1. Introduction and Proposed Scheme

1.1. Introduction

1.1.1. The proposed scheme comprises the realignment of a section of the A77 Trunk Road bypassing Maybole, South Ayrshire (refer Location Map, Drawing No. 25000182/ENV/1.1).

1.1.2. The existing A77 passes through the centre of Maybole along the High Street, the main retail area of the town. The High Street has been developed since the Medieval Ages and has restricted carriageway and footway widths, which results in poor conditions for pedestrians and road users. This results in existing traffic problems for the community and a bottleneck for traffic, partly due to the large number of cars and heavy goods vehicles (HGVs) using the A77 to travel to the port facilities at Cairnryan.

1.1.3. The scheme commences to the south of Maybole, passes to the west of Maybole then ties into the existing A77 at a point north of the Ayr to Stranraer railway line, bypassing the existing restricted headroom crossing.

1.1.4. The scheme is located between national grid reference (NGR) NS 28848, 09551 (south of Maybole) and NS 32137, 12957 (north of Maybole).

1.2. Scheme Objectives

1.2.1. The key objectives of the scheme are to:

- Improve the operational performance and level of service on the A77 by reducing the effects of driver stress through improved journey time reliability;
- Improve safety for motorised and non-motorised users;
- Reduce the environmental and social impacts being experienced by residents of Maybole;
- Protect and minimise impacts on the environment;
- Contribute positively to local policies and plans;
- Wherever practicable incorporate measures for non-motorised users;
- Maintain the asset value of the A77;
- Ensure that facilities are fully compliant with the requirements of the Disability Discrimination Act 2005 through application of Transport Scotland's "Roads for All" guidance as amended or updated;
- Achieve good value for money for both taxpayers and transport users; and,
- Improve sustainability in design and construction.

1.3. Background

1.3.1. Prior to 1975, The Scottish Office commissioned Ayr County Council to investigate the potential for a bypass to the east of Maybole. In the 1980's, the Scottish Office commissioned Strathclyde Regional Council to investigate a scheme to bypass Maybole to the west. In October 1997, South Ayrshire Council, together with Dumfries and Galloway Council submitted the draft Route Action Plan Firm Strategy Report for the A77: Ayr to Stranraer to the Scottish Executive. In 2002, the A77 Route Action Plan Review confirmed a number of minor/major schemes for inclusion in the 2002/2005 Minor Schemes Programme for design and construction. However, a bypass scheme for the A77 Maybole was not included in the schemes to be developed as part of that programme.

1.3.2. The findings of a Scottish Transport Appraisal Guidance (STAG) Part 1 assessment announced in June 2006, recommended that route options for a bypass to the north and south of Maybole should be investigated. This announcement confirmed that Transport Scotland would now take forward the design of bypass options so that a preferred route could be considered in the forthcoming Strategic Transport Projects Review (STPR).

1.3.3. A Route Options Assessment was submitted by Atkins in 2006, and examined nine bypass route options to the north-west and south-east of Maybole and a do minimum scenario. The conclusions for the report recommended that three routes, to the north-west of Maybole and the do minimum scenario be taken forward to Design Manual for Roads and Bridges (DMRB) Stage 2 Scheme Assessment to determine a preferred route.

1.3.4. The DMRB Stage 2 Scheme Assessment Report was completed in October 2007 and recommended the shortest be taken forward. This comprised a 5.065km bypass of the existing A77 to the north of the tow and also addressed a fatal accident cluster at the Smithston railway bridge north of Maybole. Accident data for the section of the A77 that will be bypassed has been obtained from Transport Scotland's Scottish Executive Road Information System (SERIS) for the 5 year period from 1 January 2007 to 31 December 2011. Within this 5 year period there were a total of 40 accidents: 1 fatal, 9 serious and 30 slight. Of these 40 accidents, 13 occurred at junctions while the remaining 27 are non-junction, or "link", accidents.

1.3.5. The Stage 2 report assessed the impacts of three different cross-sections and junction options including single carriageway with climbing lanes, wide single 2+1 road and dual carriageway, all with and without a roundabout at the B7023 Culzean Road. Alternative options discussed in section 1.7 of this chapter.

1.3.6. The DMRB Stage 2 Assessment Report concluded that the S2 with climbing lanes and roundabout at the B7023 should be taken forward to Stage 3 and the WS2+1 with roundabout should be considered further given the small differences in the assessment.

1.3.7. The D2AP option had been reviewed at a Value for Money (VfM) workshop in March 2007 which concluded that extra costs/benefits of dualling were not sufficiently better than WS2+1. The D2AP was therefore discounted prior to the completion of the Stage 2 Report and was not subject to scheme assessment within the Stage 2 Assessment Report.

1.3.8. In November 2011, it was announced that Transport Scotland would take forward the design and progress the necessary statutory processes for a Maybole Bypass scheme.

1.3.9. The Scottish Government's Infrastructure Investment Plan (IIP) was published in December 2011 and sets out areas for investment up to 2030. A bypass of Maybole is specifically mentioned in the IIP as a targeted bypass scheme to be taken forward.

1.3.10. Amey were appointed in April 2012 to progress the A77 Maybole Bypass scheme through DMRB Stage 3 Scheme Assessment towards development of the preferred scheme and the publication of Orders and Environmental Statement.

1.3.11. Given the period from the completion of the Stage 2 Assessment In October 2007, the baseline was not considered to be reliable for further assessment of the road cross-section as recommended in the Stage 2 Report. Accordingly, a Position Paper was produced in October 2012 to refresh the engineering, economic and environmental baseline and conclusions from the Stage 2 to recommend the cross-section to be taken forward.

1.3.12. The approach to the Position Paper undertaken following consultation with Transport Scotland Environmental and Sustainability Department was taken as follows:

- Review the existing baseline of the area and note any differences from the Stage 2;
- Review the DMRB environmental assessment methodology and state any updates since the 2007 report;
- State the likely implications of a D2AP option and compare these to the implications of the S2 and WS2+1 to determine a preferred cross-section for the route;
- Present the need for any further assessment;
- Conclude on a preferred environmental option; and,
- The Position Paper recommended a preferred cross-section of S2 with climbing lanes.

1.4. Environmental Statutory Requirements

1.4.1. EIA Directive 85/337/EEC requires that an Environmental Impact Assessment (EIA) is undertaken on the effects of certain public and private projects on the environment, as amended by Council Directive No. 97/11/EC and Directive No. 2003/35/EC. For Trunk Road schemes the EIA Directive was implemented by Part III of the Environmental Impact Assessment (Scotland) Regulations 1999, The Environmental Impact Assessment (Scotland) Amendment Regulations 2006 and the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011.

1.4.2. Projects are listed by type within the EIA Directive. Those of a type listed in Annex I of the EIA directive must be subject to full EIA. For projects listed in Annex II, or those not listed, EIA is not mandatory and each project must be reviewed on a case-by-case basis and/or against certain thresholds.

1.4.3. The A77 Maybole Bypass scheme as a trunk road project is promoted under the Roads (Scotland) Act 1984 and is an Annex II project. A determination was therefore required on the need for an EIA.

1.4.4. A Record of Determination (ROD) (Appendix A) was submitted to Transport Scotland in March 2013. This document outlined the nature and extent of the proposed development, highlighting the potential environmental effects. The ROD had the aim of obtaining a Screening Direction as to whether an Environmental Impact Assessment was required.

1.4.5. The land affected by the proposed works exceeds a 1 hectare threshold and will result in significant environmental effects, therefore a determination has been made that a full EIA is required for the scheme.

1.4.6. The EIA process has followed the guidance set out in Volume 11 of the DMRB which states that environmental assessment is a method and a process by which information regarding environmental effects is collated, assessed and used to inform decision making at key stages in the development of a Trunk Road Scheme. The DMRB recommends the following three stage approach to the assessment:

- Stage 1 – Preliminary assessment and consideration of broadly defined improvement strategies;
- Stage 2 – Assessment of various scheme options, including environmental assessment and culminates in the selection of a preferred scheme; and,
- Stage 3 – Detailed assessment of the preferred scheme, including the preparation of an Environmental Impact Assessment (EIA) presented within an Environmental Statement (ES) where required.

1.4.7. The output of this EIA process for the A77 Maybole Bypass scheme is this Environmental Statement.

1.5. The Environmental Statement

1.5.1. This Environmental Statement has been separated into two volumes. Volume 1 is the Environmental Statement with drawings and Volume 2 is the associated appendices.

1.5.2. This Environmental Statement presents the assessment of the environmental effects likely to result from the construction and operation of the scheme. It seeks to provide a full, systematic and objective account of the likely environmental effects and of the measures proposed to reduce or mitigate any potential adverse effects, in a clear and concise manner. This ES sets out to provide:

- A description of the proposed scheme, comprising information on the site, design and scale of the project. This includes details of the land use requirements during construction and operation of the scheme as well as the nature, type and quantities of materials used;
- An outline of the alternative route options and the reasons for the choice of the preferred scheme, taking into account environmental effects;
- A description of the aspects of the environment likely to be significant affected by the proposed scheme;
- The likely significant effects on the environment arising from the proposed scheme, its use of materials or its emissions;
- Measures envisaged to avoid, prevent and reduce any significant adverse environmental impacts; and,
- A non-technical summary of the information provided with the Environmental Statement.

1.6. Scope and Content

1.6.1. This Environmental Statement comprises of two parts, of different level of detail:

- The Statement – a comprehensive and concise document drawing together all the relevant information about the project; and,
- The Non-Technical Summary – a brief report summarising the principal sections of the Statement in non-technical language.

1.6.2. The Environmental Impact Assessment identifies aspects of the environment that should be assessed for potentially significant effects. The topic sections provide guidance on the provision and assessment of mitigation and enhancement measures as well as providing specific clarification on reporting requirements. These topic sections are in line with DMRB, Volume 11:

- Air Quality;
- Cultural Heritage;
- Ecology and Nature Conservation;
- Landscape Effects;
- Land Use;
- Noise and Vibration;
- Pedestrians, Cyclists, Equestrians and Community Effects;
- Vehicle Travellers;
- Road Drainage and the Water Environment;

- Geology and Soils; and,
- Impact of Road Schemes on Policies and Plans.

1.6.3. Each of the impact assessment chapters describes the characteristics of the existing environment (baseline), identifies the elements which would be the most sensitive to disturbance and assesses the range and intensity of potential impacts that are predicted from the proposed development. Based on this assessment, the types of management and mitigation which need to be put in place to reduce any significant impact are explained and the significance of any residual impact is described.

1.6.4. An assessment of impacts associated with construction is provided within each chapter. Relevant survey reports and other supporting documents are provided as appendices.

1.7. Description of the Proposed Scheme

1.7.1. The proposed scheme comprises of the construction of a 5km bypass to the north-west of Maybole, commencing from the south at the tie-in with the existing A77 at a new roundabout at Broomknowes before continuing northbound to the A77 tie-in at a new roundabout at Smithston north of Smithston railway bridge, illustrated on Drawing Nos. 25000182/ENV/1.1, 25000182/ENV1.2 and 25000182/ENV/1.3. The proposed scheme includes a roundabout at B7023 Culzean Road and four principal structures at the following locations:

- Gardenrose Path overbridge
- Kirklandhill Path overbridge
- B7024 Alloway Road underbridge
- An underpass north of Broomknowes roundabout

1.7.2. The topography of the proposed scheme is generally undulating, reflecting the morainic nature of the local geology. The landscape is dominated by open agricultural grassland with only minor areas of woodland present. Several minor streams flow through the study area generally towards the south-east. Residential areas of Maybole are located at the south of the scheme while isolated dwellings are present at a number of other locations. The proposed scheme is intersected by several local roads and the northern portion is flanked on the eastern side by the Ayr to Stranraer railway line.

1.7.3. The proposed scheme from the south of Maybole commences climbing relatively steep topography in cutting, in excess of 10m deep until it reaches the crest of the hill adjacent to the B7023 Culzean Road roundabout. It then traverses a dip in the natural ground on high embankment in excess of 10m while the alignment continues to rise in level into a cutting (typical 8 to 10m deep) towards the next hill crest at Gardenrose Path which coincides with the high point in the alignment.

1.7.4. At this location the proposed scheme is approximately 80 to 100m from the residential dwellings. The bypass then falls away northwards firstly in shallow cut followed by shallow fill (typical 1-5m) to north of the B7024 Alloway Road.

1.7.5. At this location the scheme is parallel to the existing Ayr to Stranraer railway line and enters a sidelong cut approximately 8 to 10m deep at a high point in the natural topography. This is followed by a section on embankment approximately 5m high across a natural low point in the topography before continuing to drop in level more steeply through sidelong cutting up to 8m deep to the tie-in with the existing A77 at Smithston.

1.7.6. Climbing lanes are provided on the steeper sections of alignment, comprising:

- A northbound climbing lane from the south roundabout, through the B7023 Culzean Road Roundabout for a distance of approximately 1.2km;
- A southbound climbing lane commencing north of Alloway Road to around Kirklandhill Path for a distance of approximately 1km; and,
- A southbound climbing lane from the north roundabout for a distance of approximately 1km.

1.7.7. Access to properties and fields is provided from the side roads with the only junctions on the bypass being the three roundabouts at the southern and northern tie ins and at the B7023 Culzean Road. Details of access to adjacent properties and fields are provided in Chapter 8 Land Use. The scheme is predominantly unlit with road lighting provision limited to the immediate environs of the roundabouts.

1.8. Alternatives Considered

1.8.1. Bypass alignments to the north-west of Maybole and the south-east of Maybole have been considered in earlier stages of the scheme development. These included four options to the north-west, four options to the south-east and a combination of the routes to the south linking to the northern part of the route proposed to the north-west of the town.

1.8.2. Routes to the south-east of Maybole were assessed in engineering, economic and environmental terms as having greater impact than the routes to the north-west. The main reasons supporting this conclusion were the need for railway crossings and marsh land adding to engineering difficulties and costs for routes to the south-east and in environmental terms a Provisional Wildlife Site, impacts on numerous watercourses and cultural heritage sites to the south-east. Three route options all to the north-west of Maybole were therefore recommended to be taken forward to the next stage of assessment.

1.8.3. For the routes taken forward, one option was aligned close to Maybole at the south and then following the line of the Ayr to Stanraer railway line. A second option followed a similar alignment to the first alongside the railway line but was further removed to the north-west from Maybole at the southern end of the scheme. The third option tied in at the same extents north and south on the A77 but followed an alignment remote from Maybole and the railway line. The assessment of these options indicated that the shortest option closest to Maybole performed best economically and environmentally principally through requiring least landtake and lower scheme cost.

1.8.4. Each of alternative design options assessed at that stage also considered different carriageway provisions; single carriageway (S2) with climbing lanes; wide single carriageway (WS2); wide single carriageway with overtaking (WS2+1) and dual carriageway (D2AP), all with and without a roundabout at the B7023 Culzean Road.

1.8.5. A Do-Minimum scheme comprising pavement reconstruction and re-surfacing of the existing A77 through Maybole with improvements to traffic signals and road markings plus signals at Smithston Bridge was also considered at each stage of assessment.

1.8.6. In engineering terms, there were no differentiating factors to determine a preferred option to take forward. Environmentally, the preferred option to take forward was the S2, based on the smaller land take and associated impacts. The S2 scheme with climbing lanes performed best economically providing many of the benefits associated with the scheme at lowest cost.

1.8.7. It was therefore recommended to take the proposed scheme forward as S2 with climbing lanes as this achieves the scheme objectives and best value for money.

1.9. Construction Information

Introduction

1.9.1. The construction programming and sequencing will be determined by the Contractor who is not appointed at this stage. Although the details have yet to be finalised, outline information on the likely construction issues has been determined from previous experience.

Construction Programme

1.9.2. The construction period is expected to be approximately 18 months. The aim of the construction programme will be to minimise disruption to the existing environment and avoid unnecessary delay and disruption to road users. This will be achievable as the majority of construction will take place offline of the existing A77.

Hours of Working

1.9.3. The hours of working and permitted noise levels during construction will be agreed in advance with the Local Authority, South Ayrshire Council. It is anticipated that normal hours of operation will be weekdays and Saturday mornings.

Traffic Management

1.9.4. Traffic management will be required only where the scheme ties into the existing A77 and Gardenrose Path, Kirklandhill Path and Alloway Road. The rest of the works are offline, resulting in less disruption overall.

1.9.5. Access to properties and land will be maintained throughout construction; however some degree of disruption will be unavoidable.

Temporary Compound and Storage Areas

1.9.6. The overall scheme requires the purchase of land to allow its construction, operation and maintenance. No area has been included in the Compulsory Purchase Order (CPO) for the site compound and will be determined by the contractor to suit working and sequencing arrangements.

Earthworks

1.9.7. Material excavated from site will be re-used on site as earthworks or landscaping fill. Sandstone is present at shallow depths along the southern part of the scheme and results in two rock cut sections. Blasting may be used as part of the excavation works with limits on noise and vibration agreed with South Ayrshire Council.

Drainage

1.9.8. Cut-off drains/ditches will be installed during construction to direct run-off away from excavations and settlement ponds will be constructed to limit sedimentation of watercourses. Measures to avoid contamination of watercourse will be agreed with SEPA.

Structures

1.9.9. With the exception of Kirklandhill overbridge, the structures will be constructed off the line of existing roads to minimise disruption.

Properties Demolished

1.9.10. Kirklandhill Cottage, a derelict building, will be demolished as part of the works.

Lighting

1.9.11. Temporary and permanent lighting will be required during the construction and operation. During construction lighting might be required in periods of fading light and on completion street lighting will be in place at the newly constructed tie-in roundabouts.

Fencing

1.9.12. The complete works require to be made stock-proof prior to commencement of any works.

Landscaping

1.9.13. All top soil required will be taken from the top soil strip from the site. All proposed side slopes and verges will be soiled although it is not proposed to soil the rock slopes. These will be sculpted to look as natural as possible.

1.9.14. Hedging will be planted along most boundaries on the site with tree planting to side slopes will in locations to minimise visual impact and to help integrate the scheme into the surrounding landscape.

1.9.15. The planting will be towards the end of the works and will be during non-growing season unless the plants are containerised or have root balls.

1.10. Representations and Comments

1.10.1. A public consultation period of 6 weeks will follow publication of the Draft Road Orders. This will allow comments or representations to be made to Transport Scotland on the proposals.

1.10.2. Copies of this Environmental Statement, Non-Technical Summary and further advice will be available for inspection during normal office hours at the following location:

Transport Scotland

Buchanan House

58 Port Dundas Road

Glasgow

G4 0HF

1.10.3. This Environmental Statement can also be viewed on the Transport Scotland website: www.transportscotland.gov.uk.

1.10.4. Any comments on the proposals should be addressed in writing to 'The Chief Road Engineer' at Transport Scotland before the closing date for comments and objections given in the Public Notice.