



Dublin Light Rail

Environmental Impact Statement

Line B1

Sandyford Industrial Estate
to Cherrywood

Volume 2

Non-Technical Summary

DUBLIN LIGHT RAIL

ENVIRONMENTAL IMPACT STATEMENT

LINE B1 SANDYFORD INDUSTRIAL ESTATE TO CHERRYWOOD

VOLUME 2

CHAPTER 9

NON-TECHNICAL SUMMARY

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INTRODUCTION

This is the Non Technical Summary of the Environmental Impact Statement (EIS) relating to Line B1 of the Luas Dublin Light Rail Transit system. The preparation of the Non Technical Summary was co-ordinated by RPS McHugh Planning and Environment, Chartered Town Planners, Development Consultants.

The purpose of the Non Technical Summary is to explain to the public in non technical language all of the likely and significant environmental effects arising from this project. The Non Technical Summary explains

The Background to Luas

Luas Line B1 - Alternative Routes

Luas Line B1

Public Consultation

Luas Line B1 construction phase – how, where and when?

Operation of Luas Line B1

Luas Stops

Who and what will be affected by Luas Line B1? - likely and significant environmental impacts

Interactions

The Environmental Impact Statement is being published in two separate Volumes:-

Volume 1 Chapters 1, 2, 3, 4, 5, 6, and 8

Volume 2 Chapter 7 (Environmental Impact-Areas 13 to 15) and Chapter 9 (EIS Non Technical Summary)

There are nine Chapters in the Environmental Impact Statement :-

Chapter 1 Introduction

Chapter 2 Public Consultation

Chapter 3 Consideration of Alternatives Luas Line B1

Chapter 4 Description of the proposed Luas Line B1 Alignment

Chapter 5 Aspects of the Environment considered

Chapter 6 Interactions

Chapter 7 Environmental Impact - Areas 13 to 15

Chapter 8 Difficulties encountered in compiling this EIS

Chapter 9 Non-Technical Summary

AVAILABILITY OF THE ENVIRONMENTAL IMPACT STATEMENT

Copies of the Environmental Impact Statement including the Non Technical Summary may be purchased by any member of the public during normal office hours at the following locations:-

- Railway Procurement Agency (RPA) Parkgate Street, Dublin 8
- Dublin Transportation Office (DTO), Hainault House, 69-71 St. Stephen's Green, Dublin 2.

The EIS may be purchased as a complete document for a sum of €50.00 (Volumes 1, 2 and 3).

Alternatively, reports on each of the three individual Areas discussed in Chapter 7 (Volume 2) of the EIS dealing with particular areas and topics may be purchased individually for a sum of €10.00 each.

Copies of Volume 1 may be purchased for €30.00 each.

Copies of the Non-Technical Summary (Volume 3) of this EIS may be purchased at the above locations for a sum of €3.00 each.

A CD version of the whole EIS (Vol 1; Vol 2 Area 13, 14 and 15 and NTS) for €5.

This EIS is also available to download through the RPA website at www.rpa.ie



ENVIRONMENTAL IMPACT STATEMENT

STUDY TEAM

The Environmental Impact Statement was prepared on behalf of the Railway Procurement Agency (RPA) by a study team led by RPS McHugh Planning and Environment, who were responsible for the overall study management and co-ordination as well as for Land Use Planning and Development, Demography and Employment, Property, Local History and Interactions. The other members of the study team are as follows:

Flora and fauna

Eleanor Mayes, ecological consultant,

Vehicular and pedestrian traffic and safety

Railway Procurement Agency (RPA),

Soil and water

T.J. O'Connor & Associates, consulting engineers,

Public utilities

Railway Procurement Agency (RPA),

Electromagnetic aspects

Mott McDonald, consulting engineers,

Air (noise and vibration)

Eanna O'Kelly and Associates, consultant acoustic engineers,

Climate (air quality)

Envirocon Ltd., environmental consultants,

The landscape, buildings of artistic, historical and architectural merit

Mitchell and Associates, landscape architects,

J.M. McConville, consultant arborists,

Arc Digital Photographic Ltd.

Lighting

J.V. Tierney & Co., consulting engineers,

Archaeology

Margaret Gowen & Co. Ltd., archaeological project management,

The public consultation process

Railway Procurement Agency (RPA)

Graphic design and photomontages

Arc Digital Photographic Ltd.,

Railway Procurement Agency (RPA)

THE BACKGROUND TO LUAS

The concept of Light Rail Transit (LRT) for Dublin is in accordance with the Government policy that all development should take place in a sustainable manner. The continued economic growth and competitive position of Dublin, in a national and international context, depends on the success of transportation and communications strategies to encourage and maintain growth, while preserving and improving the quality of life. National and urban transportation policy must achieve the following:-

- Reduce environmental impact
- Maximise transport efficiency
- Preserve the natural environment by minimising emissions
- Manage land-use issues to address infrastructural impacts
- Enhance social and quality of life indicators

The European Union and its policies are an important factor in national strategic development and it is critical that national policy be compatible with EU policy. It is the policy of the EU, particularly in an urban context, to design and organise urban living around sustainable modes of transport; promoting inter modality and the use of best practice.

The concept of LRT is also compatible with the EU policy of achieving a better balance in the usage of different transport modes in the city. Member states supported by the EU are required to provide high quality, attractive public transport modes as an alternative to the private car for travel in an urban context.

The Dublin Transportation Initiative (DTI) Final Report of 1994 recommended that a three line Light Rail Transit system would form the core public transport element of a multi-mode transportation strategy for Dublin. The recommended LRT system involved the provision of modern tramways operating overground between Tallaght, Ballymun and Dundrum via the city centre. The three line LRT system was shown to have a sound economic and financial basis and was judged to make a significant contribution to the attainment of DTI strategic transportation and related land use objectives. The methodology included an assessment of the performance of the proposal under various land-use scenarios, including some options that were less than optimal.

One of the key recommendations of the DTI Final Report was that the DTI Strategy should form the first phase of an ongoing transportation planning process. The Dublin Transportation Office was set up in 1995 to carry out that transportation planning process. The 'Platform for Change' Document, published by the DTO, notes that growth to date has far exceeded the projections in the 1995 DTI strategy. The consequence of this higher than expected growth is that Dublin faces a rapidly increasing demand for travel.

Luas Green Line (Line B) commenced operation in June 2004 and operates between St. Stephen's Green and Sandyford Industrial Estate. Luas Red Line (Line A) commenced operation in September 2004 and operates between Connolly Station and Tallaght. Both of these lines can be broadly considered a success in terms of the level of usage and general passenger satisfaction with the service. The proposed Luas Line B1 extension, and the eventual upgrade of the Green Line to a metro, form part of the DTO strategy aimed at servicing increased travel demand.

The proposed Line B1 alignment will run from the Sandyford Stop at the north-eastern corner of the Sandyford Industrial Estate, across the lands at Central Park and the South Eastern Motorway (SEM), before following the alignment of the planned Murphystown Parallel Access Road and Ballyogan Road, crossing the SEM and running along the former Harcourt Street Railway alignment at Carrickmines. At Brennanstown, it runs through lands at Laughanstown, and beyond to Cherrywood and Bride's Glen.



Proposed Luas Line B1 Stop at Leopardstown Valley

LUAS LINE B1 - ALTERNATIVE ROUTES

In 1999 Peter Bacon and Associates in association with McHugh Consultants and Steer Davies Gleave prepared An Economic and Planning Assessment of an Extension of Luas Line B (Luas Green Line) from the Luas Sandyford Stop at Brewery Road to Cherrywood on behalf of Dun Laoghaire Rathdown Chamber of Commerce. That report examined the feasibility of an extension of the Luas Green Line from Sandyford Industrial Estate to Cherrywood. The study also examined the case for a subsequent further extension to Shankill to link with the existing DART line. This report was prepared in conjunction with the Dublin Transportation Office. The Report concluded that private funding for the project would be required and that the Stepside alignment would provide access to potentially greater resident and working populations than would the former Harcourt Street Railway alignment. The Stepside alignment would contribute to realising the socio-economic development potential of the area and facilitate the achievement of planning and development policies and objectives of the Dun Laoghaire Rathdown County Development Plan.

The Report also confirmed that there is considerable scope for establishing a public private partnership to enable the project to proceed in the short term without imposing any significant financial constraints on Government that might inhibit or detract from other prioritised extensions of the Luas system. Following on from this, a consortium of private developers, which subsequently formed into a company called Rathdown Light Rail Ltd. (RLRL) commissioned the then Light Rail Project Office of CIE (now RPA) to carry out a study to further examine the feasibility of extending the Luas Green Line to Cherrywood. In identifying route options for consideration, regard was had to:-

- previous work - in particular that carried out by the Dublin Transportation Office (DTO), Dun Laoghaire Rathdown County Council and by Bacon & Associates in association with Steer Davies Gleeve and McHugh Consultants on behalf of the Dun Laoghaire Rathdown Chamber of Commerce;
- relevant statutory plans, strategies and policies, taking account of established objectives, existing and proposed developments ;
- observations from on-site inspections;
- the likely significant environmental effects of each alternative;
- comments received during the public consultation exercise initiated in November 2000.

As part of this study a detailed analysis was carried out to determine the optimum routing and design options for such an extension, based on the following assessment criteria:

- engineering feasibility and safety;
- likely effect on communities, the natural environment and the built environment;
- socio-economic return;
- compatibility with the Development Plans of DLRCC and the plans, strategies and policies of other relevant agencies;
- views expressed by other interested parties during the public consultation phase.

Two broad route alignment options were considered as follows:-

Option A: Via the alignment of the former Harcourt Street Railway

This route runs from the Luas Sandyford Stop of the existing Green Line, crossing Brewery and Leopardstown Roads by means of at-grade signalised crossings. The alignment then runs adjacent to sports grounds and the rear gardens of properties on Torquay Road, before crossing the vicinity of the Westminster Road entrance to the Leopardstown Racecourse. It follows the alignment of the former Harcourt Railway through Carrickmines, Brennanstown and Laughanstown and terminates at the proposed Town Centre in Cherrywood. The section from Carrickmines to Cherrywood is common to both options and will generally follow the line of the planned Cherrywood Spine Road, connecting the SEM Carrickmines Interchange and Cherrywood.

Option B: Via Ballyogan Road (Stepaside Alignment)

This route runs along Blackthorn Avenue from the existing Sandyford Stop and along Blackthorn Avenue and Burton Hall Road to the Leopardstown Road/Brewery Road roundabout. Crossing the roundabout, the route runs along the south-eastern boundary between the lands of Central Park and the Leopardstown Park Hospital. This route crosses the SEM and the Leopardstown Valley by means of an overbridge before linking to Murphystown Road. It requires the demolition of *Clonlea House*, a Protected Structure. It follows the line of the planned Murphystown Parallel Access Road and links to the northern side of Ballyogan Road. This road will require to be re-aligned to the south to facilitate the insertion of the Luas Line B1 alignment. From Ballyogan Road, the route re-crosses the route of the SEM by means of an overbridge, and joins the alignment of the former Harcourt Street Railway, at a point to the west of Glenamuck Road. It generally follows this alignment through Brennanstown and Laughanstown to the proposed new urban centre at Cherrywood, as detailed for Option A.

At a number of points along Option B, a number of Sub-options were considered, as detailed below:-

Sandyford Depot to Central Park:-

- via Brewery Road
- via Blackthorn Avenue/Burton Hall Road
- via Leopardstown Road
- via Burton Hall Cul-de-Sac

It was resolved that the most appropriate option for the Luas Line B1 alignment from the existing Luas Sandyford Stop to Central Park was via a ramp along the southern side of Burton Hall Road rising to a bridge over the Leopardstown Road/Brewery Road roundabout.

Crossing the M50 from Central Park to Murphystown Road:-

- via Tunnel
- via Bridge

It was resolved that a bridge option was the preferred option.

Ballyogan Road:-

- along the Northern side
- along the Southern side

Sub-Option 1 was selected on the basis that it avoided the two at grade crossings of Ballyogan Road and that the south side of the roadway is due to be developed as per the Dun Laoghaire Rathdown County Development Plan. This effectively negated the initial advantage of the routing at the south side. Also, it was decided in conjunction with Dun Laoghaire Rathdown County Council, to incorporate the upgrading of Ballyogan Road into the B1 project in order to avoid duplication of costs which would arise if both projects proceeded independently.

LUAS LINE B1



Luas Line B1 commences from the existing Sandyford stop on Blackthorn Avenue. This area comprises a public transport interchange, which facilities for bus and taxi setdown/take-off, as well as a "kiss and ride" pull-in area. Three additional sidings are proposed at the existing Sandyford Depot on the reservoir side.

The Luas Line B1 alignment follows the southward curve of Blackthorn Avenue along its eastern side and crosses Burton Hall Road at grade before ascending a ramp along the southern side of this road. This ramp leads to a bridge over the Leopardstown Road/Brewery Road roundabout and continues in a southerly direction to generally follow a reservation along the south-eastern boundary between the lands of Central Park and the lands of the Leopardstown Park Hospital to the south. A stop is planned adjacent to the permitted extension of Central Park.

The Luas Line B1 alignment then ascends a ramp and links to a planned bridge over the SEM and the Leopardstown Valley. It continues southwards and passes across the entrance to "Glencairn". The Line links to the eastern side of the alignment of the planned Murphystown Parallel Access Road. A stop is to be located on the existing property of "Clonlea House" a Protected Structure. This dwelling is required to be demolished to facilitate the planned Luas Line B1, as well as the planned construction of the Murphystown Parallel Access Road, to be undertaken by Dun Laoghaire-Rathdown County Council.



The B1 alignment follows the reservation of the planned Murphystown Parallel Access Road, and links to the northern side of Ballyogan Road. This will require the upgrading and realignment of this road. A stop is proposed to be provided in the vicinity of Glencairn Crescent. The alignment follows Ballyogan Road and enters a grassed reservation along the southern edge of the Leopardstown Valley (Glenbourne) residential development. A stop and bus interchange is proposed to be located immediately to the south of the Leopardstown Valley Neighbourhood Centre.

Luas Line B1 continues eastwards along the northern side of Ballyogan Road. A stop is proposed to be located immediately adjacent to the Ballyogan Wood housing scheme. Beyond this stop, the Luas Line B1 alignment rises on an embankment and links to a bridge over the SEM. On the far side of the Motorway reservation, the alignment descends and links to the alignment of the former Harcourt Street Railway at a point immediately to the south of the houses of Brighton Court. A stop is to be provided in this area, intended to facilitate access to Leopardstown Racecourse on event days.



The B1 alignment continues eastwards and passes under the Glenamuck Road bridge, which is to be upgraded, before passing through the property of the former Carrickmines Station House, a Protected Structure. A stop will be located to the south of the existing Brennanstown Vale residential scheme. A 350 space Park and Ride facility and bus interchange will be constructed adjacent to this stop on lands to the south of the alignment at Priorsland on the eastern side of Glenamuck Road.

Luas Line B1 follows the alignment of the former Harcourt Street Railway through

Carrickmines Wood and into the townland of Laughanstown. A Luas stop will be located at a point to the north of the planned Cherrywood Spine Road and to the east of the existing Brennanstown Vale residential scheme.

It crosses the alignment of the planned Cherrywood Spine Road by means of a grade-separated underpass. A stop will be located at the eastern side of Laughanstown Lane. A pedestrian access will link to the planned Cherrywood spine road.

Luas Line B1 then follows the southern side of the planned Cherrywood Spine Road across the lands of Laughanstown. A stop will be located in the proposed plaza area of the planned District Centre at Cherrywood. The Luas Line B1 then continues southeast over the Wyattville Link Road into the Science and Technology Park at Cherrywood. From a point to the east of Laughanstown Lane the alignment will be elevated over existing ground level in the form of a viaduct structure to cross the Wyattville Link Road with necessary clearance. The Luas Line B1 terminates with a stop to the south of the existing Science and Technology Park.

Luas Line B1 will involve the construction of approximately 7.6km of light railway between Sandyford Industrial Estate and Cherrywood, including double track, tram stops, associated structures, and an overhead electricity supply system which will power the Luas system. The standard European track gauge will be used, which is the same as that used for the existing Luas Green and Red Lines. Apart from where it crosses a number of residential estate entrance roads at grade, and at Laughanstown Lane, the Luas Line B1 alignment will run off-street, or on reserved lands, dedicated overbridges and underpasses, as well as along the alignment of the former Harcourt Street Railway.

Power supply to the tram is from overhead wires, allowing adequate clearance for general traffic including delivery vehicles. The overhead electricity wires will be supported by poles.

The trams will be 40 metres in length with flexibility to allow the future insertion of an additional section. The trams will have a low floor height to provide access to all customers including persons with a mobility impairment. The normal carrying capacity of a tram is about 310 persons.

General service frequency is initially proposed to be at 5 minute intervals during peak hours in the morning and evening rush hours and 12-15 minute intervals outside these times. Trams will operate seven days a week from early morning to late at night. The approximate journey time will be 19 minutes from Brides Glen to Sandyford stop and 41 minutes in total from Brides Glen to St. Stephen's Green.

The Luas stops are designed as low platforms on either side of the rail track. Platforms will have a typical height of about 300 mm above street level and there will be ramps facilitating easy access for all passengers.



PUBLIC CONSULTATION

Public consultation was initiated in November 2000, by means of the distribution of a newsletter to all addresses in the vicinity of the route options for the Luas Line B1 alignment which had been identified following preliminary assessment. Newspaper notices were published in the national and local press. The newsletter and newspaper notices included facility for recipients and readers to forward comments to the Light Rail Project Office. A significant number of letters and e-mails were received from interested parties.

Round-table meetings and public meetings were held with Residents Associations and other Interest Groups, in both the immediate and wider vicinities of the various alignment options. Discussions also took place with all of the owners of residences which may have to be acquired to facilitate the planned alignment.

A second newsletter, dated March 2001, was issued advising of the route options and variants which remained under examination at that point in time. The variants referred to emerged during the course of public consultation.

Consultation feedback on the variants:-

Preference for Ballyogan Road routing

Most respondents who expressed a preference for the Ballyogan Road routing option reside in the vicinity of Ballyogan Road. The main reasons cited to support their expressed preference were the poor level of existing public transport available in this area and the need for a high quality public transport facility to serve existing and future developments. Other reasons cited in preference of Ballyogan Road included the greater relative catchment density. A number also suggested that a routing along the alignment of the former railway would lead to severe pressure on the road system in its vicinity, as intending passengers would drive or would have to be driven to Luas stops from locations outside the walking catchment.

Preference for routing on the alignment of the former Harcourt Street Railway

Most respondents who expressed a preference for a routing along the alignment of the former Harcourt Street Railway reside in the vicinity of this alignment. The reasons cited in support of an HSR routing included lower capital cost, more direct alignment, perceived avoidance of requirement for road space, nostalgia, and personal convenience. There is also a clear perception of a need for bus feeder services and park and ride facilities to allow passengers from locations outside the walking catchment to avail of the Luas Line B1 alignment. Correspondence indicating a preference for this alignment has also been received from Bray UDC, Wicklow County Council and the Seaview Residents' Association (Shankill) who are interested in the provision of services to areas to the east of Cherrywood.

Other suggestions included routing along the South-Eastern Motorway, development of both route options, and an extension to Cherrywood via the alignment of the former Harcourt Street Railway and a "spur" from Cherrywood to Ballyogan.

The key issues raised in relation to the proposals included:-

- visual impact,
- noise impact,
- acquisition of property,
- boundary treatment,
- park and ride facilities, and.
- pedestrian access to stops, and
- anti-social behaviour
- traffic and safety concerns

In December 2004, the RPA organised a public open-day to update members of the public in relation to the status of plans for the line. The open-day was held in County Hall Dun Laoghaire and was very well attended and members of the RPA were on hand to discuss any issues raised by attendees.

At each and every step of the consultation process it was made clear that the RPA was ready and willing to consult with interested parties in an open and professional manner. The process of consultation is ongoing and has served to confirm the generally positive acceptance and enthusiasm for the establishment of Luas Line B1 and the Luas in general.



Luas Line B1 Glenacairn Stop

LUAS LINE B1 CONSTRUCTION PHASE

HOW, WHERE AND WHEN?

Luas Line B1 will be built over a period of approximately 38 months. Construction will be carefully organised and managed in order to accommodate day-to-day life as it proceeds, and to retain local access to residences and premises. The manner and timing of local access will be agreed with the Local Authority prior to construction commencing and will be carefully monitored on a day-to-day basis.

The preferred and re-alignment of Ballyogan Road will be required to occur prior to the Luas engineering works in this area. It is proposed to construct the Luas Line B1 alignment in sections. The construction of related structures will also be carefully organised and managed.

There will be a number of temporary construction compounds and assembly areas connected with the construction of the Luas Line B1 alignment. The following locations have been identified for compounds:-

Existing Sandyford Luas Depot area

Burton Hall Road, Southern Side

South of the SEM in the vicinity of Central Park

North of the SEM in the vicinity of the planned Leopardstown Luas Bridge

North of Murphystown Road, in the vicinity of Glencairn

East of Murphystown Road, south of Glencairn

East of the public playing fields on the northern side of Ballyogan Road

East of the Luas Line B1 alignment at Carrickmines, north of the SEM

In the vicinity of the grade-separated intersection of the Luas Line B1 alignment with the Cherrywood Spine Road, to the west of Laughanstown Lane

OPERATION OF LUAS LINE B1

Luas Line B1 will provide an attractive alternative to the private car. The service will be complemented by traffic management and traffic reduction schemes along the route, particularly in the area of Sandyford Industrial Estate.

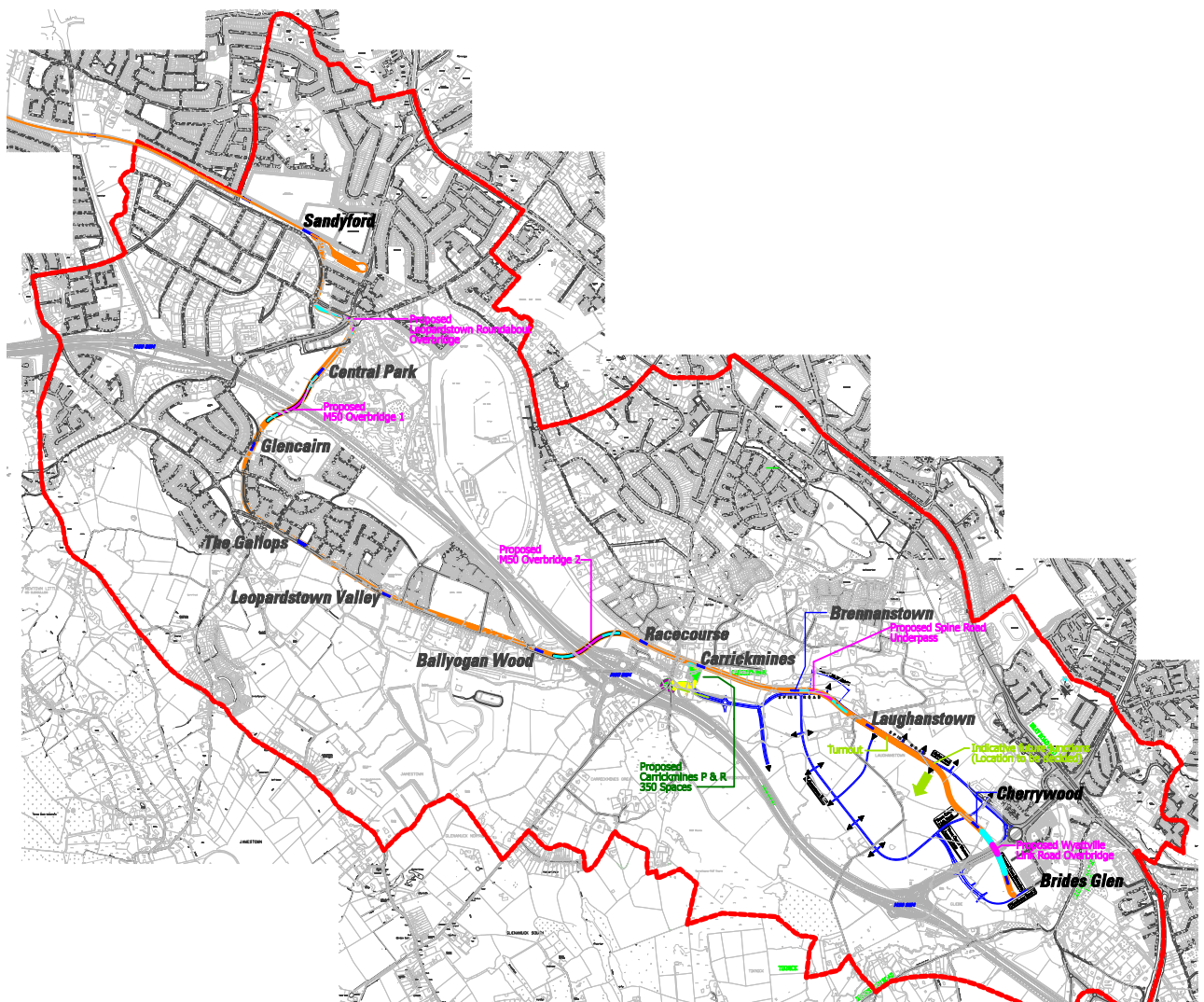
The preferred route makes the most use of existing public transport reservations. It will be easily integrated with surrounding land use and will provide an attractive new urban transport service. It will serve the large employment centres of the Sandyford and Stillorgan Industrial Estates, Central Park, the IDA South County Business Park, planned new employment related development at Stepside/Carrickmines as well as the expanding Science and Technology Park at Cherrywood. It will also serve the existing and planned new residential areas of Sandyford, Leopardstown, Stepside, Carrickmines and Cherrywood. Luas Line B1 has also been designed to facilitate easy interchange with other modes of transport, in particular buses and private cars.



LINKS TO OTHER TRANSPORTATION SERVICES

It is proposed to develop a Park & Ride facility at Carrickmines in order to attract significant numbers of motorists away from their cars on to Luas Line B1. At the existing Sandyford Stop, a bus interchange and taxi rank, as well as a "kiss and ride" set-down area, are provided. Bus interchange facilities will also be provided at Ballyogan Road.

The Luas makes a clear statement about the future role of public transport in the DTO area. Two Luas lines are currently in operation; comprising the Luas Green Line connecting Sandyford with St. Stephen's Green and the Luas Red Line connecting Tallaght with Connolly Station. Luas connects with other modes of transport, such as buses, coaches and trains. The majority of tram stops are served by a nearby Dublin Bus Stop. Irish Rail services at Heuston Station and Connolly Station are also readily accessible to passengers on the Luas Red Line.



LUAS STOPS

There are 11 stops proposed along the Luas Line B1 alignment, as follows:-

Central Park

Glencairn

The Gallops

Leopardstown Valley

Ballyogan Wood

Racecourse (a stop intended for use on event days at Leopardstown Racecourse)

Carrickmines

Brennanstown

Laughanstown

Cherrywood

Bride's Glen



WHO AND WHAT WILL BE AFFECTED BY LUAS LINE B1 ?

LIKELY AND SIGNIFICANT ENVIRONMENTAL IMPACTS



Population and Employment Impacts

The total population living within convenient walking distance of the Luas stops along the Line B1 alignment is currently some 32,367 persons according to the 2002 Census of Population. Dun Laoghaire-Rathdown County Development Plan 2004-2010 estimates that over the next 8-10 years some 4,000-5,000 new housing units will be constructed within the Stepside Area. In addition the Plan estimates that some 20,000 new residents will be facilitated in the Cherrywood/Rathmichael area. In addition, approximately 20,000 people are currently employed in the Stillorgan Business Park, Sandyford Industrial Estate and IDA South County Business Park. There is still capacity in Sandyford Industrial Estate to facilitate significant further development. The County Development Plan estimates that the future employment population at Cherrywood will amount to some 10,000 persons.

Construction works will generate employment opportunities for both the local and regional labour forces. There will be no direct impact on household size and composition during the construction of the Luas Line B1 alignment. Because the alignment is off-street for virtually all of the route, disturbance will be localised and limited to bridgeworks and areas where the alignment crosses, or runs alongside the existing road network. Disturbance will also be experienced during the upgrading and re-alignment works to Ballyogan Road.

No likely and significant impact on overall size, age profile or average household size is predicted as a direct consequence of the operation of Luas Line B1. However, an increase in population is planned to occur over time as extensive lands in this area are developed for residential and employment use. It is likely that Luas Line B1 will facilitate some shift away from the use of private to public transport. However, car ownership rates amongst the resident population are not expected to change significantly.

Land Use Planning and Development Impacts

There will be some local short term and temporary significant impacts on land uses adjoining Luas Line B1 during the construction process, both due to the construction of the alignment itself, and due to the associated upgrading and re-alignment of Ballyogan Road. However, the proposed Luas Line B1 will comply with the objectives of the Dun Laoghaire-Rathdown County Development Plan 2004-2010, the earlier Stepside Action Plan 2000, the Draft Carrickmines-Cherrywood Action Plan, and the DTO Strategy 2000-2016 to provide a light rail link between Sandyford Industrial Estate and Cherrywood. It will provide a significant benefit for existing and planned new residential and employment land uses along its route.

Vehicular and Pedestrian Traffic and Safety Impacts

Neither the construction nor the operation of Luas Line B1 will have a significant impact on vehicular or pedestrian traffic and safety since the alignment is primarily off-street, except for the limited number of at-grade road crossings proposed.

Facilities for pedestrians will be enhanced through the provision of controlled crossings at all at-grade junction crossings of the Luas Line B1 alignment. The cycling environment will also benefit as a result of the delivery of Luas Line B1, through the provision of cycle parking facilities at stop locations and the provision of cycle tracks on the upgraded and realigned Ballyogan Road. In addition, the provision of bus interchanges at the Ballyogan and Carrickmines stops, in addition to the existing Sandyford stop will provide interchange between bus and Luas modes.

Community Severance Impacts

During the construction phase, there will be short-term disruption to local pedestrian and vehicle flow near parts of the Luas Line B1 alignment. However, the introduction of appropriate management measures, including new footpaths along Ballyogan Road and Blackthorn Avenue, combined with the temporary nature of the construction works will result in a slight severance impact.

Flora and Fauna Impacts

Impacts on flora and fauna, arising from Luas Line B1 are assessed as locally significant in places over the short term. Replacement planting will reduce the significant impact predicted during the construction phase to moderate in the medium term and slight in the long term, as replacement tree and hedgerow cover matures.

Soil Impacts

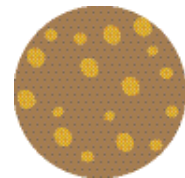
No likely or significant impacts are predicted during the construction phase or during the operational phase. During the construction phase of Luas Line B1 the contractor will be bound by the terms of the contract to exercise due care in the handling and disposal of any potentially contaminated material.

Water Impacts

Proper and strict site management practice will minimise the potential for any spillage of waste materials into watercourses. During the construction phase the contractor will be bound by the terms of the contract to exercise due care in the handling and disposal of any material which could contaminate the water environment.

Noise Impacts

During the construction phase, the predicted impact of noise varies from slight to significant. Any adverse noise will be short term and intermittent and for the most part will be similar to that which occurs during the laying and general maintenance works associated with public utilities and road works. Hours of construction work will be limited in order to minimise impact on residents. With the operation of Luas Line B1, the predicted noise impact varies from none to slight and moderate. The trams will incorporate noise control measures to minimise noise effects. It should also be noted that the existing noise environment along much of the route will alter with the provision of planned new development, particularly the opening of the SEM.



Vibration Impacts

During the construction phase some vibration impacts will arise. However the scale of these will vary from negligible to slight/moderate. During the operation of the Luas Line B1 alignment there will be a neutral impact related to vibration. Overall, a negligible vibrational impact is predicted.

Lighting Impacts

The potential night-time lighting of the construction compounds and assembly areas may have a temporary impact, though this is not predicted to be significant. The proposal will not have any significant adverse impact on natural lighting along the route. Future planned new development along the route will introduce a new public lighting source to the local environment. It is anticipated that persons will quickly become accustomed to infrequent flashing and sparking from the Luas overhead lines, such that its limited intrusion will not constitute an adverse impact of any significance.

Electromagnetic Impacts

Electromagnetic impacts relate to potential for interference with electrical equipment of one type or another and also the escape of stray electrical current from the electric wiring system used to operate the trams. Suitable measures will be incorporated in the design of the trams, rails and the electrical apparatus to ensure that the relevant EU standards are adhered to. When this is implemented, no significant adverse impacts are expected from the electromagnetic effects of the project.

Air Quality

The construction phase along any part of the Luas Line B1 alignment will be temporary, and proper site management will effectively control such emissions so they do not result in a local air quality nuisance, either from dust or gaseous emissions. Any impact on air quality in terms of dust deposition rates and airborne particulates will vary from neutral to slight.

Landscape Impacts

Construction activities associated with Luas will be temporary in nature and relatively localised. Such impacts are a common feature of the urban/suburban landscape and are not considered to be significant in landscape terms. The insertion of the Luas alignment will have locally significant impacts, particularly from Laughanstown to Cherrywood, which is a largely open landscape setting at present. This area will however be profoundly altered by substantial development planned for these zoned lands. Elsewhere the proposed alignment and associated works will yield positive impacts, particularly as landscape planting matures along the route. Co-ordinated design of all Luas stops, substations and associated structures will generally yield positive impacts. All of these elements will provide a coherent and well designed built environment along the corridor. In time the overall impact of the Luas Line B1 alignment on landscape will be positive.

Visual Impacts

The visual impacts of Luas Line B1 are likely to be significant in places from Sandyford stop to Bride's Glen. These impacts will generally be negative during the construction phase and neutral or positive during the operational phase.



The insertion of the Luas Line B1 alignment will have a significant impact of the receiving environment, due to the removal of a large number of mature trees and recently planted areas. Replanting, and the re-location of existing young trees will reduce the intensity of such impact. The design of overbridges including the viaduct at Cherrywood will be sensitively designed to mitigate the visual impact. The changing context of the receiving environment at Cherrywood and elsewhere along the route where substantial new development is planned, will further mitigate and absorb the visual impact of Luas Line B1.

Public Utilities Impacts

In order to build and operate Luas Line B1, it will first be necessary to relocate underground public utilities including gas, water, drainage, electricity, telecommunications etc. to ensure that there is no significant subsequent disturbance to the trackbed during its operation. This will require diverting existing services outside the alignment before construction of the track can commence. No likely and significant impact on public utilities is expected during the construction or operational phase of Luas Line B1.



Property Impacts

Acquisition of property will be required in places to accommodate the Luas Line B1 alignment, the associated stops and sub-stations, and the necessary re-alignment of Ballyogan Road. The construction of the line will require the demolition of the garage of No. 27 Woodford, the front boundary to Glencairn (a Protected Structure) the dwelling and other buildings of Clonlea House on Murphystown Road (a Protected Structure), and the rear extension of the former Carrickmines Station House (also a Protected Structure). Where demolition occurs, this will result in a significant or profound local adverse impact. Otherwise there will be a slight impact in terms of property. Where property is acquired, compensation will be payable to property owners. Overall, the operation of Luas Line B1 will consolidate the attractiveness of property in the area and will strengthen the overall property market in the vicinity. Existing properties will benefit from their location along the alignment of a new high quality public transport system.

Local History Impacts

The Luas Line B1 alignment is not expected to have any significant adverse impacts on Local History during either the construction or operational phases.

Impacts on Architectural Heritage

The construction of Luas Line B1 along the alignment of the former Harcourt Street Railway will result in a significant and positive impact on architectural heritage. Luas Line B1 will also have a direct impact on the western boundary of Leopardstown Park Hospital, the front boundary of Glencairn, Clonlea House, the bridge at Glenamuck Road and the former Carrickmines Station House. The impact of Luas Line B1 works on these structures will range from profound and negative, to significant and positive.



Impacts on Archaeological Heritage

Given the archaeological background of the area and the results from previous excavations in this part of South County Dublin there is a definite possibility of archaeological material being uncovered on previously undisturbed ground.

Should such material be discovered in an area during the construction of Luas Line B1, a significant archaeological impact may result. All construction work in that area would have to cease and the area be fenced off. All archaeological issues will have to be resolved to the satisfaction of Duchas and the National Museum of Ireland. Significant test trenching has been carried out at sensitive locations under licence as part of this Environmental Impact Assessment.

No likely and significant impacts on archaeology are predicted during the operation stage of Luas.

INTERACTIONS

The DTI Final Report emphasised positive inter-relationships between land use and transportation. This is particularly applicable to Luas. The development and operation of Luas Line B1 from Sandyford Industrial Estate to Cherrywood, will generate a likely and significant interaction between the mobility and accessibility of the catchment population, and the land use and development trends along the route corridor. Specific interactions are identified as follows:-

Human Beings/The Landscape/Visual Issues

The Luas Line B1 alignment, together with its overhead lines and ancillary structures, including three bridges, will be observed by pedestrians and residents as they become accustomed to the new environment. Overall, there will be long term positive visual impacts resulting from environmental improvements associated with the Luas Line B1 alignment, and the maturing of remedial landscaping. Furthermore, the wider area of the alignment is planned to be significantly altered by major new development, and by the provision of new local, regional and National road infrastructure.

Flora/The Landscape/Human Beings

The removal of existing foliage and trees during construction of the Luas Line B1 alignment will interact with the landscape environment. The introduction of new planting where appropriate alongside the alignment and u along the planned Ballyogan Road alignment will help to establish a new landscape and flora.

Material Assets/Human Beings

The operation of the Luas Line B1 alignment will provide a new permanent public transport service for this suburban area, which is planned to accommodate a significant new resident and employment population. Luas will provide an efficient public transport alternative to the private car, and will link the area to the existing or planned employment areas of Sandyford/Leopardstown, Cherrywood and Dublin City Centre. This will achieve Statutory planning policy and objectives relating to public transport.

Material Assets/Flora/Fauna

The loss of vegetation necessary for the proposal will result in a loss of cover and habitat for insects, birds and mammals, and disturbance along the route which will reduce its use as a corridor for animal movement. New landscape planting, as well as the retention of a significant extent of existing flora in the area will ensure a slight overall impact in terms of interaction between material assets and flora and fauna.

Human Beings/Material Assets/Landscape

The construction of the Luas Line B1 alignment will run along a landscaped corridor, which is almost entirely segregated from the existing road infrastructure. This will ensure a minimum of conflict with existing and planned future vehicular or pedestrian traffic movement in the area.