

ENVIRONMENTAL IMPACT STATEMENT -OVERALL EVALUATION

1.1 *Introduction*

This Chapter presents a synopsis and overall evaluation of the environmental performance of the proposed scheme. In doing so, reference is made to the residual effects tables included in Part B, the analysis presented in Chapter 10 and the Environmental Response Plan recorded in Chapter 11.

1.3 *Achievement of Environmental Design Objectives*

As discussed in Section 2.5, a series of environmental design objectives were set for the proposed scheme. These are presented in Appendix A. This section examines the extent to which they have been achieved.

1.4.1 Residential and Commercial Property

The environmental design objectives are:

- To minimise the demolition of property required and to cause the minimum possible number of properties to be disadvantaged by the proposals.
- The extent of landtake and disturbance to commercial activities to be kept to a minimum.

The scheme has minimised the number of properties to be demolished, commensurate with the need to meet the future growth potential of Dublin Port. The seven commercial operations in the Port area which are directly affected by these proposals, would be relocated elsewhere in the Port. The only residential property requiring demolition is the Park Keeper's house in Fairview Park, and an alternative residence would be provided. Also, the extent of landtake and disturbance has been minimised.

Having examined the overall environmental and engineering effects of the proposed scheme and its associated mitigation measures in this area, it is considered that upon completion there would be no adverse effects upon property values.

1.4.2 Community Facilities

The environmental design objectives are:

- To minimise the loss of road space, car parks, pedestrian facilities, sports pitches, cycleways, footpaths and public open space.
- Maximise potential for recreational value where this is appropriate (e.g. visual amenity, etc.).

In the case of Ellenfield Park, only works to the boundary of the Park would be necessary.

A temporary car park adjacent to the Church of the Holy Child car park would be provided to mitigate against loss of car parking during construction. A pedestrian crossing facility would be provided on Collins Avenue at the temporary car park entrance.

At Fairview Park, the construction works would necessitate reconstruction or reprovision of some facilities elsewhere within the Park.

The recreational value of the Tolka estuary area would be up-graded. There would also be improvements in safety for cyclists and pedestrians due to the reductions in traffic volumes on various roads. Lower traffic flows on Swords Road and Collins Avenue should also assist in reducing severance to pedestrians. There would also be a noticeable reduction in traffic noise levels at St Joseph's School on East Wall Road. Given these effects, it is considered that the objectives relating to community facilities have been achieved.

1.4.3 Traffic Noise

The environmental design objectives are:

- To prevent road traffic noise levels in the design year exceeding existing road noise levels at facades of noise sensitive properties adjacent to, or directly affected by the scheme.
- To integrate any noise barriers with visual screens and landscape proposals.

It is inevitable that a project of this scale, in providing reduced traffic flows in some locations, would result in others areas experiencing adverse effects. An estimated 114 properties in the vicinity of the M1 along Shanrath/Lorcan Road and Shantalla Road/Lorcan Park experience a **minor adverse** effect in respect of road traffic noise when compared to the theoretical 'do minimum' situation, following the adoption of 'noise reducing' road surfacing.

The theoretical 'do minimum' situation, that is the DTI Strategy without the proposed scheme, has been established to aid in the assessment of the proposed scheme's contribution to the DTI Strategy, and as such should not be construed as a real situation should the scheme not proceed. In reality, therefore, there would be an increase from the existing situation in the region of 0-2dB(A) at the opening year and 1-3dB(A) in the design year resulting in no perceptible difference.

In contrast, at East Wall 28 properties would experience a 5-10dB(A) reduction leading to a medium-term **moderate beneficial** effect. To this must be added a further 144 properties on or in the vicinity of East Wall Road with a medium-term **minor beneficial** effect. On balance, therefore, more properties benefit from reduced noise levels as a result of the proposed scheme than those which experience a minor worsening.

In terms of the objective of preventing an increase in the design year from existing noise levels, this has been achieved in principle, as there would be no perceptible increase in noise levels from the existing situation, following the adoption of mitigation measures.

1.4.4 Air Quality

The environmental design objectives are:

- To design tunnel ventilation system to meet PIARC guidelines for air quality at all times within the tunnels.
- To locate and design the tunnel portals in such a manner as to ensure compliance with EU air quality standards outside the tunnel.

The air quality in the vicinity of the tunnel portals would be within accepted EU standards, in addition, the tunnel ventilation system has been designed to comply with PIARC guidelines for air quality. All air quality objectives have, therefore, been achieved.

1.4.5 Landscape/Townscape

The environmental design objectives are:

- To exploit opportunities for effective landscape mounding and planting in order to provide effective screening and integration of the motorway into the landscape as far as practicable.
- Conserve and enhance landscape qualities of the corridor as far as possible.
- Provide earth mounding which harmonises with the local landform to enhance screening and attenuate noise.
- Organise the planting regimes to aid subsequent management.

Landscape proposals and tree planting/reinstatement proposals have been included in the EIS and are illustrated on Figures 7.8, 7.9, 9.4, 9.5, 9.8 and 9.9. These proposals support the objective of exploiting landscape opportunities to provide effective integration into the landscape.

There would be a short-term **minor adverse** effect upon landscape features until the removed vegetation is mitigated by the establishment of new planting. In the medium-term a **moderate beneficial** effect results at Whitehall, principally due to the removal of traffic from the Swords Road.

At Fairview Park, removal of 38 mature trees would give rise to medium-term a **moderate adverse** effect which would become **not significant** in the longer-term as the replacement planting matures. Improved landscaping of the Tolka estuary and the North Port Interchange area is proposed.

Examination of the landscape objectives in the context of the effects of the proposed scheme indicates that the design objectives under this heading would be fully met.

1.4.6 Nature Conservation

The environmental design objectives are:

- Preserve nature conservation value through the avoidance of effects wherever this is possible.
- Ensure that mitigation measures addressing other issues do not have adverse effects on nature conservation.
- Promote nature conservation within the landscape measures proposed, aiming to reinforce and extend existing habitats and increase the occurrence and diversity of wildlife.

The proposal to entrain the River Tolka would remove 2.2ha of habitat which is currently within a proposed Natural Heritage Area. The proposed landtake is the minimum amount commensurate with the engineering requirements of the scheme, the hydrological requirements of the River Tolka, and the need to provide a safe and attractive edge to the estuary at this location. The proposals have been made in agreement with the Office of Public Works. In this respect the nature conservation design objectives have been met.

1.4.7 Cultural Heritage

The environmental design objective is:

- Avoid, where possible, physical impact, landtake or severance to known features/sites of archaeological or historic interest.

No sites or buildings of archaeological or historic interest have been identified within the limits of construction activity. In response to the possibility that archaeological remains may be found within either the Whitehall or Fairview areas, however remote, a Watching Archaeological Brief would be established in consultation with the office of Public Works, National Monuments Section and the City Archaeologist.

The objective set for the proposed scheme, has, therefore, been fully met.

1.4.8 Drainage and Pollution Control

The environmental design objectives are:

- Maintain the flow and capacity of the Tolka River in consultation with the Office of Public Works.
- To control discharges from the motorway and to avoid ground or surface water pollution.

The tunnelled section of the proposed scheme would be equipped with a drainage sump at the low point of the scheme under Fairview Park. From this point any contaminated water or other liquid would be removed for treatment at an approved facility.

Along non-tunnelled sections of the proposed scheme, new road surfaces at the northern end would be drained into existing motorway facilities. At the southern end in the North Port area, a highway drainage system, together with an oil interceptor, would be provided to the requirements of the Office of Public Works and other appropriate authorities. Similarly, the hydrological and engineering design of the works to the Tolka estuary are in accordance with the requirements of the Department of the Marine, the Office of Public Works, and Dublin Corporation Drainage Division. The proposed scheme consequently, achieves the objectives established.

1.4.9 Geology and Soils

The environmental design objectives are:

- Optimise tunnel design in terms of alignment, sections and construction method with regard to ground and groundwater conditions.
- Avoid damage to any existing structures due to ground movements or dewatering associated with tunnel construction.

The tunnel design in terms of alignment, sections and proposed construction method, has been carried out based upon available site investigation information. It has also sought to minimise disturbance to ground and groundwater regimes, and therefore meets the objectives under this heading.

The engineering design of the proposed tunnel has taken as a constraint, the avoidance of damage to any existing structures due to ground movements or dewatering and has, therefore, satisfied the relevant design objective.

1.4.10 Construction Disturbance

While particular construction activities are organised by the contractor, Dublin Corporation would seek to ensure that the contractor has due regard for environmental and safety legislation. Nevertheless, in addition to these obligations, the Corporation would seek to ensure, where reasonably practicable, that the following environmental design objectives are achieved:

- Avoid disturbance to environmentally sensitive sites adjacent to the scheme area.
- Limit construction noise and working hours.
- Reduce the amount of material to be transported to the site and to be disposed off-site, to a feasible minimum.
- Specify working practices and traffic management measures to minimise local disturbance.
- Construction routines to be established to ensure ground vibration triggered by construction activities on both structures and human beings to be limited to standards BS 6611 and BS 7385.
- Minimise the construction area.
- Reinstate and improve as far as possible.
- Avoid undue disruption to consumers when services are being relocated.

Construction of the proposed scheme would inevitably give rise to temporary or short-term adverse effects. Some of these consequences are particularly significant, especially in the Whitehall area where the cumulative effect of the consequences of construction would be most marked. Nevertheless, Dublin Corporation has, through this EIS, made commitments to manage such adverse effects by means of a Construction Code of Practice, in a manner which would reduce them to the minimum.

This Construction Code of Practice would address the following:

- working hours;
- routing of construction traffic;
- limits of construction areas;
- reinstatement works;
- environmental monitoring;
- materials handling;
- noise generation;
- road cleaning and dust minimisation;
- public information programme;
- vibration monitoring;
- settlement monitoring;
- health & safety considerations;
- environmental performance criteria.

By including these items, it is considered that the proposed scheme achieves the objectives set for responding to construction disturbance.

1.5 *Beneficial Effects*

The key benefit of the proposed scheme would be its contribution to the achievement of both national and City-wide policy objectives seeking to aid economic development with emphasis upon improving trade with the rest of Europe. Through linking Dublin Port directly to the motorway and national Primary Road Network, a vital strategic corridor would be established, facilitating throughput and development of the Port, ultimately for the benefit of the national economy.

At a City-wide scale, the proposed scheme would not only facilitate a coordinated implementation of investments in public transport, but also improve accessibility and the development potential of the proposed Docklands Development Area/North Port.

Although the introduction of a new road may appear contradictory to the objective of reducing dependence upon private transport, the principal objective of the scheme would be to provide access to Dublin Port and thereby remove HGV traffic from inappropriate City streets.

The proposed scheme would also, as an essential component of the DTI Strategy, make a significant contribution to the re-allocation of private traffic away from the main public transport corridors. This would then allow the introduction of Quality Bus Corridors and LRT lines without simply displacing traffic into neighbouring residential areas. The scheme would also facilitate the introduction of traffic calming measures in residential areas.

Essentially, the proposed scheme would create the space for an imaginative and integrated response to the need to manage road traffic more effectively if the quality of life for City residents and businesses is not to decline.

The opportunities the proposed scheme offers for the regeneration of the Custom House/North Port area are also particularly important and would be a significant consideration for the proposed Docklands Development Authority. The need for a wider development brief and landscape design brief to ensure that the benefits of the scheme are fully realised without disadvantaging those who presently live in the Fairview/North Port area is recognised by Dublin Corporation.

In addition to the City-wide benefits of the scheme, it would also give rise to a reduction in traffic, particularly HGV traffic at both East Wall Road (Annesley Road Bridge to Tolka Quay Road), as well as in the Whitehall area to the south of Shantalla Road Bridge. This reduction in traffic would give rise to a noticeable reduction in noise levels for 172 properties in the East Wall area.

1.7 *Adverse Effects*

As evidenced by the extensive commitments made to respond to the environmental challenges posed by the proposed scheme, and the effects documented within the residual effects tables (see Tables 6.6, 7.2, 8.1 and 9.1), the disbenefits of the scheme have been minimised.

The commitment has been given to extensive monitoring of vibration and settlement in the vicinity of the proposed works and to carry out pre- and post-construction property surveys with provision for reinstatement, in the unlikely event that any damage would be caused. Further, an intensive public information programme would be a key element in providing advance notice of any potential construction disturbance.

At an area level, temporary to short-term construction disturbance is the major issue to be considered, particularly at the Northern Section, with the concerns of residents at the Bored Tunnel and Southern Sections also requiring consideration.

The proposed scheme would give rise to considerable quantities of excavated materials from the tunnel. Some of this material would be reused as part of the construction works, while some may be reused or sold depending upon market conditions current at the time of construction. Other materials, would require disposal at a landfill site under the authority of Fingal County Council for which an agreement is in place. Nevertheless, the proposed scheme would create substantial volumes of construction or waste disposal traffic on some major roads in the north of the City during construction.

Finally, a major adverse effect would be experienced due to landtake from a portion of a proposed Natural Heritage Area at the Tolka estuary. It should be noted that this effect is attributed to its infringement of the nature conservation policy, rather than a reflection of the extent of habitat removed.

1.9 Conclusions

In conclusion, the proposed scheme would bring about significant benefits for the country through securing the recent improvements achieved in external trade, and facilitating future growth in trade through Dublin Port without restrictions imposed by traffic congestion. The entire City would also benefit through the contribution of the proposed scheme to the DTI Strategy and the regeneration of the proposed Docklands Development Area.

It is not all without adverse consequences, and attention is required to address the issues associated with increased traffic crossing of the River Liffey.

In order to make the short-term construction disturbance tolerable, and to gain the overall benefits for the nation, City and local residents alike, it is essential that an appropriate Construction Code of Practice is prepared and enforced to ensure that disturbance is limited to that forecast in this EIS. It is also essential that there are mechanisms in place to ensure that the contractor fulfils his environmental obligations. This can be achieved by placing contract obligations on the contractor to monitor and publicly report appropriate issues, which would be supported by normal legal enforcement measures as necessary.

Overall, the Dublin Port Tunnel would provide an essential element of the infrastructure required to ensure that the necessary economic growth of the Dublin region can be sustained through effective and efficient movement of goods and people through Dublin Port, without causing unacceptable environmental effects to the City and its inhabitants. Also, as an essential component of the DTI Strategy, it would release the necessary road space to allow the implementation of a range of public transport and amenity measures such as QBCs, LRT, pedestrianisation and traffic calming in residential areas.