Access from the North
Proposals - "Third Don Crossing"

Non Technical Summary
FINAL
The Access from the North Proposals ("Third Don Crossing") Environmental Statement (ES) is published in three volumes:

- Volume 1 Non-Technical Summary
- Volume 2 Environmental Statement: Main Report including Figures
- Volume 3 Appendices to Main Report

The ES sets out the findings of the Environmental Impact Assessment (EIA) undertaken for the proposed scheme following the requirements of the Environmental Impact Assessment (Scotland) Regulations 1999 (as amended). As required by the Regulations, this volume, the Non Technical Summary (NTS), provides a summary of the main issues discussed in the ES in easily understood and non-technical language.

Copies of the complete ES are available on the Aberdeen City Council Website www.aberdeencity.gov.uk, is free to download and can be found by following the following links:

City-wide and Local Consultations>Access From the North Proposals ("Third Don Crossing") (ongoing)

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# Table of Contents

1 **Introduction** ....................................................................................................................................................................... 1  
   1.1 Introduction .................................................................................................................................................................. 1  
   1.2 Background .................................................................................................................................................................. 1  
   1.3 Environmental Impact Assessment of Access from the North - Third Don Crossing ............................................. 1  
   1.4 Authors ....................................................................................................................................................................... 2  

2 **Evaluation of Alternatives** ................................................................................................................................................ 3  
   2.1 Introduction ............................................................................................................................................................ 3  
   2.2 Options Considered in the Stage 2 Assessment ................................................................................................. 3  

3 **Scheme Description** .......................................................................................................................................................... 4  
   3.1 Introduction ............................................................................................................................................................ 4  
   3.2 Construction of the Route ...................................................................................................................................... 5  

4 **Environmental Impacts** ...................................................................................................................................................... 6  
   4.1 Introduction ............................................................................................................................................................ 6  
   4.2 Air Quality .............................................................................................................................................................. 6  
   4.3 Cultural Heritage .................................................................................................................................................... 7  
   4.4 Ecology and Nature Conservation ........................................................................................................................ 8  
   4.5 Landscape and Visual Amenity ........................................................................................................................... 10  
   4.6 Community and Private Assets ............................................................................................................................ 11  
   4.7 Traffic Noise & Vibration ...................................................................................................................................... 12  
   4.8 Effects on All Travellers ....................................................................................................................................... 13  
   4.9 Drainage & Water Environment ........................................................................................................................... 14  
   4.10 Geology & Soils ..................................................................................................................................................... 15  

5 **Summary of Main Impacts** ................................................................................................................................................... 17  

6 **Figures** ............................................................................................................................................................................. 18
1 Introduction

1.1 Introduction
This Non Technical Summary (NTS) forms part of the Environmental Statement (ES) prepared for the Access from the North ("Third Don Crossing") scheme. The proposed scheme comprises the provision of a new crossing of the River Don at a point between the Danestone and Grandholm areas on the north side of the River Don, and the Tillydrone area on the south (see Figure 1.1 Proposed Scheme Alignment).

1.2 Background
The proposal also includes associated improvements to existing roads and construction linking the new route to the Aberdeen road network, as well as improvements to the local cycle network. The proposed opening year of the project is 2016. Selection of the location of the new crossing was assisted by the preparation of a previous Stage 2 Environmental Assessment submitted in March 2004.

AECOM Ltd (formerly Faber Maunsell Ltd) was commissioned to undertake the Stage 3 Environmental Assessment and prepare an ES to identify the impacts on both the natural and built environments of the preferred alignment identified at Stage 2.

On the 26th October 2005 Aberdeen City Council agreed to progress the scheme to the submission of a Planning Application as well as preparing for land acquisition. The Planning Application was to be submitted in January 2006 and land ownership in the area was to be investigated with a view to preparing to purchase the necessary land to allow the scheme to progress.

However, the determination of the planning application was put on hold because at the time of submission the Aberdeen Local Plan, which was in its draft stage, was due to be subject to a Public Local Inquiry (PLI).

Following the inquiry the Reporter recommended that the scheme was not included in the current Local Plan as it was not supported by various other Council policies at that time. However, although many of the relevant policies were being reviewed at the time of the inquiry they had not been formally adopted and could not be considered by the Reporter.

Since then new regional and Council policies such as the Aberdeen City and Shire Structure Plan, the Regional Transport Strategy and Local Transport Strategy now support the need for the scheme as an integral part of the city's transport infrastructure.

Given the length of time that had passed since the original planning application was submitted the Planning Authority requested that a revised application be submitted. The original application was withdrawn and a new planning application was to be submitted in 2010.

In preparing the new application some aspects of the proposals have been updated, including improvements to the proposed cycle facilities and slight modification of the alignment, to accommodate the requirements of the new Structure Plan.

As a consequence, AECOM were commissioned to undertake a review of the 2006 EIA and to update the ES accordingly. This document comprises NTS for the revised ES for the Access from the North ("Third Don Crossing") Proposals.

1.3 Environmental Impact Assessment of Access from the North - Third Don Crossing
Aberdeen City Council intends to submit a Planning Application for the Third Don Crossing, as required by the procedures set out in the Planning etc. (Scotland) Act 2006. Under the terms of Schedule 2 Paragraph 10(f) of the Environmental Impact Assessment (Scotland) Regulations 1999 (as amended), an Environmental Impact
Assessment (EIA) is required to assess the environmental effects of the scheme. The EIA has been carried out with reference to guidance within the Design Manual for Roads and Bridges (DMRB) Volume 11 (1993 and subsequent amendments).

EIA is the process of compiling, evaluating and presenting all the significant environmental effects of a proposed development. The assessment is designed to help produce an environmentally sympathetic project, where early detection of potentially significant adverse environmental impacts leads to the identification and incorporation of appropriate mitigation measures into the scheme design. The outcome of the EIA is the ES, which is required to be submitted with the Planning Application.

The main steps in the EIA undertaken were as follows:
- Baseline surveys were carried out to provide a description of the environmental character of the area likely to be affected by the development. This information is provided to the scheme designers at the earliest opportunity;
- Relevant natural and manmade processes that may change the character of the site were identified;
- Consideration was then given to the possible interactions between the proposed development and both existing and future site conditions;
- Using the currently available designs for the development, the possible environmental impacts, both direct and indirect were predicted. These impacts were based on the sensitivity of potential receptors and the magnitude of the potential impact, associated with both the construction and operational phase of the project; and
- Recommendations were then be made to avoid, minimise or mitigate adverse effects and enhance positive effects. Alterations to the design were reassessed and the effectiveness of mitigation proposals determined.

For this project, the requirements of Volume 11 of the Deign Manual for Roads and Bridges (DMRB Vol. 11) also informed the assessment.

The findings of the EIA are set out in the ES and this document, the NTS, forms part of the ES.

The function of the NTS is to ensure that the key points of the ES, including the findings of studies and the mitigation measures proposed, can be more readily understood by non-expert members of the public and others. Its intention is to provide an accurate and balanced statement of the key information contained in the main ES. Preparation of an NTS is a requirement of the Environmental Impact Assessment (Scotland) Regulations 1999 (as amended).

1.4 Authors
The EIA has been undertaken by AECOM Ltd. Traffic data have been sourced from MVA, acting for Aberdeen City Council.
2 Evaluation of Alternatives

2.1 Introduction
The proposal to develop an additional crossing of the River Don in Aberdeen has arisen primarily as a response to the increased traffic pressures on the existing crossings of the River Don in Aberdeen.

The proposal has a long history. In 1981 the Grampian Regional Council Roads and Transportation Committee approved the possible future line of a new road link from the Parkway to Gordon’s Mills Road, and outline planning permission for a third crossing of the River Don was sought in November 1985, though this was subsequently refused on the grounds of impact on residential areas. The proposal became a reserve matter pending the outcome of a Public Inquiry, which in the event was never held.

Subsequently, various plans have either opposed or supported the development of a new crossing and Aberdeen City Council began reviewing this policy and interest in the scheme therefore revived. As a consequence a DMRB Stage 2 EIA was commissioned to assess the potential of four different options. This study was presented to the Council in June 2004 in conjunction with economic, traffic and engineering assessments as well as a two phased public consultation exercise that selected, as the preferred option, the route that is the subject of this Stage 3 EIA and ES.

2.2 Options Considered in the Stage 2 Assessment
Three alternative route corridors were considered with one of these (Option 4, a variant on Option 1) also considered as a bus only route.

The assessments primarily used the Design Manual for Roads and Bridges Volume 11 methodology and considered air quality (nitrogen dioxide (and NO2) and particulate matter <10μm in diameter (PM10)), archaeology, built heritage, disturbance during construction, ecology, landscape, aspect, visual, community land lost, noise, severance and amenity, water quality and drainage and geology and soils.

The findings of the Stage 2 Assessment indicated that, when compared to Options 2 and 3, Option 1 was likely to have the least environmental impact overall. Furthermore, Option 4 did not meet many of the scheme objectives and had the lowest economic return. Of the three options originally considered, Option 1 was the most westerly route and also the shortest, both in terms of new carriageway and total length. Therefore, in conjunction with the other assessments such as economic, traffic and engineering together with the results of a two phased public consultation exercise, Option 1 was taken forward as the preferred route and the scheme further developed and is the subject of this EIA.
3 Scheme Description

3.1 Introduction

The Access from the North Proposals ("Third Don Crossing") route is approximately 2.5km long and includes a bridge of approximately 100m length to cross the River Don. The route passes through the Danestone, Grandholm and Tillydrone areas of Aberdeen. In addition, approximately 600m of the Route will be constructed on an embankment and 500m in a cutting. The scheme is shown on Figure 1.1, Proposed Scheme Alignment.

The proposed route starts on the southern exit of the roundabout at the junction of Whitestripes Avenue and the A90(T) Parkway. From this roundabout, the route runs south along Fairview Street for approximately 150m. From Fairview Street a new 7.3 metre wide carriageway will be constructed heading south for approximately 600m, partially in cutting. This carriageway will then continue south for 400m to the north bank of the River Don on an embankment.

Laurel Lane, which currently crosses the route, will be stopped at its approximate mid-point by the alignment, with access being granted from the Parkway and Laurel Drive with turning facilities provided at the ends. Laurel Drive will be extended eastwards to form a T junction with the new route.

The route will also stop the access lane from Laurel Avenue to Danestone House and a new access will be provided to the house from the eastern side of the route, with a small turning facility at the end of the lane. Access to Grandholm Drive will be maintained via a staggered junction.

The route will then continue for 250m in a south-easterly direction crossing the River Don to join Gordon’s Mills Road. Figure 7.5 shows a photomontage of the proposed bridge. Gort Road will be stopped up at its northern end; however, Gort Road is a small loop road with access to Gordon’s Mills Road still being possible from its southern end. The route will then generally follow the existing Tillydrone Road and Tillydrone Avenue alignment for approximately 1100m to the roundabout at the junction of the A978 St Machar Drive and with the B991 Bedford Road; this roundabout will be replaced by a signalised junction. Improvement works and some minor realignment of Tillydrone Road and Avenue will be required. Access will be maintained to minor roads via priority junctions.

Cycling facilities will be provided with a dedicated cycleway constructed along the majority of the route. North of the river this will comprise a segregated two-way cycling facility on the east side of the route from the Parkway as far south as the River Don. An underpass will be provided to allow direct access to Grandholm Drive and Grandholm Crescent.

On the south side of the river the facilities will comprise a segregated two-way cycle track on the west side of the route from the river to St Machar Drive. However, a short 180m section on Tillydrone Terrace will be an on-road cycle section. In addition, an underpass will be provided on the southern bank of the River Don at Gordon’s Mills Road to allow cyclists to cross beneath the route, thus enabling cyclists to reach the segregated cycling facilities on each section without having to cross the new road.

Pedestrian facilities in the form of footpaths will be provided on all new sections of road. However, no footbridges are anticipated, other than the one that will cross Grandholm Lade. Various pedestrian and shared cycle pedestrian crossings are proposed and the preliminary locations for these crossings, subject to more detailed study of pedestrian demand, will be as follows:

Toucan Crossings (4 No.):
- 50m south of the A90(T) Parkway roundabout
- 20m south of the new Laurel Drive junction
- 110m south of the River Don just south of Tillydrone Community Centre
- Immediately south of Tillydrone Terrace / Coningham Terrace junction.
Pedestrian Crossings (2 No.):

- 20m south of Hayton Road
- 70m south of Coningham Road

There will also be a pedestrian phase in the St Machar Drive signals (with Toucan crossings) which will replace the roundabout at this junction.

3.2 Construction of the Route

Construction of the Access from the North Proposals (“Third Don Crossing”) is intended to start in 2012 subject to obtaining planning approval. The route is expected to be open by 2016.

In addition to following all best practice guidance, an Environmental Management Plan (EMP) will be implemented by the Contractor to ensure adequate protection of the environment, particularly the water environment. The terms of the construction contract will require the Contractor to deliver all the mitigation measures contained within this ES. The EMP will incorporate all of the construction related mitigation set out within this ES as well as transpose the guidance contained within CIRIA documents and PPGs.

The EMP will also include procedures dealing with complaints, ensuring that they are logged and that prompt action is taken where necessary.
4 Environmental Impacts

4.1 Introduction
This chapter of the NTS summarises the environmental impacts from the Access from the North Proposals (“Third Don Crossing”) as detailed in the main ES. The environmental topics have been assessed in accordance with DMRB Volume 11 and comprise:

- Air Quality
- Cultural Heritage
- Ecology & Nature Conservation
- Landscape and Visual Amenity
- Community and Private Assets
- Traffic Noise & Vibration
- Effects on All Travellers
- Drainage & water Environment
- Geology & Soils
- Mitigation Commitments

The baseline environmental constraints associated with the scheme are shown on Figure 6.1 Environmental Constraints.

4.2 Air Quality
The potential impacts associated with air quality during both the construction and operational phases were considered relating to both the construction phase (i.e. dust issues) and the operational phase relating to changes in vehicle emissions. Local air quality considered nitrogen dioxide (NO₂) and particulate matter under 10 μm in diameter (e.g. soot) (PM₁₀). In addition, regional air quality and greenhouse gases were also assessed, i.e. carbon monoxide (CO), total hydrocarbons (THC), PM₁₀, oxides of nitrogen (NOₓ) and Carbon (C).

The operational phase assessment was undertaken in accordance with the methodology outlined in the DMRB, Volume 11, Section 3, Part 1, and in conjunction with a Scottish Transport Analysis Guidance (STAG) assessment. The assessment was undertaken for a base year (2007) and Do-Minimum and Do-Something scenarios in the opening year (2016), and a future year (2030). The DMRB Local Air Quality Assessment was performed using detailed dispersion modelling software (AAQuIRE). The Regional Air Pollution and Greenhouse Gases Assessment was conducted in accordance with the DMRB.

The assessment found that with appropriate mitigation, the distance over which the impact of construction will be felt should be reduced to approximately 50 metres from the construction works and that these mitigated impacts can be described as being of minor significance.

The Buildings Research Establishment’s ‘Guidance on the Control of Dust from Construction and Demolition Activities’ covers dust issues (BRE, 2003) and it has been assumed that this guidance will be followed by the Contractor during construction of the scheme.

The impacts of construction vehicle emissions can be mitigated by employing vehicles that are reasonably new and conform to Euro III standards. The residual impact of construction vehicle emissions is therefore likely to be negligible overall.

Key conclusions from the Local Assessment of NO₂ and PM₁₀ concentrations are as follows:

- Concentrations of both pollutants were predicted to decrease at all receptors in 2016 (year of opening) and 2030, with or without the proposed scheme, relative to 2008; this is due to predicted improvements in vehicle emissions technologies and decreasing background concentrations;
Concentrations of NO\textsubscript{2} were predicted to exceed the Annual Mean Objective (as stated in the Aberdeen Air Quality Strategy) in 2016 at several of the selected sensitive receptors. However, by 2030 concentrations were predicted to be below, but not well below (<75\%) the Air Quality Strategy annual mean objective at all selected sensitive receptors, with or without the scheme;

Concentrations of PM\textsubscript{10} were predicted to exceed the Annual Mean Objective in 2016 and 2030 at several of the selected sensitive receptors.

Beneficial and detrimental impacts were predicted at selected sensitive receptors with respect to concentrations of NO\textsubscript{2} and PM\textsubscript{10}; the impacts were dependent upon the location of the receptors relative to the new crossing and affected roads;

The greatest beneficial NO\textsubscript{2} impacts were predicted adjacent to King Street. Substantial benefits were predicted in 2016 and moderate benefits in 2030; the greatest increase in concentrations was also predicted at Receptor 51 (696 King Street).

The main areas that will benefit from a decrease in NO\textsubscript{2} include the B991 and parts of the A956.

The greatest detrimental impacts, though only of Slight Adverse significance for NO\textsubscript{2}, were predicted at Receptor 84 (1 Meadow Lane) adjacent to the realigned road.

The main areas of detrimental impact for NO\textsubscript{2} are at receptors adjacent to the realigned road and the new crossing.

The majority of receptors within the Aberdeen Air Quality Management Area (AQMA)\textsuperscript{1} are expected to experience an impact of <1\% of the Annual Mean Objective or a beneficial impact. Only certain receptors adjacent to King Street will experience an adverse impact.

The greatest beneficial PM\textsubscript{10} impacts were predicted adjacent to Bedford Place, although the significance of this impact is negligible.

The main areas that will benefit from a decrease in PM\textsubscript{10} include the B991 and parts of the A956.

The greatest detrimental impacts, of Slight Adverse significance for PM\textsubscript{10}, were predicted at Receptor 84 (1 Meadow Lane) adjacent to the realigned road;

The main areas of detrimental impact in PM\textsubscript{10} are at receptors adjacent to the realigned road and the new crossing.

The majority of receptors within the AQMA are expected to experience an impact of <1\% of the Annual Mean Objective or a beneficial impact. Only receptors adjacent to King Street will experience an adverse impact.

The STAG Assessment Scores generated by the Local Assessment of air quality were calculated by taking into account both exposure (numbers of residential properties) and relative distance from the road. Positive scores were calculated for both pollutants, indicating a slight worsening of overall exposure of both pollutants with the scheme. However, the overall impact was concluded to be negligible.

The DMRB and STAG local air quality assessments indicate that the proposals will result in an overall neutral impact upon local air quality based upon the balance between beneficial and adverse impacts predicted.

In addition, the results of the Regional Assessment indicated that total emissions of CO, THC, NO\textsubscript{x}, PM\textsubscript{10} and C across the road network considered will decrease if the scheme goes ahead. However, these decreases were considered to be of negligible significance in both 2016 and 2030.

### 4.3 Cultural Heritage

This chapter of the ES considered the likely effects on cultural heritage interests of the construction and operation of the proposed Access from the North Proposals ("Third Don Crossing"), City of Aberdeen. It built upon the baseline study and assessments reported in Chapters 4 and 5 of the Stage 2 Study prepared by RSK (March 2004) and in the Faber Maunsell AECOM Environmental Statement of April 2006.

\textsuperscript{1} The Aberdeen AQMA is located in central Aberdeen including Union Street and the adjacent streets.
The detailed assessment was compiled according to current DMRB criteria. The specific objectives of the detailed assessment were to:

- Establish the cultural heritage baseline within and adjacent to the proposed development corridor;
- Assess the route corridor in terms of its archaeological and historic environment potential;
- Assess the potential impacts of the construction and operation of the proposed road on the baseline cultural heritage resource; and
- Propose measures, where appropriate, to mitigate any predicted adverse impacts, assessing residual impacts taken mitigation into account.

This topic overlaps with the Landscape and Visual Impacts study discussed below, particularly in relation to the assessment of impact of the proposed development on the historic landscape features at Danestone.

Ninety-two archaeological and heritage sites or areas have been identified within a 200m wide study corridor centred upon the proposed route. They comprise one Scheduled Monument, 41 unscheduled archaeological sites and areas, 29 Listed Buildings and 18 other structures of architectural or historic interest, the Old Aberdeen Outstanding Conservation Area, and two undesignated historic landscape features or areas. Sensitive features concentrate along the route corridor within the former policies of Danestone House, between Grandholm Drive and the north bank of the River Don, and along Tillydrone Avenue, where following the western edge of the Old Aberdeen Conservation Area and crossing part of an area of archaeological interest associated with Old Aberdeen.

Ten cultural heritage receptors would receive physical or visual impacts as a result of the construction and operation of the proposed road. Of these, the Category B listed Danestone walled garden and the undesignated remnant policies associated with Danestone House would receive significant impacts. Construction works may also cause direct impacts upon currently undetected archaeological remains, and upon several sites identified from documentary sources of which buried archaeological remains potentially but do not certainly survive.

Archaeological mitigation measures (principally standing building survey and field evaluation) have been defined that would permit the recording of all significant archaeological resources, both known and currently undetected, that would be unavoidably disturbed during construction works.

It is considered that the cumulative overall significance of impact from the proposed road scheme would be Moderate Adverse.

### 4.4 Ecology and Nature Conservation

This section of the ES provided an assessment of the potential effects on sensitive ecological receptors of the proposed scheme. It identified and assessed the potential construction and operational impacts of the development and formulated an appropriate mitigation strategy. In summary, the scope of this assessment was to:

- Provide baseline ecological data on the proposed road alignment corridor;
- Examine and analyse these data with regard to the proposed development;
- Identify the significance of any potential direct/indirect impact on the ecology of the proposed development site and its immediate environs; and
- Identify appropriate and effective means of mitigating the potential adverse impacts arising from the construction and operation of the proposed Don crossing and associated infrastructure.
Impacts were evaluated and assessed through both a desk based study and site specific walkover survey. Loss and/or fragmentation of habitats, focusing on potential impacts on protected species were considered within this assessment. Invasive species were also considered and a Phase 1 Habitat Survey was also undertaken.

The general approach taken complied with the guidelines published by the Institute of Ecology and Environmental Management (IEEM), July 2006. However, reference was also made to the DMRB Volume 11 Environmental Assessment – Section 3, Part 4 Ecology and Nature Conservation, June 1993.

The baseline survey and consultations identified the following ecological receptors that could potentially be affected by the proposed Access from the North proposals:

- Designated Sites: two areas of ancient woodland are in close proximity to the working area.
- Habitats and notable flora: Local Biodiversity Action Plan (LBAP) species wych elm may be removed. Positive effects resulting from eradication of invasive species.
- Protected species: Otters and bat species.

Due to the location of designated sites in relation to the proposed Access from the North proposals and no anticipated tree removal from designated woodlands, residual impacts on protected sites are considered to be neutral.

Otters are present on the River Don with resting sites identified on the day of survey. The resting sites recorded are far enough from the works so as not to be detrimentally impacted by the works; however, noise during construction could temporarily impact upon otters in the area. Pre-construction surveys in sensitive areas will establish any change to the baseline surveys and will dictate the requirement for any licensing or avoidance measures prior to construction. Residual impacts on otters are predicted to be not significant.

No evidence of water voles were identified and no recent records of this species were found; as such no mitigation for water voles is required and residual impacts are predicted as being neutral.

A badger sett was identified within the survey area, but is situated some distance from the working area and as such is unlikely to be affected by the works. Residual impacts on badgers are therefore predicted to be not significant.

No bat roosts were identified throughout the immediate working area and broadleaf trees examined in the vicinity of the Access from the North proposals carry low bat roosting potential. However, increased lighting over the River Don is likely to impact upon commuting and foraging bats in the area, in particular Daubenton’s bats. However, provided suitable mitigation measures are adopted, residual impacts on bats are considered to be not significant.

Habitats and notable flora are not predicted to be significantly adversely affected by the Access from the North proposals due to the minimal area of land take required for the alignment and lack of areas of botanical importance or interest affected. There is potential for LBAP species wych elm to be impacted by the works; however, provided tree removal is limited and compensation planting is implemented, minor positive impacts are predicted due to eradication of invasive species.

Aquatic habitats and species are not predicted to be significantly adversely affected by the Access from the North proposals due to the lack of in-river workings during construction and appropriate mitigation measures proposed to reduce and limit potential pollution and disturbance of the watercourse. Reinstatement of vegetation, in addition to creation of habitat piles for invertebrates, will also decrease impacts on this receptor, as such, residual impacts are considered to be not significant.
4.5 Landscape and Visual Amenity

This chapter describes the existing landscape and visual resource of the study area. It considers how the proposed scheme may have an impact on landscape character and visual amenity and where possible, advises on mitigation and compensation measures that should be implemented to avoid, reduce or offset potential landscape and visual impacts. In the context of this project 'landscape' includes urban landscape or townscape and as the majority of the study area is predominately built-up, the term 'townscape' has been used rather than landscape. Both terms are however interchangeable, depending on the nature and context of the area.

The landscape and visual assessment aims to identify the significance of the potential landscape and visual impacts of the proposed development upon the site and surrounding area. Townscape impacts associated with a development relate to changes to the fabric, character and quality of the townscape resource and how it is experienced. Visual impacts relate closely to townscape impacts, but also concern changes in views. Visual assessment is concerned with people's perception and response to changes in visual amenity.

Landscape and visual impacts are interrelated but assessed separately. Both landscape and visual impacts can be positive (beneficial) or negative (adverse). A development may have no significant visual impacts but result in an adverse impact on the townscape character; conversely, a development may have significant visual impacts, but insignificant landscape impacts.

The landscape assessment has been prepared in accordance with the following documents:

- Guidelines for Landscape and Visual Impact Assessment (GLVIA), Second Edition, edited by The Landscape Institute and Institute of Environmental Management and Assessment (2002);
- Landscape Character Assessment Guidance (2002) Countryside Agency in conjunction with Scottish Natural Heritage; and
- The DMRB Volume 11, Section 3, Part 5 (1993), taking into account the Supplementary Guidance for Landscape and Visual Assessment by the Scottish Executive (February 2002).

In terms of predicted impacts on townscape the assessment concluded that there are no Major long term and adverse impacts to townscape character zones. However, the following townscape zones would experience Moderate Adverse long term impacts, which for the purposes of this assessment, have been considered Significant:

- Local Townscape Zone 2 – Danestone and University Playing fields.
- Local Townscape Zone 3 – Grandholm Village development and River Don corridor.

The following landscape/townscape areas would experience Neutral – Minor Adverse long term impacts which for the purposes of this assessment were considered as Not Significant:

- Local Townscape Zone 1 – Area north of roundabout at junction of Whitestripes Avenue and A90.
- Local Townscape Zone 4 – Area to the South and West of Gordon’s Mills Road
- Local Townscape Zone 5 – Donside Urban Village
- Local Townscape Zone 6 – Old Aberdeen conservation area.
- Local Townscape Zone 7 – Area to the South and West of Tillydrone Road and Tillydrone Avenue.

With regard to visual impact, during the construction period the majority of receptor groups which directly face the proposed route and bridge, in close proximity or with immediate views towards it, will experience significant and adverse visual impacts as a result of the loss of visual amenity and the visually intrusive construction activity associated with the construction of a road bridge, road carriageway, road junctions or associated infrastructure.
Receptors that will experience Major to Moderate and Adverse long term impacts have, for the purposes of this assessment, been considered significant. This is by virtue of their sensitivity (expectation and importance of the changed landscape to the receptor), the expected magnitude of change, their immediate orientation and the visual proximity towards the proposed route. Significant visual impacts will result at certain properties, but by no means all properties, with a view of the alignment at the following locations, e.g.:

- Laurel Lane and Laurel Grove
- Danestane Cottage
- Laurel Avenue, Laurel Gardens, Brander Place and John Park Place
- Balgownie Place and Balgownie Drive
- Grandholm Village
- Gordon’s Mills Road to Gort Road
- Meadow Place and Meadow Lane
- Gort Road
- Hayton Road
- Pennan Road and Tillydrone Road

Receptors that will experience Negligible to Minor and Adverse long term impacts have, for the purposes of this assessment, been considered not significant.

Planned mitigation measures will reduce the landscape and visual impacts of the proposed route with planting of native trees and shrubs, so that in time some of the newly introduced elements will be screened from view and assimilated into the local townscape setting reducing the long term disruption of the overall landscape and visual character of the area.

Overall, the townscape assessment indicates that there will be significant adverse impacts upon the landscape of some parts of the study area. There will also be significant adverse effects on the visual amenity afforded from many locations from within the immediate area following the development route corridor. However, it is considered that the landscape and visual resource of the wider study area will not deteriorate to a significant degree and the overall impact upon landscape and visual amenity in general is therefore restricted to those receptors/areas within close proximity to the proposed route.

4.6 Community and Private Assets

This Chapter described the existing land uses in the immediate vicinity of the Access from the North Proposals (“Third Don Crossing”) and identified the potential effects that the land take required for the scheme will have on land use and community effects. More specifically this Chapter considered the effects on:

- Private Property;
- Land used by the Community; and
- Development Land.

A combination of desk study and site walkover was undertaken to establish existing land use in the vicinity of the Access from the North Proposals. Land use is a predominantly a mix of residential, open space, recreational and amenity areas.

The principal effects on land use relate to the permanent land take of the scheme, approximately 3.5 hectares. The majority of the southern section of the scheme involves improving the existing infrastructure, such as providing cycle facilities and footways, and as such the majority of affected areas are those immediately adjacent to the road including residential and education land as well as amenity grassland.
Impacts on land used by the community relate primarily to the loss of areas of amenity grassland and open space areas. Other land or facilities used by the local community are unaffected by the scheme with the exception of the River Don which will experience temporary Minor Adverse impacts on recreational use, such as fishing and canoeing, during construction.

Impacts on development land are not considered to preclude use. Land take will occur within one site identified in the Aberdeen City Local Plan (Adopted 2008) as a development site; however, the scheme will not prevent the future development of the remaining area of the site.

Overall, impacts on land use are considered to range from Neutral where land take is only temporary during construction, to Moderate Adverse where land take results in severance and loss of areas of well established community open space and development land.

4.7 Traffic Noise & Vibration

This traffic noise and vibration assessment considered potential noise impacts resulting from the construction and operation of the proposed scheme. It assessed the noise climate along the proposed route (i.e. background noise levels) and predicted changes between the ‘Do-Minimum’ scenario (i.e. assuming the scheme is not built) noise levels in the year of opening (2016) with the Do-Minimum in the Future Year (2030), and the Do-Minimum scenario noise levels in the year of opening (2016) with the Do-Something noise levels in The Future Year (2030).

These noise level differences, in conjunction with the noise sensitivity of individual properties, were used to determine the likely noise impacts associated with the introduction of the scheme. The noise and vibration impacts of the scheme have been determined using the guidance contained within the Highways Agency’s document: DMRB Volume 11, Section 3, Part 7.

In terms of Significance of Impacts, a 1 decibel (dB) or more increase in noise level equates to Slight/Moderate Adverse or worse, and a 1dB decrease equates to significance of impacts that are Slight/Moderate Beneficial or better.

The assessment found that, in terms of more than 1dB changes, there are more disbenefits than benefits with scheme opening in the Future Year when compared with the Do-Minimum in the Year of Opening (i.e. without the scheme in place). The majority of these disbenefits occur within the vicinity of the proposed 3rd Don Crossing.

However, when comparing the Do-Minimum Year of Opening with the Do-Minimum Future Year Scenario (i.e. without the scheme in 2016 and in 2030) with the Do-Minimum Year of Opening (without the scheme in 2016) versus Do-Something Future Year Scenario (with the scheme in 2030) there are more than 10,000 properties that are predicted to experience noise level reductions of between 0 and 1dB.

These reductions will predominantly occur along the A90 and A96 route corridors to the west of the proposed scheme. In addition, for properties along Balgowie Road corridor the noise level reduction will experience between 0 and 3 dBLA10,18hr and in the vicinity of the B991 south of Tillydrone Avenue the noise level reductions will range from -3 to -10 dBLA10,18hr.

Basically this means that development of the scheme will bring overall noise reductions to the wider Aberdeen area in the long term although there will be increases in noise levels closer to the scheme during to the development of a new major route. However, it is likely that mitigation, in the form of additional bunds/earthworks and/or acoustic barriers, along the 3rd Don crossing route corridor scheme, could provide noise mitigation for dwellings that experience impacts of Slight/Moderate Adverse or worse near to the scheme.
4.8 Effects on All Travellers

This chapter of the ES is concerned with the effect of the Access from the North Proposals on all travellers. Updated DMRB guidance, Interim Advice Note 125/09, has combined the previous “Pedestrians, Cyclists and Equestrians” and “Vehicle Travellers” contained within the 2006 ES into one chapter where effects on all travellers are assessed. This chapter is therefore specifically concerned with:

- Changes in amenity for pedestrians, cyclists and equestrians;
- Consequential alteration in the level of severance;
- The view experiences by vehicle occupants using the route; and
- The level of stress experience by drivers using the route.

The effect of the Access from the North Proposals (“Third Don Crossing”) on pedestrians, cyclists and equestrians in the area is specifically concerned with changes in amenity (defined as “relative pleasantness of a journey”) for these groups and consequential alterations in the level of severance, i.e. how much the new scheme lengthens journey times and makes it more difficult to access certain facilities such as shops or schools.

Changes to amenity and severance principally occur where the Access from the North Proposals (“Third Don Crossing”) route intersects or runs adjacent to existing walking, cycling or equestrian routes. However, there are also impacts along other principal routes through Tillydrone and Danestone, due to changes in traffic volumes. There are a number of areas that will be affected by the proposals, comprising both reductions as well as improvements in amenity and severance. It was found that the reduction in amenity is largely found in the Tillydrone area due to traffic induced severance to pedestrians, while there are improvements in the Danestone area, because of improved access to Grandholm, the River Don and to the south of the river due to the new route, including provision of cycleways, and at Bridge of Don due to the predicted reductions in traffic volumes.

Reductions in amenity in Tillydrone are of specific interest, due to higher levels of walking in this catchment, and a higher dependence on public transport. In terms of severance, the majority of the areas that are predicted to suffer an increase in severance level are found in Tillydrone. Associated with the construction of the scheme there are a number of other elements of infrastructure improvement that will lead in some way to mitigating the negative impacts on amenity and severance. The most significant of these are pedestrian crossing improvements along Gordon’s Mills Road, Tillydrone Road and Tillydrone Avenue and an anticipation that the corridor of the existing Gordon’s Mills Road, Tillydrone Avenue and Tillydrone Road will be upgraded.

Additionally, there are proposals to connect the walking and cycling path along the south bank of the River Don to Gordon’s Mills Road, by way of an underpass under the new bridge. This will allow cyclists to access the riverbank or the segregated cycle facility on the north east side of the river without having to cross the road itself. The underpass will also be open to pedestrians.

The new bridge itself will therefore help to improve access for pedestrians and cyclists on either side of the bridge to get to the opposing side of the river. In particular it will allow the path along the north side of the River Don to be accessed by those on the south side, and vice versa. Changes in severance will therefore be generally low, due to the proposed mitigation measures such as the improvements inherent in the design, the provision of pedestrian crossings, provision of dedicated cycling facilities and the shared use underpasses.

The scheme will have an impact on the views that both drivers and passengers will be exposed to as a result of the construction of the Third Don Crossing. There will also be consequential changes in the classifications of driver stress.

The construction of the Third Don Crossing will allow drivers to experience views that are currently not accessible, which is considered to be a benefit. It is expected that the new views will be open and attractive, and will be pleasurable for vehicle occupants, particularly as they cross the new bridge, and on the approach from the north.
This compares with views on current alternative routes that are restricted, particularly on large parts of the route via the Bridge of Don and via Persley Bridge. As such it is expected that there will be a slight improvement in the views experienced by vehicle occupants as a result of the Third Don Crossing.

Due to low vehicle volumes on Tillydrone Road and Avenue, existing levels of driver stress (as defined by the DMRB methodology) are Moderate without the construction of the Third Don crossing.

With the Third Don Crossing in place, driver stress classifications remain high on the crossing itself, but remain at Moderate on Tillydrone Road and Avenue. This classification of driver stress is based on the government guidance that slower average journey speeds are more stressful than faster average speeds, although this is dependent on average peak hourly flows.

In both instances, driver stress levels will be mitigated by the improvements to road geometry, junctions, surfacing that will provided on the new crossing, and on the upgraded Tillydrone Road and Avenue.

There will also be an impact on the alternative routes which currently link the communities which will be connected by the Third Don Crossing.

On the alternative routes that could be taken between the roundabout junction of Fairview Street / The Parkway and Tillydrone Avenue / St Machar Drive / Bedford Road, do Minimum Driver Stress classifications along different sections of each routes vary from High to Moderate – although the prevailing classification is High even though the introduction of the Aberdeen Western Peripheral Route will generally reduce vehicle flow and increase vehicle speeds.

The impact on driver stress on these alternative routes generally improves following the introduction of the Third Don Crossing. Specifically, on Balgownie Road B977 and the Bridge of Don this reduction will be significant enough to result in a decrease in driver stress. This is despite beneficial reductions in vehicle flows on both the route of the Third Don, and the alternative existing routes due to construction of the AWPR.

4.9 Drainage & Water Environment

This chapter of the ES presented the findings of the assessment of impacts of scheme on water quality and drainage. It provided a detailed description of the existing water environment conditions on site including watercourses, surface drainage and water quality. It predicted the potential effects construction and operation of the scheme may have on water environment features and identifies mitigation to be incorporated into the construction and design of the scheme. Therefore in summary, this chapter:

- Identified all surface water bodies adjacent to the proposed route;
- Considered the potential for adverse and/or positive impacts on the surface water environment arising from the proposed development; and
- Described options for the mitigation of adverse impacts on the surface water environment.

There are three watercourses in close proximity to the Access from the North proposals; the River Don, the Mill Lade and a small unnamed burn/drainage channel running north to south along the western edge of a large area of amenity grassland off Grandholm Drive. Both the Mill Lade and unnamed burn drain into the River Don.

Water quality within the River Don is classified as moderate. It is a designated protected area for being salmonid waters, nitrate sensitive, Urban Waste Water Treatment (UWWT) sensitive area and a groundwater drinking water protected area. The current designations within the area suggest the River Don is of High sensitivity.

The mill lade that flows east draining into the River Don, and the unnamed burn that flows south into the River Don are considered to be of Moderate - High sensitivity. Whilst no water quality monitoring is undertaken they are
likely to be of a similar sensitivity to nearby watercourses. However, as they are minor watercourses, which are small tributaries, they will be environmentally sensitive but in the wider context there are more sensitive watercourses, including the River Don.

The proposed road will cross the River Don on a bridge with an approach embankment on the north side of the river. The construction of the scheme will involve temporary disturbance which could, without mitigation measures in place, have a direct negative impact on the channel and banks of the River Don in terms of increases in water pollution and sediment laden runoff at various stages of the construction process.

Potential impacts are predominantly associated with the pollution or sedimentation of surface water. Such impacts, whilst short term, have the potential to be intense and concentrated on a particular area or watercourse. There is also the potential for changes to the surface runoff regime and slight increased risk of localised flooding. There is potential for longer term indirect and more prolonged impacts where construction causes reductions in water quality and in turn affects ecological interests such as fish.

The potential discharge of pollutants and sediment to watercourses could result in impacts on the chemical and biological status of watercourses leading to reductions in water quality. This would also affect the risk status assigned to watercourses under the Water Framework Directive (WFD) reducing the ecological status of watercourses. In particular, sediment could cause direct and indirect secondary effects on aquatic species including fish and freshwater invertebrates.

Mitigation has been developed taking into account current best practice and all relevant legislation. Implementation of mitigation measures discussed in detail within the ES will reduce potential impacts on the water environment during both construction and operation of the proposed Third Don Crossing. Mitigation measures will include incorporating an appropriate drainage system for the route into the design, taking into account Sustainable Urban Drainage Systems (SuDS) features. As part of the flood risk assessment that was undertaken for the scheme, there is provision for a retention pond to be included on the north bank of the River Don. This pond could be used as a SuDS feature to treat surface water before draining back into the River Don.

Overall there would be a potential slight adverse impact from construction of the scheme. The activities posing the highest risk to deterioration in the surface water environment would be the temporary works associated with the construction of the watercourse crossing of the River Don.

During operation of the scheme, impacts are predicted as slight adverse, although the potential operational impacts on water quality should be minimal. Vehicular emissions and related pollution of surface water runoff is considered to be low. Any runoff entering the River Don would be subject to high dilution and dispersal resulting in low concentrations with negligible impact to surface waters. In addition, increased surface runoff rates will be mitigated for through the drainage design, reducing potential impacts further.

4.10 Geology & Soils
This section of the ES addressed environmental issues associated with ground conditions relating to the proposed scheme. For the purposes of this EIA, ground conditions were taken to comprise:

- Geology and soils;
- Ground contamination;
- Hydrogeology; and
- Landfills and waste management
The current ground conditions at the site were described and the likely impacts of the development associated with its construction and operation on potentially sensitive receptors assessed. Information was collected via desk study, consultations and a site walkover. No intrusive site investigations were undertaken.

The geology of the site consists of granite, overlain by deep alluvial deposits associated with the River Don, with deposits of glacial till to the north of the river and glacial outwash and lacustrine deposits (i.e. relating to a former lake(s)) to the south.

Previous records indicate the presence of five potential areas of infilled ground at the southern end of the route, including the former Whin Hill Sand Pit and associated areas, the Kettle Hill Sand Pit, the former Powis/Tillydrone Landfill, the Donside Paper Mills/Gordon’s Mills site, and an area of made ground on the southern bank of the river. A study carried out by Aberdeen City Council encountered landfill type gas readings in the vicinity of the former Whin Hill Sand Pit.

Due to its composition the underlying bedrock strata of the site is classed as being of moderate permeability to groundwater, although superficial deposits are likely to contain groundwater that is likely to be in hydraulic continuity with the River Don.

Ground investigation of the route has confirmed the general geological sequence from the maps, along with the localised presence of made ground some of which contains ash and other potentially contaminated materials. Low levels of hydrocarbons and asbestos was identified in some made ground and moderate levels of predominantly natural, carbon dioxide were monitored.

Review of historical plans showed that the route has limited former industrial uses (the edge of the Donside Paper Mills/Gordon’s Mills site might extend under the site), although as mentioned above there are indications of two areas of infilling close to the route. Potential impacts of the development were assessed and significant impacts associated with geology and soils, ground contamination, groundwater or landfills and waste management and are not anticipated.
5 Summary of Main Impacts

An Environmental Impact Assessment (EIA) was undertaken for the Access from the North Proposals ("Third Don Crossing") in accordance with the requirements of the Environmental Impact Assessment (Scotland) Regulations 1999 (as amended). Potential environmental impacts were identified in relation to the construction and operation of the proposed scheme. It should be noted that the conclusions of this EIA undertaken in 2009/2010 do not differ significantly from the previous version of the EIA prepared in 2005/2006.

Mitigation measures were identified to reduce as far as possible potential impacts and these measures have influenced the design, proposed construction methodologies and operational parameters of the scheme. The significance of the residual impacts, remaining after mitigation, was assessed in the EIA and both positive and negative impacts were identified.

Significant Negative impacts of the scheme (i.e. those assessed as having a moderate or major negative impact remaining after mitigation measures) included:

- A direct impact on the cultural heritage and landscape value of the Danestone Walled Garden and the remaining Danestone historic landscape as the scheme cuts through these features, during construction and operation;
- Landscape and visual impact during the construction phase in all sections of the route, specifically in relation to some properties close to the new alignment;
- Landscape and visual impact of the operational phase, specifically in relation to some properties close to the new alignment. However after 15 years this will lessen as the planned soft landscaping (trees, etc.) establishes;
- Loss of mature broad leaf woodland habitat on the eastern side of Gordon's Mills Road / Tillydrone Road, which can be replaced in the medium term with varied and indigenous species; and
- During operation, properties along and close to the alignment will experience increases in noise relative to baseline conditions. In addition, there will be significant noise impacts (if unmitigated) on residents on Gordon’s Mills Road as there are currently low levels of traffic here, although the overall impact on Tillydrone Road/Avenue will be lower as current traffic flow is higher than on Gordon’s Mills Road;

In addition to the above impacts a number of positive benefits of the scheme have been identified, including:

- Potential creation of a wildlife corridor along the route and the opportunity to promote new, varied and indigenous planting schemes that encourage wildlife in areas where current planting has to be removed;
- Improvements in amenity and severance for pedestrians and cyclists, etc., at Bridge of Don and at other areas where the scheme will help to reduce traffic flows;
- Greater connectivity across the river due to creating a new link across the River Don, as well as providing and improving cycle routes and associated facilities;
- Reductions in predicted traffic noise on the other major arterial routes around Aberdeen City, particularly in Bridge of Don (Balgownie Road) with some reductions on the Perseley Bridge/A96 corridor due to relocation of traffic from these two areas; and
- Improvements in air quality at Bridge of Don and Perseley Bridge due to the traffic reductions predicted in these areas.
Capabilities on project:
Environment

6 Figures