the A38 will provide a high-quality facility that will greatly encourage cycling by addressing the lack of current facilities for less able cyclists, and removing the existing severance that the A38 provides.