

Department for Regional Development - TransportNI

YORK STREET INTERCHANGE

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**Proof of Evidence:
(Summary)**

Environmental Statement

by

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1. INTRODUCTION

1.1 Introduction

My name is Gareth Coughlin, Associate and Environmental Scientist with URS, the consultants appointed to assist TransportNI Eastern Division's Strategic Road Improvement Team in delivering the Proposed Scheme. I hold a First Class Bachelor of Science (Honours) degree in Environmental Science, and a Master of Philosophy degree, by research, in quarrying and its impacts on the environment. I am a Chartered Environmentalist, Chartered Water and Environmental Manager, Chartered Scientist, and Fellow of the Chartered Institution of Water & Environmental Management (CIWEM). I am also past Chairman of the Northern Ireland branch of CIWEM.

I am the Environmental Coordinator for this project, responsible for the Environmental Impact Assessment (EIA) of the Proposed Scheme, and subsequent preparation and delivery of the Environmental Statement, published in January 2015. I have been involved in the management and coordination of the EIA of the overall scheme since 2008.

1.2 Scope of Evidence

Mr Spiers has outlined the background to the Proposed Scheme and the Statutory Procedures, and Mr Megarry has addressed the scheme development, up to the publication of Draft Orders and has set the context for the current Environmental Statement. My evidence will therefore deal only with the January 2015 Environmental Statement.

1.3 Structure of the Environmental Statement

The Environmental Statement has been reported in accordance with the Design Manual for Roads & Bridges (DMRB) Section 11.2.6 and comprises three volumes; these are:

- Volume 1 Environmental Assessment – the main text of the document which includes separate Non-Technical Summary, separate Introduction (Part I), Environmental Assessment (Part II), Conclusions (Part III) and References and Glossary (Part IV);
- Volume 2 Appendices – relevant supplementary information associated with Volume 1; and
- Volume 3 Drawings – figures as referenced within the various chapters of Volume 1.

The Environmental Statement adopts the structure set out in the DMRB Volume 11: Environmental Assessment, which lists ten environmental topics as follows:

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

The effects resulting from construction, and any associated disruption are assessed under these individual environmental topic headings. The effects on specific policies and plans are reported where they are most relevant (i.e. under Strategic Need for the Proposed Scheme and the individual environmental topic headings).

A number of Interim Advice Notes (IANs) have been issued by Highways Agency in relation to the DMRB environmental assessment techniques. Where applicable, the DMRB environmental assessment has been supplemented by or superseded using this guidance.

Separate Proofs of Evidence have been prepared in relation to Air Quality (Dr. Garry Gray), Landscape & Visual Effects (Mr. Paul Tully), and Noise & Vibration (Mr. Alf Maneylaws). Whilst my evidence provides a summary of these proofs, the specialists can be made available for responding to detailed queries on their respective topics throughout the course of the inquiry.

1.4 Legal basis for the Environmental Statement

The ES has been issued in accordance with the EIA Directive and required by Part V of The Roads (Northern Ireland) Order 1993 as substituted by The Roads (Environmental Impact

Assessment) Regulations (Northern Ireland) 1999 and amended by The Roads (Environmental Impact Assessment) Regulations (Northern Ireland) 2007.

As per the requirements of The Roads (Environmental Impact Assessment) Regulations (Northern Ireland) 1999, the Environmental Statement contains the information referred to in Annex IV of the EIA Directive, which is relevant to the specific characteristics of the Proposed Scheme and to the environmental features likely to be affected.

1.5 Consultation

An integral element of the environmental assessment includes consultation with statutory authorities and other interested bodies to establish any relevant constraints or factors to be taken into account when considering the Proposed Scheme. All statutory consultations undertaken to date were in accordance with a Communications Plan, developed in line with TransportNI's brief for the Proposed Scheme and their '*Communications Guidelines for Major Works Projects*' document and '*Good Practice Communications Guide*'.

1.6 Summary

On the basis of comprehensive preliminary investigations and statutory and public consultations, the significant environmental effects have been identified. These effects have been investigated and reviewed, and are presented in the Environmental Statement, Volume 1, Chapters 8 through to 17.

It is important to emphasise that the process of interchange option selection has by its nature, resulted in reducing impacts for many of the aspects considered. Clearly, these benefits are not revisited in the Environmental Statement, which only reviews the Proposed Scheme. This should be borne in mind when reviewing the Environmental Statement.

The following sections (Sections 2 to 12) provide a very succinct summary of only the key findings of the environmental assessment. Reference should be made to the full suite of environmental supporting documents produced to date, not least of which is the Environmental Statement January 2015.

2. AIR QUALITY

Chapter 8 of the Environment Statement presented an assessment of the likely effects of the Proposed Scheme on Local air quality and Regional air quality. The assessment approach is consistent with current guidance set out in the DMRB, Advice Note HA207/07.

The Proposed Scheme construction works have the potential to generate emissions, of dust and fine particulate matter. However, with the proposed mitigation measures applied appropriately, the adverse effect of the works as a whole would be reduced to a level that can reasonably be considered to be acceptable. The contractor would prepare a management plan that details the measures that would be used to control emissions of particulate matter and this plan would be submitted to Belfast City Council for their approval.

The Proposed Scheme would not have a significant effect on regional air quality as the magnitude of predicted changes in regional air pollutant emissions are small. However, there would be minor effects on regional air quality with the operation of the Proposed Scheme, due to the increased flow of traffic and the additional road link length.

The likely change in long- and short-term air pollutant concentrations have been quantified using a dispersion model, that has been calibrated against measurement data for locations within the study area. It is predicted that there would be a minor adverse effect of the Proposed Scheme at a small number of properties within The Belfast Air Quality Management Area (AQMA) No.1 and at a small number of properties located alongside North Queen Street. This would be counter balanced by the magnitude of the reductions in annual mean concentrations of nitrogen dioxide at other receptors in the Belfast AQMA No.1.

The Proposed Scheme would not prevent the successful implementation of strategies for the sustained achievement of air quality objectives in Belfast. On balance, it is considered that the Proposed Scheme has a Neutral effect with respect to air quality overall.

3. CULTURAL HERITAGE

The assessment of cultural heritage within the study area reviewed the three subtopics of archaeological remains, historic buildings, and historic landscapes. In accordance with DMRB 11.3.2.3, a 'Detailed' Assessment was deemed the most appropriate level of assessment.

The assessment concluded that there would be no physical impact as a result of the Proposed Scheme on any buildings of historic interest (designated and non-designated assets), but there would be impacts on the setting of a number of these that are in close proximity; and a number of archaeological assets would be impacted. The Proposed Scheme design has avoided impacts where possible and minimised adverse effects, however, the overall significance of effect on the cultural heritage assets would be Slight Adverse. There would be no impact on high value archaeological assets.

4. ECOLOGY & NATURE CONSERVATION

The assessment was undertaken in accordance with the requirements of DMRB 11.3.4 and supplemented or supported by other relevant survey and assessment guidance.

Overall, the assessment concluded that the Proposed Scheme would have a relatively low effect on the ecological value and conservation status of the area, its habitats and its species. Typically, urban species adapted to live in such environments were found and as such, are not considered particularly sensitive.

Due to the proximity and hydrological link of the Proposed Scheme to the existing Belfast Lough and Belfast Lough Open Water Special Protection Areas, and Belfast Lough Ramsar site, a Habitats Regulations Assessment was undertaken in tandem with the ecological assessment. A Statement to Inform the Appropriate Assessment was prepared, and concluded that there would be no significant effect on the integrity of any designated Natura 2000 sites with implementation of the Proposed Scheme, either alone or in combination with other plans or projects.

5. LANDSCAPE EFFECTS

The assessment was carried out in accordance with the Highways Agency Interim Advice Note (IAN) 135/10 '*Landscape and Visual Effects Assessment*', and supported by guidance from the Landscape Institute and the Institute of Environmental Management and Assessment '*Guidelines for Landscape and Visual Impact Assessment: Second Edition*' (2002).

There are no significantly sensitive landscape features within the lands required for the Proposed Scheme. No Areas of Outstanding Natural Beauty or Areas of High Scenic Quality would be affected. Clifton House and Grounds (a Local Landscape Policy Area, and Historic Park, Garden and Demesne) would be the closest landscape designated area to the Proposed Scheme and some of the elevated elements, such as highway lighting and signage, may add further uncharacteristic elements to its wider setting.

Considering the existing conditions of the site (comprising mostly commercial buildings, surface car parks, and road infrastructure), the Proposed Scheme would generally blend into the site context, albeit with appropriate mitigation.

Views from dwellings in proximity to the Proposed Scheme would change. The majority of potential receptors would experience a Neutral or Minor Adverse visual impact in Year 1. The mitigation measures would further reduce the visual impact, especially after Year 15 (15 years after opening), when proposed screen planting would have matured. A small number of

receptors would still experience adverse visual effects which are regarded as significant, i.e. 'Large' or 'Very Large', in Year 15.

6. LAND USE

The assessment of impacts on land use was undertaken in accordance with the requirements of DMRB 11.3.6. The assessment covered the effects arising from direct and indirect impacts upon private property, private land, development land, and restoration proposals for abandoned waterways. The effects on agricultural land were scoped-out of the assessment due to the urban nature of the area.

The assessment concluded that a total of six properties (two government, three commercial and one community) would be demolished (including associated landtake). Four of these would be lost to accommodate permanent elements associated with the Proposed Scheme, and two properties would be lost as a result of phased construction works.

A total of thirteen plots would be subject to private land loss impacts in order to accommodate various permanent elements of the Proposed Scheme. Furthermore, it is expected that three plots would also be subject to private land loss impacts as a result of temporary works during the construction phase. For the majority of properties affected, the significance of effect would be Neutral as a result of either negligible losses or minimal disruption to continued usage of these lands. Nevertheless, adverse effects associated with private land loss would be experienced with this scheme, though offset to some degree by the opportunity to combine severed parcels of residual lands into larger plots and making these available for potential future development.

Only four planning applications would be lost in their entirety to accommodate the Proposed Scheme.

No areas of community land or BMAP designations, policies, proposals or zonings for development land would be adversely affected by the Proposed Scheme.

7. NOISE & VIBRATION

A noise and vibration assessment has been undertaken in accordance with the methodology for a 'Detailed' Assessment as described in the November 2011 version of DMRB 11.3.7 (HD 213/11 – Revision 1). The assessment covers both long-term noise and vibration impacts from operation of the Scheme, and temporary noise and vibration impacts from construction of the Scheme. This included a baseline noise survey.

For the operational assessment, road traffic noise levels have been calculated at all residential and sensitive non-residential properties within a 400-metre buffer around the Proposed Scheme, with and without the Scheme in operation.

For the operational vibration assessment, the calculated noise levels at all residential properties within 40 metres of the Proposed Scheme have been used to estimate the change in numbers of people affected by traffic vibration nuisance.

Temporary noise and vibration impacts resulting from the construction phase have been calculated at a representative set of receptors for a range of construction activities, employing the procedures in BS5228: 2014 Part 1: Noise, and Part 2: Vibration. The estimated noise and vibration levels have been assessed against the limits provided in Belfast City Council's Advice Note for construction and demolition sites.

Mitigation has been specified to reduce the operational noise impacts of the Proposed Scheme. This comprises the provision of two additional noise barriers along the northbound and southbound carriageways of the Westlink, and the provision of low noise surfacing on interchange links between the Westlink, M2 and M3, and the slip roads from these to the local road network.

A range of good site practices would be adopted in order to mitigate construction phase noise and vibration impacts. These would be presented in the Construction Environmental Management Plan.

With the specified mitigation, operational noise impacts resulting from the Proposed Scheme have been assessed as Negligible / Minor negative in the short-term and Negligible in the long-term. Operational vibration impacts have been assessed as Negligible.

With a robust mitigation strategy in place, and taking into consideration the short-term nature of some of the construction activities, the significance of construction noise effects has been assessed as Minor negative. The significance of construction vibration effects has been assessed as Negligible.

Overall, the significance of the noise and vibration effects of the Proposed Scheme has been assessed as Negligible.

8. PEDESTRIANS, CYCLISTS, EQUESTRIANS & COMMUNITY EFFECTS

The assessment of pedestrian, cyclist, equestrian and community effects was undertaken in accordance with the requirements of DMRB 11.3.8.

The assessment concluded that strategic and local traffic interaction would occur through a much improved highway environment. The flow of local traffic through the interchange would become more regulated and the safety of the highway environment would improve for the vehicle user. However, even though some roads would not be subject to physical alteration, they would be subject to traffic redistributive effects as a result of proposed changes to other parts of the existing road network, altering routes taken to complete desired journeys.

Six community facilities would be lost in their entirety to accommodate the Proposed Scheme. A number of community facilities would also experience direct land loss or access impacts, however their continued usage during the operational phase is unlikely to be significantly affected.

The reduction in strategic traffic interaction, resultant freer flowing traffic conditions, and inclusion of a southbound bus lane on York Street would be of benefit to and help improve the quality of public transport services in delivering a modern, integrated transport system for the Belfast Metropolitan Area. However, a number of bus services utilising the wider road network, which although not directly affected by the Proposed Scheme, would be adversely affected by the traffic redistributive effects associated with changes to the existing road network.

In terms of amenity and relief from existing severance, the benefits associated with grade-separation of strategic links between the Westlink and M2/M3 would be significant, as pedestrians would no longer be in direct interaction with strategic through traffic within the interchange via signalised junction arrangements.

With the proposed changes to York Street, the new cycling provision would be an enhancement over existing conditions and the improvements to the junction and surrounding road layout (particularly in relation to the separation of strategic and local traffic) would result in safety benefits, reduction in severance, and improvements in journey time and ambience.

9. VEHICLE TRAVELLERS

The Vehicle Travellers assessment includes '*Views from the Road*' and '*Driver Stress*' and has been undertaken in accordance with the requirements of DMRB 11.3.9.

The assessment concluded that vehicle travellers on most of the road links would experience a limited change in view and it is expected that grade-separation of strategic links between the Westlink and M2/M3 would generally result in reduced stress levels.

10. ROAD DRAINAGE & THE WATER ENVIRONMENT

The assessment was undertaken in accordance with the requirements of DMRB 11.3.10.6, and included identifying principal watercourses and assessing the potential impact on floodplains. To analyse the polluting potential from road runoff on adjacent receiving waters, an assessment was made of accidental spillage risk and runoff contaminant concentrations.

The assessment concluded that the Proposed Scheme would have minimal impact upon the water environment, from a water quality, hydromorphology and spillage risk perspective. It is unlikely that the Proposed Scheme would cause deterioration in the Belfast Harbour coastal water body, or prevent it from meeting its Water Framework Directive objectives.

There would be no overall risk to groundwater quality, as no discharges of road runoff to the ground are proposed with the drainage design.

The Proposed Scheme would be located in the coastal floodplain and without the flood protection measures incorporated, the proposed underpasses would be susceptible to flooding for events in excess of a 2% Annual Exceedance Probability (1-in-50 year) flood event.

11. GEOLOGY & SOILS

The Geology & Soils assessment was undertaken in accordance with the requirements of DMRB 11.3.11.7 and addressed the impact on important geological mineral deposits, soils, and the possibility of hazardous materials being exposed. Any sites with educational or scientific interest due to their rarity were also considered.

The assessment concluded that there are relatively few key issues with regards to disturbance of soils, made ground, engineered fill, superficial deposits and bedrock. There would be no significant impacts on solid and superficial geology, or on soils of the region. Essentially, the removal of some soils and drift material of limited importance, gives an overall Neutral significance of effect.

While ground investigations have been undertaken, there is still potential for yet unidentified contamination to be discovered. If previously unidentified contamination is encountered during site works, a programme of soil sampling and testing would be undertaken to assess the appropriate remediation / mitigation measures, as outlined in sub-section 17.7.2 in Volume 1 of the ES.

12. CUMULATIVE EFFECTS

The assessment of cumulative effects was undertaken in line with DMRB 11.2.5 and 11.2.6.

The technical assessments have considered the likely significant interacting impacts within each chapter of the Environmental Statement. During the assessment process, co-ordination took place between assessment specialists to ensure that interacting impacts were identified, assessed and, where appropriate, mitigated.

the potential for combined effects of a number of different projects, in combination with the project being assessed, has also been considered.

In terms of cumulative impacts from different projects, in general the effect would only be locally significant at worst and would not be a key decision making issue.

The Proposed Scheme was also tested against a 'High Demand' traffic growth scenario, which would better reflect the potential increase in demand if the proposed developments in the surrounding area are realised (i.e. as a worst case scenario). Again, in terms of cumulative impacts from different projects, in general the effect would only be locally significant at worst and would not be a key decision making issue.

13. CONCLUSIONS

The Environmental Statement summarises the environmental assessment carried out in accordance with National and European regulatory requirements.

The environmental assessment has been undertaken following the standard methodology set out in the DMRB Volume 11 (Environmental Assessment).

The gathering of baseline environmental data and subsequent assessment of the potential environmental impacts of the Proposed Scheme have been used to develop appropriate mitigation measures. Many of these mitigation measures are incorporated into the design of the Proposed Scheme and reduce the impacts of the proposal.

Overall, although there are a number of significant environmental effects which cannot be overcome by appropriate mitigation measures, such as loss of property and private land, visual impact, and impact on community facilities, when considered against the total benefits of the Proposed Scheme, and with mitigation measures in place, it can be concluded that on balance these impacts are acceptable.

Since completing the Environmental Statement, the scheme has been subject to a sustainability assessment and has subsequently been awarded an 'Excellent' rating at Interim stage under the CEEQUAL sustainability assessment, rating and awards scheme for civil engineering projects.