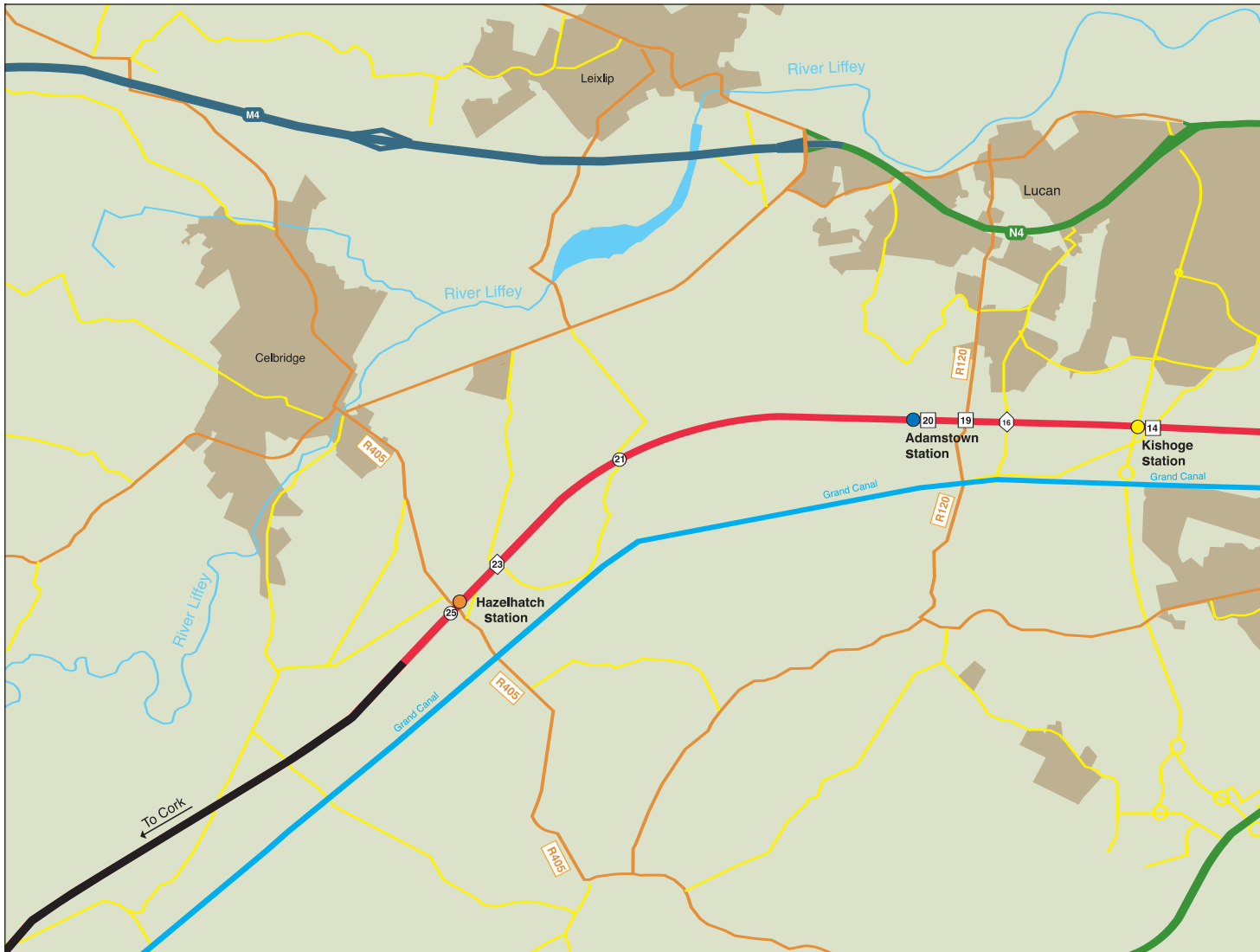


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Non technical summary

This is the non technical summary of the Environmental Impact Statement (EIS) relating to the Kildare Route Project or the KRP for short. The EIS is part of a Railway Order (RO) that will be submitted to the Minister of Transport. The RO will include drawings and maps of the proposals that form this application. The route and extent of the KRP is indicated in the map below.



The KRP is a railway improvement project for part of the Dublin to Hazelhatch railway line, proposed by Iarnród Éireann. The EIS describes the likely significant effects on the environment of the proposed railway works under the following headings :

- human beings;
- fauna and flora;
- soil (and geology);
- water;
- air;
- climate;
- landscape and visual assessment;
- material assets;
- cultural heritage;
- the inter relationship between the above factors;
- likely significant effects of the proposed railway works on the environment resulting from:-
 - the use of natural resources;
 - the emission of pollutants, the creation of nuisances and the elimination of waste;
- a description of methods used to assess effects on the environment; and
- an indication of difficulties encountered in compiling the EIS.

The purpose of the non technical summary is to explain in non technical language the likely and significant environmental affects arising from this project. The summary addresses the following:

- How is the Environmental Impact Statement structured?
- Where can copies of the Environmental Impact Statement be obtained?

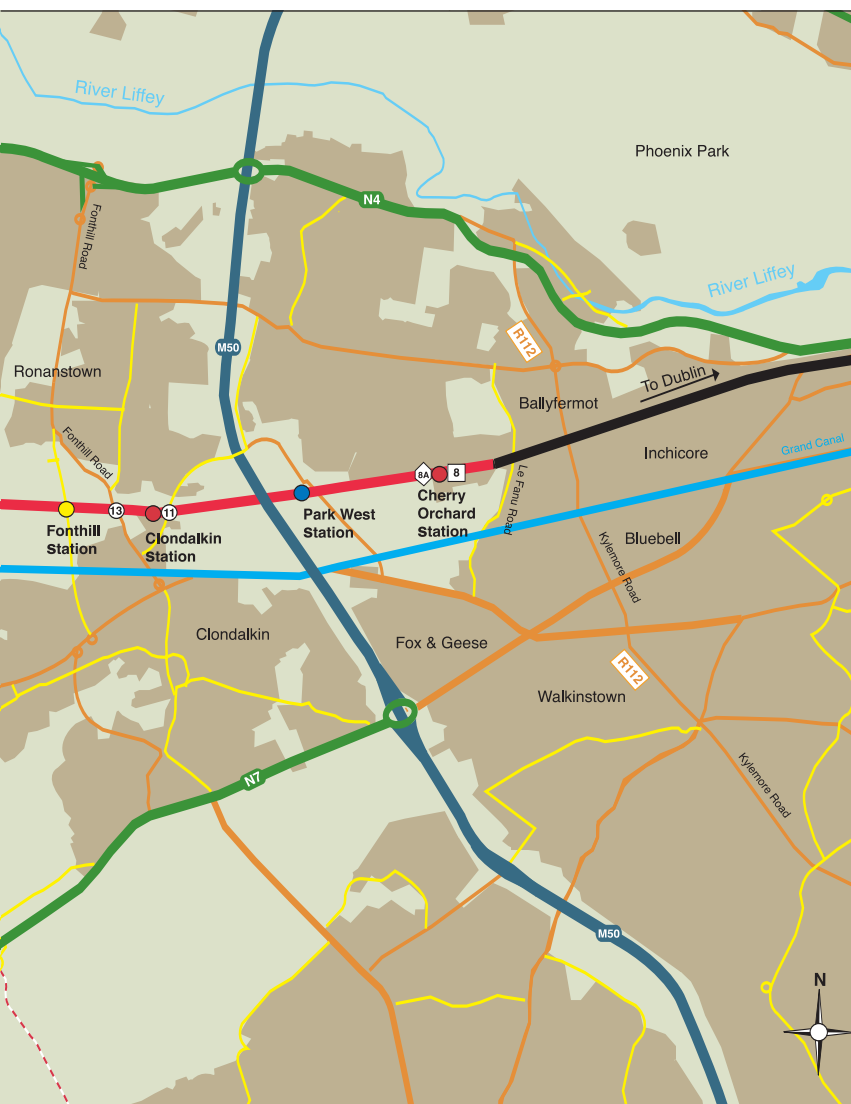


Figure 10.1

Proposed main works as part of the Kildare Route Project

Legend

- Existing station to be closed
- Station to be upgraded
- New station
- New station to be constructed with developer
- New Bridge to be constructed as a foot bridge
- Bridge to be removed
- Bridge to be demolished and new bridge constructed as a road bridge
- Existing 2 track arrangement
- New 4 track arrangement
- Motorway
- National Primary Roads
- Regional Roads
- Third Class Road
- - - Outer Ring Road (under construction)

- Who put together the Environmental Impact Statement?
- What is the Kildare Route Project?
- Why is the Kildare Route Project necessary?
- What aspects of the Kildare Route Project attracted comment?
- Where is the Kildare Route Project to be built?
- How will the Kildare Route Project operate when built?
- Who and what will be affected by the Kildare Route Project and how?
- When is the construction of the project scheduled to start and how long will this last? and
- How will the Kildare Route Project operate when built and what links will it have to other transportation services?

How is the Environmental Impact Statement structured?

There are ten chapters in the Environmental Impact Statement:

Chapter 1	Introduction
Chapter 2	Description of the proposed development
Chapter 3	Consideration of alternatives
Chapter 4	Planning and development context
Chapter 5	Public consultation
Chapter 6	Methodology and criteria for rating of impacts
Chapter 7	Aspects of the environment
Chapter 8	Interactions
Chapter 9	Difficulties encountered in compiling this EIS
Chapter 10	Non technical summary

The railway runs through the administrative areas of three different local authorities. These are Dublin City Council, South Dublin County Council and Kildare County Council. Detailed description of the effects of this project on the environment is contained in Chapter 7 of the EIS. Because of the amount of information provided, the Environmental Impact Statement is being published in four separate volumes as follows:

Volume 1 Chapters 1, 2, 3, 4, 5, 6, glossary and references;

Volume 2 Chapter 7 (Aspects of the environment considered and, Chapter 8 (Interactions), and Chapter 9 (Difficulties encountered in compiling this EIS);

Volume 3 Chapter 10 (Non technical summary); and

Volume 4 Appendices.

Where can copies of the Environmental Impact Statement be obtained?

Copies of this EIS including this non technical summary may be purchased by any member of the public during normal office hours at the following locations:

- CIE Head Office, Heuston Station, Dublin 8,
- Dublin Transportation Office, Floor 3, Hainault House, St. Stephen's Green, Dublin 2,
- Dublin City Council, Civic Offices, Wood Quay, Dublin 8,
- South Dublin County Council, Civic Offices, Tallaght, Dublin 20, and,
- Kildare County Council, St. Mary's, Naas, County Kildare.

The EIS will also be on display at other public venues to be advertised in the media. The EIS may be purchased as a complete document or in parts. If you wish to make a purchase contact the Iarnród Éireann helpline 1800 201 225 or log on to the website at www.irishrail.ie.

Who put together the Environmental Impact Statement?

The EIS and this non technical summary were prepared 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 socio-economic, statutory planning and land use planning inputs. The other members of the study team and their roles are detailed in Table 10.1 below.

EIS section	EIS consultant
Description of the proposed development; Nature and quantity of materials to be used; Alternatives considered.	RPS McHugh Planning & Environment and sub consultants Corus Rail Consultancy
Flora and fauna	Eleanor Mayes, Brian Keeley Ecological Consultants
Trees	JM McConville and Associates, Arborists
Air-Noise, Vibration Climate - Air quality Lighting Soil and geology (waste and contamination)	RPS Group Ltd,
Soil Water Public utilities	RPS MCOS
Visual impact assessment	Mitchell & Associates, Landscape Architects ARC Survey Photographic Ltd.
Traffic	MVA Traffic Consultants
Property	CRB Richard Ellis Gunne
Architectural Heritage	ARC Survey Photographic Ltd.
Archaeological Heritage	Margaret Gowen & Co., Ltd. Archaeological Project Management

Table 10.1 EIS Study team



What is the Kildare Route Project?

The Kildare Route Project (KRP) is a project that proposes physical improvements to a section of the main Dublin - Cork railway line, between Cherry Orchard (west of Le Fanu Road bridge) and a point 1km west of Hazelhatch station in order to provide. The KRP will improve the suburban railway service to be delivered by Iarnród Éireann along this section of the line.

The improvements include additional railway tracks to allow for the separation of suburban, regional and intercity trains and the introduction of a new intensive suburban service calling at new and existing stations between Heuston and Hazelhatch. The infrastructure will also allow for a more robust railway system with reliable performance. The KRP also includes associated station facilities and signalling improvements.

The existing railway line consists of two operational railway tracks, an 'eastbound' line that runs from the west of Hazelhatch to Dublin and a 'westbound' line that runs from Dublin to the west of Hazelhatch. To increase the level of train service between Dublin Heuston and Hazelhatch station it is proposed to build two additional tracks from a point close to Cherry Orchard railway station to a location just west of Hazelhatch station. These will be to the north of the existing tracks.

Once in place the two outside tracks will be for intercity and regional fast services, while the two inner two tracks are allocated for suburban services only. Thus intercity/regional and suburban services will run on separate lines within the same railway corridor.

As part of the KRP, Iarnród Éireann proposes to build a number of new suburban railway stations along this route and to upgrade the existing railway station at Hazelhatch to provide for additional platforms which can be used to turn around suburban trains. There are three existing train stations at Cherry Orchard, Clondalkin and Hazelhatch along the route.

It is proposed to relocate Cherry Orchard and Clondalkin stations to new railway stations at Park West, (which will also serve the Cherry Orchard area) and at Fonthill Road (which will serve the current Clondalkin station catchment). Park West station will be constructed in conjunction with a developer, and does not form part of the KRP. A further new station is proposed at Kishoge. This will serve the east Lucan catchment. A further new station is proposed to be constructed by developers at Adamstown, and does not form part of the KRP. Adamstown station will serve the west Lucan catchment.



Hazelhatch station

The existing railway station at Hazelhatch will be modified and upgraded, to enable increased numbers of passengers on the improved suburban and regional services. The existing and new railway stations will include, access for all (including persons with mobility impairment). This will apply to both exit and entrance requirements at each station. There will be a combination of footbridges, stairs and lifts at each station, sheltered passenger seating, toilet facilities, lighting, ticket machines, telephones and an emergency call point.

At present a number of the stations on this route between Kildare and Dublin are unmanned and there is a perception of them as unwelcoming. As part of the KRP it is proposed to man all stations. This will make them more inviting for passengers.

As part of the KRP, stations will incorporate cycle facilities and a bus interchange. The new station at Fonthill Road has been designed to facilitate the option of intercity trains stopping here. This station also has scope for further linkage with the proposed METRO system for Dublin.

During the morning and evening peak hours (which is the hours when people travel to and from work) the KRP will allow up to four suburban trains per hour, at a service frequency of around 15 minutes, at all stations from Hazelhatch eastwards (towards the city). The KRP will also enhance the reliability of trains along this route.

During the morning peak a further four regional service trains will start their journey to the west of Hazelhatch calling intermittently at stations between Kildare and Hazelhatch. A further four inter city trains will serve Heuston station during the peak hours.

Peak hour suburban trains will have a maximum capacity of 1,300 passengers per train (accommodated within eight carriages - 304 seated and 996 standing passengers). Outside of peak hours, services will operate by trains having between two and eight carriages. A two carriage train will have a maximum capacity of 325 passengers (76 seated and 249 standing). At present suburban trains operate with a maximum of four carriages.



The existing service is 17 suburban trains (including skip stopping services) per day in each direction with a total capacity of 11,050 suburban passengers in each direction. That service will be steadily increased during the operation of the KRP to a daily service of 28 suburban trains in each direction having a total potential capacity of 36,400 suburban passengers per day in each direction. Current service levels typically offer 43 trains per week day in each direction (this represents combined suburban and intercity services). This will rise to 94 trains on completion of the KRP (representing combined suburban, regional and intercity services). The KRP will also result in a reduction in travel times for intercity and regional trains along the railway corridor.

A number of road bridges over the railway line must be demolished and new bridges constructed to accommodate the new widened railway corridor. The locations where bridges will be demolished and new bridges constructed are at Cloverhill Road, Ninth Lock - Neilstown Road, Stacumny and Hazelhatch (two).

Some other bridges are to be removed. These include a private access bridge at Adamstown (South Lucan). The existing bridge on the Newcastle Road (near Adamstown) will also be removed once the Adamstown developers have constructed a replacement bridge. This new bridge on the Newcastle Road does not form part of the KRP. Two road bridges are to be replaced by footbridges; Hayden's Lane in South Lucan and the bridge immediately to the east of Hazelhatch station.

The KRP includes a new road layout at Hazelhatch to provide for of local traffic, which currently uses the bridge east of Hazelhatch. At Cherry Orchard a new footbridge over the railway will be provided to replace the current bridge.

Why is the Kildare Route Project necessary?

The National Development Plan for Ireland 2000 - 2006 contains a section about public transport in the Greater Dublin Area. The plan proposes to develop the suburban rail network in the Greater Dublin Area in order to provide a better service for the working and resident population of the area. The National Development Plan proposes linking Heuston Station and Connolly Station via a new underground railway line, which

would enable suburban services from Hazelhatch to run through to Connolly station, Spencer Dock and to link with the existing DART and LUAS lines. The National Development Plan also proposes to build two extra sets of railway tracks between Hazelhatch and Sallins in order to separate intercity and suburban railway services.

The Dublin Transportation Office (DTO) Strategy, which Final Report was published in November 2001 and is entitled “A Platform for Change”, puts forward various projects to improve public and private transport in the Greater Dublin Area. The overall strategy is based on the development of public transport. This includes improving suburban railway services to and from Dublin city. The DTO Strategy supports the upgrading of signalling on the Kildare railway line to allow a significant increase in the number of trains at peak hour periods in the morning and evening, lengthening of station platforms to allow 8 carriage Arrow trains to stop at existing stations and the separation of intercity from suburban railway services on the Kildare line. This will require the provision of two additional tracks to accommodate the increase in trains. The DTO Strategy also proposes a number of new railway stations on the Kildare line.

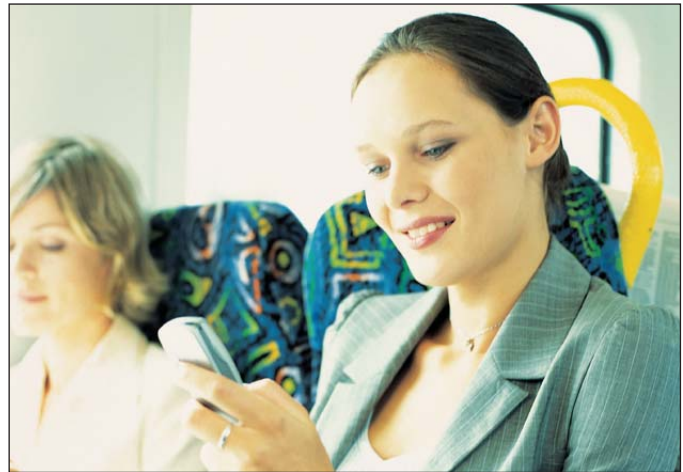
The KRP is consistent with the Platform for Change, which now constitutes Government policy in relation to improving railway services in the Greater Dublin Area, though it does not provide the complete upgrade envisaged for this railway line.

The DTO Strategy also proposes a number of other public transport improvements. For example it includes objectives for electrification of the railway from Heuston to Sallins for suburban services and for the construction of a city centre underground tunnel linking the Kildare line with the Docklands (known as the 'Interconnector'). This tunnel objective has progressed from the National Development Plan, in that an indicative alignment through the south city centre is now shown by the DTO. This will provide a link to the Docklands area. The important fact about KRP therefore, is that it marks the first stage of the upgrade in suburban services along the Kildare line and it has been designed to link, in due course, to these further DTO objectives.

What aspects of the Kildare Route Project have attracted comment? - Public Consultation

In July 2003 Iarnród Éireann appointed a Public Relations Manager (PRM) to develop and implement a public consultation strategy for the KRP. The objective of the strategy was to renew contact with all key stakeholders, to inform specific interest groups and the general public about the project, and to take account of views about the project that might arise during the Railway Order application process.

Iarnród Éireann established the Project Community Relations Unit at the project office and it was allocated a free phone number. This number appeared prominently on all project communications literature such as letters, brochures, newspaper advertisements, the Iarnród Éireann website, billboards and notices in stations, on display stands during public meetings and presentations, as well as on business cards throughout the public consultation period. Any project sub-contractors that were likely to come in contact with members of the public, landowners, etc. were asked to



distribute these cards so that persons with queries could contact the project office directly and free of charge.

The public consultation process formally began in October 2003 with a detailed presentation by the project manager to the management and public representatives of the three local authorities along the Dublin to Kildare railway corridor: Dublin City Council; South Dublin County Council; and, Kildare County Council. The Dublin Transportation Office was also introduced to the project with a similar presentation.

The consultation process was tailored to the likely needs and levels of interest of the following three groups and to ensure the maximum level of public, community, and business knowledge of the project :

- property owners from whom land is identified as being required on a permanent or temporary basis;
- key residents and businesses based near stations and bridges where works are planned; and
- the general public including local residents, local representatives and commuters.

Dissemination of information to members of the public took place on a direct and indirect level. Direct contact was established with the public in the form of meetings with landowners, leaseholders, representative groups and special interest groups. Contact with the public was also made indirectly through local and national politicians and professional parties acting on behalf of their clients. Contact was established with the relevant local authorities within the KRP catchment area.

Within Kildare County Council, contact and consultation was made with the Director of Economics and the Planning Department to discuss strategic rail and associated land use issues, and with the Roads and Engineering Departments for technical consultation in relation to associated road works, traffic and drainage issues for the construction and operational phases of the KRP. Consultation was held with councillors of local authorities, to both brief and enable local concerns in regard to the KRP to be raised with Iarnród Éireann. The Planning and Roads Departments of the local authorities were also consulted with, for strategic and technical consultation in relation to the proposed works.

The public consultation process was managed to ensure that a person was available to liaise with any person or groups on a daily basis. Each individual or group had different types or levels of concerns regarding the perceived advantages and/or disadvantages the project may have relative to their individual situation and location.

Queries, requests and comments made during these meetings were recorded in detail and were responded to and noted by representatives of the project consultation team. A number of issues raised were also later followed up.

The KRP is likely to impact on certain landowners, householders and leaseholders, who hold interests close to the existing railway line. A small number of properties lie directly in the path of the alignment, or very close to an existing or planned bridge or station. In these instances it will be necessary for Iarnród Éireann to acquire property both on a permanent and temporary basis in accordance with the provisions of the Transport (Railway Infrastructure) Act, 2001. Stretches of land along the route and next to bridges may also need to be acquired to accommodate the laying of extra tracks or reconstruction of bridges.

A list of the properties most likely to be affected by the project has been prepared as part of the Railway Order package. A notification letter was sent in late 2003 to all landowners whose property was identified as being required, the tenants or occupants of such properties as well as key residents and businesses based adjacent to bridges or stations, where works would take place. The letter gave a brief overview of the project and included details of how the project team could be contacted for further information.

This element of the process generated a significant level of consultation to the project office. Enquiries were dealt with on a daily basis and where necessary site visits with the project manager were arranged.

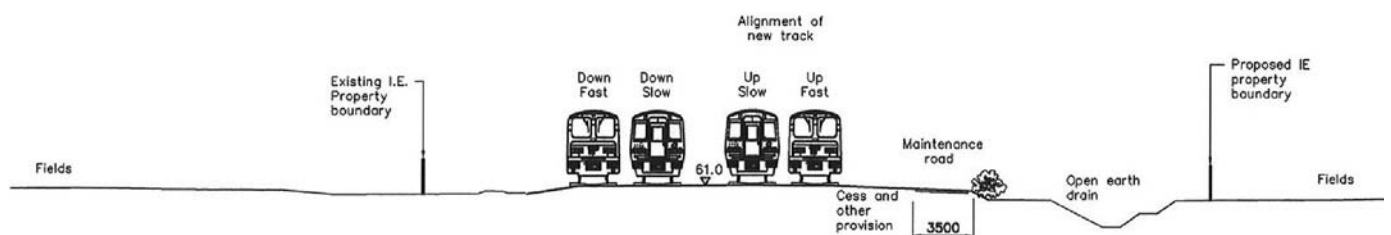
The consultation team also consulted with landowners who would be directly impacted by the project, as well as updating them on the progress of the KRP and to discuss the likely impact on their properties. These consultation meetings generated an ongoing dialogue. During this process the concerns of the parties were relayed to the design team and modifications, where possible, were made to mitigate these concerns.



Existing railway corridor

Concerns expressed by residents and landowners had a number of common elements and recurring themes. The following concerns are typical of the issues raised:

- the process of the compulsory purchase of land and compensation process;
- property valuations;
- disruption likely to occur as a result of having to move from property and residences;
- disruption during construction;
- the timing of the project and its duration;
- disruption to planned home improvements;
- difficulties that may be experienced by people wishing to sell their property because of the KRP;
- access to property during and after the construction period;
- the proposed design of new bridges, roads and railway stations;
- the effects of increased vehicular traffic at railway stations;
- noise pollution;
- landscaping proposals;
- impact on ecology (trees, hedgerows, wildlife etc);
- impact on safety, security and privacy of property; and
- the effect of the project on protected structures (existing railway bridges and structures).



Indicative cross section through railway corridor

In January 2004, a wider public consultation process directed at the general public began. This involved:

- the delivery of 100,000 information brochures about the KRP to every home and business along the route.
- the holding of a series of public information evenings in communities along the route, namely: Ballyfermot, Clondalkin, Lucan, Newcastle, Sallins, Naas and the Curragh.

The brochure gave a broad overview of the project, advertised the public information evenings and promoted the free phone number and project email address as a source of further information. Copies of the brochure were also available in the Irish language.

The information evenings were publicised in a range of ways. Adverts appeared in four local papers as well as a major national newspaper. Large billboard posters listing the venues and times of the meetings appeared in Kildare, Newbridge, Sallins and Hazelhatch stations. Posters were placed in local business and community centres. The meetings were also promoted on the KRP website and on the project brochure. Furthermore, all local public representatives were directly advised of the meeting by letter.

The brochure and advertisements generated numerous telephone enquiries, which were handled by the public consultation manager with the assistance of the project team. Standard queries related to the following:

- service levels (frequency, capacity);
- customer service;
- station facilities;
- the creation of new stations;
- the relocation of stations;
- the likely timescale and duration of the project;
- Railway Order process;
- cost and funding of the project;
- concern about heritage issues (e.g. demolition of railway bridges); and
- disruption to vehicular or pedestrian traffic that may be experienced (e.g. road and bridge closures, diversions etc).

A number of residents associations, environmental groups and community organisations raised queries regarding the KRP, which were addressed on request by means of on-site project consultations and meetings. This was especially so at Clondalkin, where it is proposed to relocate the existing railway station to Fonthill Road. A number of concerns were raised by representatives and special interest groups, which included:

- bridge and station proposals,
- noise pollution,
- landscaping proposals,
- safety,
- retention of listed structures,
- disruption during construction,

- project timing / duration,
- perceived adverse affects of proposed station relocations, and
- changes in local public infrastructure to facilitate new stations.

The concerns expressed by public representatives during the meetings and throughout the public consultation campaign were similar in nature to those raised by landowners and special interest groups. However, they also tended to raise issues relating to wider transport and traffic problems and how the KRP is to be linked into other public transport plans such as LUAS and the proposed new Metro for Dublin. In this regard the following issues were raised by public representatives:

- the number and location of new railway stations to be provided;
- future electrification of the railway line between Kildare and Dublin;
- means of onward travel for passengers alighting at Heuston;
- plans for local transport services to bring people to and from stations along the Kildare line;
- linkages between the KRP and future development areas such as at Adamstown, Lucan and at Fonthill Road in Clondalkin;
- the proposed relocation of railway stations and the effect that this will have on local communities;
- projected capacity levels of trains at peak hours when project has been delivered; and
- the cost and funding for the project.

TDs (Teach Dáil) and Senators who represent areas along the railway corridor were sent an information letter and offered follow-up meetings and presentations and were informed how to contact the project office should their constituents put questions to them.

During the consultation phase, the project team also met or made contact with a number of statutory bodies, including An Taisce, the Heritage Council, Dúchas (The Heritage Service), the Environmental Protection Agency, the Eastern Regional Fisheries Board, the DTO and also professional and technical departments of three local authorities (Dublin City Council, South Dublin County Council and Kildare County Council).

The Project Office was contacted a number of times by various print and broadcast media journalists. In each case, the requested information was supplied, and this appeared in various local and national media.

The public consultation process has continued during the 2005 review of the scheme. This has included meeting and consulting with a number of interested parties and individuals as well as re-contacting landowners in relation to the status of the project.

Where is the Kildare Route Project to be built? - Alternatives

As part of the process of looking at different solutions to improving passenger rail services between Dublin and Hazelhatch, a number of alternatives were considered. One option was to construct an entirely new railway line that would serve existing towns between Kildare and Heuston station. It was concluded that this would be a very expensive solution and would make poor use of the existing railway resources including stations.

In addition the purpose of providing two additional tracks alongside the existing two tracks is not only to achieve a segregation of intercity and suburban services, but to retain full interlinkage between them for passengers (such as the ability to switch from suburban to intercity at certain stations). This could not be achieved if they were to run on entirely separate alignments. Four tracking also gives greater flexibility for trains in circumstances where, for example, maintenance on a track is being carried out. In effect the positioning of four tracks together allows for greater reliability and flexibility than two separate corridors of two tracks. The option of an entirely new and different railway would have considerable environmental implications in terms of inserting this into an entirely new corridor.

The widening of the existing railway corridor, confines the railway works to an area that already has a railway presence and where duplication of items such as signalling structures and road overbridges, can be avoided.

After careful examination it was concluded that there are clear economic and social benefits in keeping the existing railway corridor and expanding this in a logical way rather than by attempting to develop a separate new railway corridor through existing development areas. Such an alternative would have substantial property acquisition costs. Thus the alternative of enhancing the existing railway corridor, together with developing better links between bus services and the new railway stations is considered to be the best solution for the development of this railway line.

Other options therefore concentrated on the optimum use of the existing railway corridor. Following a detailed technical examination it was decided that the best value for money would be to expand the capacity of the existing railway line by

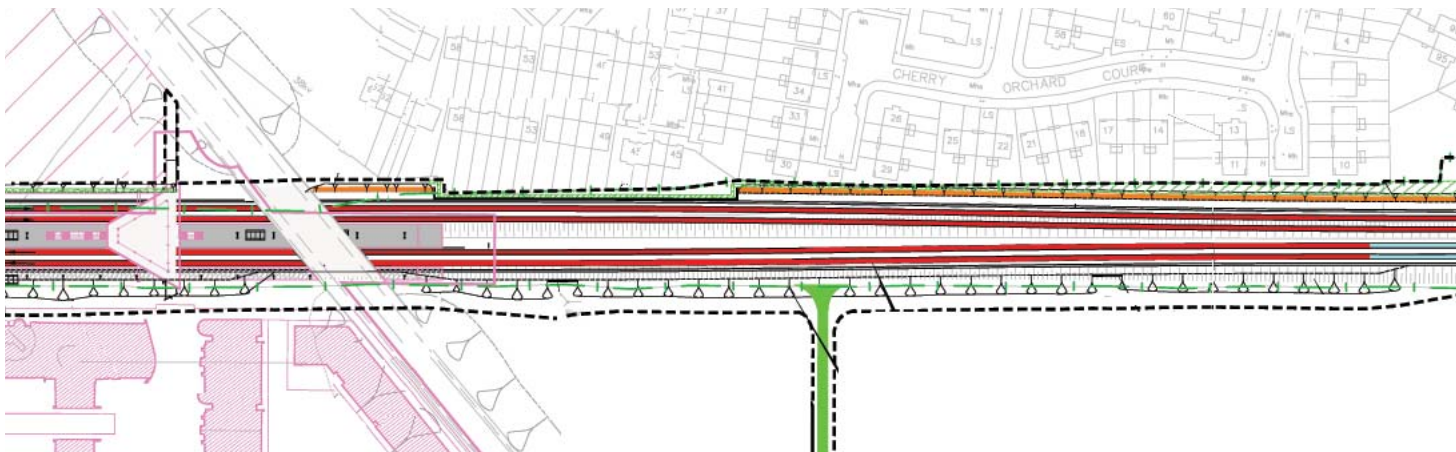
providing two additional railway tracks, broadly from Cherry Orchard to just beyond Hazelhatch which would enable intercity, regional and suburban services to operate independent of one another but within the same railway corridor between Hazelhatch and Heuston. This option also allows for the possibility in the future, to extend the four track railway system westwards between Hazelhatch and Kildare and also eastwards to Heuston station and onwards into the city centre via the proposed interconnector, which will interchange with the existing DART line at Pearse Street, the new Luas line at St. Stephens Green and which will then run under the river into Docklands and connect with the Belfast and Sligo lines near Connolly station.

The KRP is positioned to facilitate these future rail system upgrades. However more than that the KRP ensures an optimum service improvement along this line while those separate projects are being planned.

Alternative forms of train service along this line include the possibility of a DART type electrified service. This alternative would have significant additional cost implications. Furthermore such a service would not necessarily produce a meaningful train service improvement above and beyond what the current KRP will deliver, until other separate projects are completed such as the Interconnector.

In effect therefore the electrification option is not so much an alternative as a future development opportunity in tandem with other projects yet to be fully designed (The DTO Strategy notes that the increase in tracking along the Kildare line will precede its electrification, which would be more closely timed to work with the interconnector). It is important to point out that the KRP will deliver the basic railway line infrastructure which will enable a future DART type service to be provided on this railway corridor. Thus the KRP is an intermediate step in the process of ultimately delivering a DART type service on this railway corridor.

Alternative station locations were also considered during the course of the project. The location and number of stations, the types of facilities they provide and the ease in getting to them (by bus, car or on foot for example) are critical as they provide points of access to the railway. It is also important that railway stations should be properly connected to the localities in which they are situated and that they are usable by all persons, both able bodied and the mobility impaired.



Indicative section of alignment plan

The existing railway station at Hazelhatch requires modification in order to be able to handle additional passenger numbers when the KRP is completed. The design of proposed improvements at the station has been carefully considered and takes into account the heritage value of existing stations. Every effort has been made to maintain its existing character and quality and to improve the general environment thereby making it a more attractive and pleasant place.

New railway stations are proposed at Fonthill Road and Kishoge, as well as new developer sponsored stations at Park West and Adamstown that will be facilitated by the KRP. The location and number of these stations along this line was determined by their ability to deliver improved transport access to both the local established and new populations in these areas as well as operational constraints. These stations will directly serve the new development districts immediately adjoining them. They are also positioned to maximise linkage to road distributor routes (such as Park West Avenue, Fonthill Road and ORR), and public transport.

Cherry Orchard and Clondalkin stations will be closed as part of the KRP. The local populations of these adjoining areas will be served by a new station at Park West (for Cherry Orchard) and at Fonthill (for Clondalkin). These new locations are considered more beneficial in terms of drawing passengers from the wider local catchments. The short distance between Cherry Orchard and Clondalkin and their replacements, means that the proposed frequency of trains per hour could not be provided if they were all to remain open.

The KRP therefore represents a good rail service investment and will deliver a substantially improved rail service along this line. It also has the advantage that it can be further upgraded to provide a DART type service, should the number of passengers using the railway line justify this in the future.

How will the Kildare Route Project operate when built?

When the KRP is completed Iarnród Éireann proposes to operate up to four intercity, four regional and four suburban trains at peak hour periods in the morning and evening in the section between Hazelhatch and Heuston station. When the KRP is completed the existing level of service of 17 suburban trains per day with a total capacity of 11,050 passengers in each

direction will be increased gradually to a daily service of 28 suburban trains with a total potential capacity of 36,400 suburban passengers per day in each direction between Hazelhatch and Heuston station.

At peak periods trains will be carrying 1,300 passengers each. Outside of these hours it is expected that each train will carry a minimum of 325 passengers up to 1,300 passengers per train depending upon local demand on particular days and times. The KRP will therefore allow for Iarnród Éireann to give these trains a maximum capacity up to 1,300 passengers as demand dictates.

The selected route will make better use of existing public transport services and will connect with local bus services that will provide connections with all railway stations. The KRP will also be well integrated with surrounding land uses where people live and work and will provide an attractive new suburban transport service. The KRP will provide convenient access to residential districts, centres of employment, Dublin city centre (in conjunction with Dublin Bus and LUAS services via Heuston station), educational establishments, hospitals, public offices and centres of entertainment along the railway corridor.

When the Kildare Route Project and developer constructed stations are completed there will be commuter railway stations at Park West, Fonthill Road, Kishoge, Adamstown and Hazelhatch. The suburban service will terminate at Hazelhatch station in the west and Heuston station (which lies outside the area of the KRP) in the east. There may be additional stations provided at future dates.

The KRP is intended as a positive contribution to improving public transport services within the Greater Dublin Area. The DART and LUAS system has already proved that a public transport service designed and operated to a high quality and standard can play a very significant role in providing an attractive alternative to excessive use of the private car in Dublin. It is intended that the KRP will be a means to an end in encouraging more people to use the train service for the journey to work, educational, leisure and other trips and it will be an attractive alternative to use of the private car where time will be saved by using the railway for all of these types of trips.

It is the intention of the DTO that a DART type service will be provided between Hazelhatch and Heuston station linking through to the city centre via a new interconnector tunnel linking



Heuston station with Pearse St. and onwards under the River Liffey to the Dublin Docklands that will then connect to the Belfast and other lines. An electrified service would also present opportunities for additional stations along the railway corridor. It is also proposed to have a METRO system running in a north to south direction from Tallaght to Blanchardstown that would link with the KRP, possibly at Fonthill Road.

Appropriate provision will be made for parking facilities in the vicinity of existing and proposed railway stations depending on their location. The purpose of improving the railway service on this corridor is to attract significant numbers of commuters away from their cars to use the railway. It is intended that parking can be reduced at certain stations as public transport linkage is implemented or improved.

When is the construction of the project scheduled to start and how long will this last?

The overall construction phase of the KRP is likely to take 2 - 3 years from start to finish. It is planned to start construction in 2006. To complete the project within this time, it is proposed to commence construction works at a number of locations along the route at the same time.

Where disturbance to the road network and to community facilities could occur, the construction works will be phased in order to allow for diversions and to minimise disturbance to existing residents and users. The initial phase of work will involve site preparation in readiness for the main works to commence. Works at the preparatory stage will include the clearance of scrub, trees and hedgerows and the erection of boundary fencing. Property boundaries, which have to be set back will be moved at this stage, and new boundaries rebuilt in accordance with agreements reached with the individual property owners.

In the limited number of cases where the demolition of property is unavoidable this will also be carried out as part of the site preparation works so that the full site area will become available to the contractor at the earliest possible date. The preparation works will be carried out to a time table that will be available to all interested parties before the project commences.

The diversion of various public utilities such as water mains, gas mains, electricity lines etc. will occur at the same time as the site preparation works. This will involve the diversion/or replacement of any pipes and lines which cannot remain below the railway or which run across existing bridges to be replaced. These works will constitute a sensitive stage of the project but the time required will be short and there will be a high degree of supervision as well as extensive local consultation. Most of the existing road bridges across the railway line are not long enough to accommodate the additional sets of railway tracks to be built. As a result it is necessary to demolish bridges and to rebuild them in a form that will accommodate the new railway lines.

The demolition and construction of new bridges will have an affect on traffic in the surrounding area and it will be necessary to divert traffic during the time when bridges are closed to traffic during demolition and reconstruction. For this reason, it is proposed to schedule the work in such a way that where one bridge is closed, traffic will be diverted to a second nearby

bridge which will remain open until after the works to the first bridge have been completed. The following is an indicative outline of the lengths of time road bridges will be closed for.

Indicative outline of the lengths of time during which these bridges are proposed to be closed

Bridge	Closure period
Hazelhatch Station Road	22 weeks
Stacumny Bridge	20 weeks
Ninth Lock - Neilstown Road Bridge	3 weeks
Hayden's Lane Footbridge	16 weeks
Newcastle Road Bridge	3 weeks
Hazelhatch Footbridge	24 weeks
Cloverhill Road	24 weeks

The KRP includes for the removal of a private access bridge at Finnstown Farm and the bridge at Lynch's Lane. It is intended to keep existing railway services operational during the construction of the project. There will be a number of temporary sites (construction / storage compounds) connected with the construction of the KRP. Work compounds and stock pile areas for both new materials and spoil will be required. At this stage it is envisaged that the following locations will be utilised:-

- Vicinity of Le Fanu Road bridge
- Cherry Orchard Avenue
- Park West station area
- North West of Clondalkin station area
- Fonthill Road station area
- Lynch's Lane/Kishoge
- Haydens' Lane
- Newcastle Road bridge
- Adamstown Station area
- West of Adamstown station area
- Stacumny bridge
- Hazelhatch station area

Several access points off the public roads will be required along the railway line during the construction process. These will allow for bringing in and taking out materials from the site and also for access for construction workers. The access locations are as follows:-

- Le Fanu Road
- Cherry Orchard Avenue
- Proposed Park West station
- Cloverhill Road
- Ninth Lock - Neilstown Road
- Fonthill Road

- Lynch's Lane
- Newcastle Road
- Finnstown Farm
- Proposed Adamstown station
- Redundant level crossing between Crowleys Bridge and Stacumny
- Stacumny
- Hazelhatch east
- North side of Hazelhatch station

During the course of the project it may be necessary to establish additional temporary access points. This will be a matter to be determined at the construction stage and will be done in consultation with the relevant local authority.

Who and what will be affected by the Kildare Route Project?

Likely significant Environmental Impacts

Human Beings

The effects on people, including aspects such as employment, land use planning and development, vehicular and pedestrian traffic (including safety) and community effects, are all considered under this heading.

Population and employment impacts

Construction works during the building of the KRP will cause temporary inconvenience such as local traffic delays and potential inconvenience to businesses and other places of employment in the immediate locality of the railway line.

These effects will be minimised and managed by giving appropriate information in good time and by putting in place an Environmental Management Plan before construction begins. This will help to reduce the level of inconvenience for those persons most affected. The measures proposed will include area based traffic management and liaison with the local authorities and also local arrangements to ensure that disruption and inconvenience to local residents and businesses are minimised during the course of construction.

The KRP will generate considerable construction employment during the four years of construction. This has the potential to have a positive impact on socially disadvantaged areas along and convenient to the route alignment. During the subsequent operational phase of the Kildare Route Project there will be opportunities for additional employment in the commercial and employment centres (both existing and prospective) which are located near to the KRP route such as at Park West, Adamstown, Kishoge and Fonthill Road. In addition, the improved railway service is likely to stimulate economic development and associated employment in a number of towns along or close to the route such as Celbridge.

The locations where inconvenience is expected during construction are at the various road bridges where demolition and construction is required. The construction will cause significant localised interruptions to traffic flows but this will be managed to minimise inconvenience. The demolition and

construction of new bridges is unavoidable if the improved rail service to modern operational and safety standards is to be delivered along the Kildare line. Every effort will be made to minimise the effects upon the locality when each bridge is being taken down and rebuilt.

Following completion of the KRP, the Suburban rail services will increase accessibility to all of the towns along the corridors served and also between these towns and Dublin city centre. This will add to visitor numbers and is also expected to increase job opportunities at development centres along the route. The improved commuter railway corridor is expected to result in a noticeable movement away from cars towards the railway especially for the journey to work and for shopping and leisure trips also.

Land use and planning impacts

The KRP complies with Government objectives to improve public transport infrastructure between Kildare and Heuston station (as set out in the National Development Plan 2000 - 2006 and also in the Platform for Change published by the Dublin Transportation Office in September 2000). The project is also compatible with the transportation and land use planning objectives of all of the statutory development plans for the areas through which the railway corridor will pass.

Community severance impacts

During the construction of the KRP there will be temporary inconvenience to local communities. This will be felt in terms of local access across the railway corridor and will affect car traffic, pedestrians and local bus services. These affects will be localised and limited in duration. Localised traffic restrictions will cause delays along the routes affected but alternative routes for traffic will be well advertised and sign posted in advance.

The demolition of a single residence and of two existing railway stations at Clondalkin and Cherry Orchard will have a profound local adverse impact for those resident and property owners affected. During the demolition and construction of existing bridges it is proposed to undertake ongoing local consultation. There will however be moderate to significant inconvenience as a result of diverted traffic that will require longer journeys at associated times during the construction phase. The level of impact will depend on location and the alternative options available.

Once the project is completed the resident, working and visiting populations along the KRP catchment are expected to share in the beneficial effects of the scheme which will be an improved service frequency and reliability and increased access to the train services. The DTO Strategy intends to develop improved bus services linking with all railway stations. In addition there is an objective to develop a LUAS line running from Lucan to the city centre via Ballyfermot.

In addition there is a proposal for a Metro station in Fonthill which will link with the Kildare railway corridor. All of these affects are likely to be significantly positive for the local community in this area. The provision of facilities for mobility impaired persons will be incorporated into all stations, both new and those to be refurbished. This is a significant positive impact.



Flora and Fauna

The proposed development includes replacement of some wildlife habitats principally woodland, hedgerow and grassland habitats and some drainage ditches and streams. There will be vegetation loss along the railway corridor during construction. However this is not of a unique nature and as replacement planting becomes established the effect on flora will become moderately positive (1 to 7 years). New hedgerow and woodland planting will take longer to mature but these are expected to be slightly positive in the medium term (7 to 20 years into the future). Monitoring of the growth of new planting will be required and any planting which fails will be replaced.

Dry meadow and grassy verge vegetation will be impacted upon during the construction phase, but replaced elsewhere along the railway embankments. Impacts on this habitat are assessed as significant and negative initially, improving to moderate and positive in the short term as newly seeded areas establish a more species rich cover over an extended length along the route.

The effect of the KRP on current habitat based wildlife, will be significantly negative in the short term, in localised areas, but this is expected to reduce to neutral in the medium to longer term (7 years and upwards) as new tree and shrub becomes established and matures providing improved faunal habitats. Following the new planting the railway corridor is expected have a slightly positive effect for insects, birds and small mammal species in the medium to long term as the habitat become established following the completion of the construction works.

Soils

No likely and significant impacts are predicted during the construction phase or during the operational phase. It is expected that excavated material will be derived from the soil excavated to widen the railway line and also from works at stations and car parks. Ballast (stone foundation for the new track) will need to be imported for the new railway line. It is envisaged that the movement of materials will be carried out by road based vehicles.

In some locations quantities of earth will be reused on site for landscaping and land shaping where possible. A proportion of excavated soil removed from the site can be recycled for use elsewhere within the Greater Dublin Area. However where this

is not possible a tipping site will be found as close as possible to the source.

Where small volumes of spoil or fill is to be moved short distances this will be done by road. The effects on the local community will be greatest in the Ballyfermot, Clondalkin and Lucan areas as a result. During the construction phase of the KRP the contractor will be contractually bound to exercise due care in the handling of any potentially contaminated material.

Water

The KRP will have no likely and significant impact on water supply and foul drainage infrastructure along the railway catchment. Special equipment (such as silt traps) will be installed along the railway corridor to ensure that there will be no pollution of streams and rivers during the course of construction of this project. Plans will be prepared to protect the water environment and there will be a management plan to deal with removal of spoil to ensure this.

A further plan will deal with the control of pollution. These plans will identify the potential risks and sources of pollution that may arise during the construction phase and suitable measures will be identified to minimise the risks involved. The addition of storage tanks along the railway corridor will reduce the potential impact of a major spillage on the railway line and will contain potential pollution. All staff working on the KRP will receive appropriate training including the use of pollution control equipment.

The construction of the project is not expected to have a likely or significant impact on ground water along the Kildare line unless there is a break down in the environmental flooding or pollution control measures operated by Iarnród Éireann and their contractors. With good management this is unlikely to occur.

Noise

This section includes an assessment of the impact of the KRP in regard to noise, vibration and lighting.

Noise

All equipment will be required to meet EU directive or guideline standards on noise emission from construction plant and equipment. The predicted impact of noise during the construction phase varies from moderate to significant. Noise impacts will be of relatively short duration and intermittent.

The impact of noise will be similar to general maintenance works associated with public utilities and road works. Night working will be required in particular areas in order to minimise the time during which construction takes place and also to minimise inconvenience and disruption to traffic, for example when bridges are closed during demolition and reconstruction.

All of the locations where it is proposed to demolish and construct new bridges and where works are proposed in the vicinity of existing and new railway stations will give rise to noise. The impact on the local community living in the immediate vicinity will be significant and negative during the time period involved. The use of noise reducing screens will be considered at sensitive locations particularly during night time working.

Where construction work has to be undertaken at night outside normal working hours it is important that measures are taken to reduce impact on nearby residences and to ensure that noise levels do not exceed criteria for undisturbed sleep.

When the KRP is completed and the new rail services are in place, residences on the northern side of the line will experience more noise as a result of the line being closer to existing houses than at present. However, the impact of noise varies from slight to moderate and no significant impact is predicted to arise.

Vibration

During the construction phase some vibration impacts will arise and these will be greatest where bridges are being demolished and reconstructed. This will be significant but limited in time at the locations in question. During the operation of the railway once the KRP is implemented, there will be less vibration emitted from the new track layout than from the existing lines due to improved specification of the new railway lines.

Lighting

During the construction phase where night time lighting is required, temporary lighting will be designed to give normal working standards of artificial lighting. Careful attention will be paid to ensure that lighting is directed onto the work surface so as to minimise the negative effect on local properties and residences. Night time lighting during construction is necessary to enable safe working and also in the interest of public safety at and around construction locations.

Once completed, lighting at all stations will be designed to internationally acceptable standards. The project is not expected to have any significant negative lighting effect along the length of the railway corridor.

Air quality and climate

The construction phase of the development has the potential to generate dust emissions from activities such as removal of spoil and delivery of rail track ballast along the line. Where bridges are to be demolished and replaced, air emissions will occur from the operation of heavy plant equipment and trucks. Construction site management procedures will be in place during works to minimise the impact of this phase on local air quality.

There may be a short term negative impact on air quality in the vicinity of the bridges in particular. However with the proposed dust control measures any impact on air quality in terms of dust deposition rates will be slight to moderate with no significant adverse impacts predicted. Upon completion there will be an improvement in air quality as a result of emissions reducing through a transfer of commuters from private to public transport.

The increase in rail passenger capacity will help to reduce the number of commuter car trips and associated car exhaust emissions in the KRP catchment area in particular. The KRP will therefore have a minor positive effect in helping to reduce road vehicle emissions.

Landscape and visual aspects

Construction activities will be temporary in nature and relatively localised. There will be a negative visual impact during the construction phase in particular at the sites where bridges have to be demolished and new bridges constructed and also at all of the railway stations (existing and proposed). The overall

landscape impacts are predicted to be slight to significant depending on the different locations along the railway corridor.

New landscape planting, where feasible, is proposed to form part of the KRP. This is to take place at the same time as the construction of the new railway and stations etc. When the construction phase is completed and the new railway line is in operation, this is expected to have a positive impact on landscape. As landscape planting matures the overall impact of the project will become more positive.

Overall the KRP will bring a broadened railway corridor into the receiving landscape. This railway corridor will have an increased prominence and the effect of increased rail usage will also increase its perception within the landscape by people. However this is an existing operational railway corridor and the predicted landscape impact therefore is related principally to the detail of the new elements, rather than to a fundamental new insertion into the receiving landscape.

The KRP will introduce some new station buildings into the railway corridor. Landscape and visual impacts are predicted to be positive in nature for the new stations at Fonthill Road and Kishoge. At Hazelhatch the expanded station complex will include new buildings as well as refurbished older structures. The replacement bridges are all to a modern design. This means that the visual impact of these at road level and at railway corridor level is positive in itself. The main impact related to bridges is on the point of the heritage quality of the stone arch structures. This is dealt with under the section on Cultural Heritage.

Trees are a prominent element of the landscape. The individual or group removal of trees generally amounts to a local adverse impact. However the landscape proposals which form part of the KRP include considerable tree replacement and planting schemes. In this regard the KRP will reintroduce trees to the locations where their removal is required during construction and this will mitigate the initial adverse impact.



Material assets

This section includes an assessment of the KRP on property, public utilities, as well as traffic and transportation.

Property

Construction of the KRP will involve the total acquisition of only one residential property in the vicinity (northside) of Hazelhatch station. The removal of the property at Hazelhatch will have a profound negative impact to the owner. Compensation at full market value may be available to the affected property owner under the compulsory purchase code.

The construction impacts are likely to be greatest within the built up area of Cherry Orchard and Clondalkin. The removal and replacement of bridges and associated road works will have a potential impact on properties in the immediate vicinity. This will be mainly felt in relation to inconvenience and local access disruption and disturbance at properties. This will be managed as part of an agreed construction work programme.

A small number of properties, such as Beech Row, will be affected by temporary or permanent acquisition of part of their overall landholding. The KRP design team has minimised the extent of such acquisitions where possible and details of reinstatement are included in the scheme.

Where applicable, compensation will be paid by Iarnród Éireann in accordance with the compulsory purchase code under legislation. Full details of all proposed property acquisitions are given in the schedules to the Draft Legal Order which form part of the Railway Order application to the Minister for Transport. These are available for inspection at the addresses listed at the start of this non technical summary.

The operation of the KRP will have a beneficial impact on property in the wider environs of the railway catchment, as it introduces an accessible public transport system to new areas.

Public utilities impacts

The impact of service interruptions during the construction phase will be slight. After the completion of construction work there are predicted to be no likely or significant impacts on public utilities.

Traffic and transportation

The construction of the KRP will result in significant temporary restrictions on traffic flows due to temporary road closures where it is necessary to demolish road bridges and to rebuild these across the railway line. The effects of these works may be regarded cumulatively as significant but the duration is planned to be, at most 6 months and the impact will be therefore be temporary and principally localised.

During the construction phase of the project there may be occasional speed restrictions and delays on some train services passing through the railway corridor between Hazelhatch and Heuston station. A revised time table may be put in place to allow for additional travel time on all rail services for the duration of the project. Clondalkin and Cherry Orchard stations, are sited within catchments which have alternative existing bus public transport services nearby. Therefore, there will be some inconvenience and disruption to existing railway users for the duration of the project as a result but this is not predicted to be significant.

When the KRP is completed and in operation, there will be a significant increase in the railway capacity on the railway corridor. This has the potential to reduce traffic flows on the surrounding road network including the N4 Lucan By-Pass, N7 Naas Road, and also on other regional and local roads adjoining the railway corridor. The project is also expected to encourage the redevelopment of lands at Fonthill, Kishoge, Adamstown and also at the Kildare towns of Celbridge, Sallins, Naas, Newbridge and Kildare.

The physical impact of the KRP on the wider road network will probably be neutral overall. The impact on pedestrian traffic and safety will be positive because of the construction of improved crossings over the railway, including footpaths. This will have a positive effect on road traffic and safety.



Cultural heritage

Archaeology and local history

During the construction phase the potential exists for unknown archaeological deposits to be impacted by the railway development works. It has been agreed with Dúchas to have a watching brief as regards archaeology in case anything unexpected is discovered. In that event the works must immediately stop and any finds will be reported to the National Museum and to the Minister of Arts, Heritage, Gaeltacht and the Islands. There will be no significant impact on local history during the construction phase of the proposed development.

After the construction of the project there is no impact expected on the archaeological heritage or on local history.

Architectural Heritage

During the construction phase the demolition of eleven existing stone arch bridges, their approach ramps, the stone walls on the approach ramps and the removal of established trees on each side of these approach ramps is predicted to result in a profound negative impact on the bridges themselves and a significant negative impact on the architectural heritage of the attendant area of these bridges.

The demolition of Clondalkin station house, which is a designated heritage building, will result in a profound negative impact on the station itself and a significant negative impact on the architectural heritage of the attendant area.

The reconfiguration of Hazelhatch station will result in a significant negative impact on specific items of architectural heritage. Equally however the creation of a considerably expanded station will bring these heritage buildings back into public use with a mix of old and new and this is a positive impact. It is proposed to provide a full architectural record of all architectural structures of merit to be demolished on this project prior to their demolition and replacement by new structures.

Direct and indirect effects resulting from the use of natural resources

Likely significant direct and indirect effects on the environment of the proposed development resulting from the use of natural resources in this particular project refers to the land encompassed within the railway corridor. These effects have been comprehensively assessed in the EIS Statement in

keeping with the requirements of Section 39 of the Transport (Railway infrastructure) Act 2001.

It is anticipated that the building materials required for the construction of this project will be sourced from Ireland primarily but also from elsewhere within the European Union. There are no likely significant effects including direct, indirect, secondary, cumulative, short, medium and long term, permanent and temporary positive and negative of the proposed railway works on the environment resulting from the use of natural resources.

Direct and indirect effects resulting from the emission of pollutant, the creation of nuisances and the elimination of waste

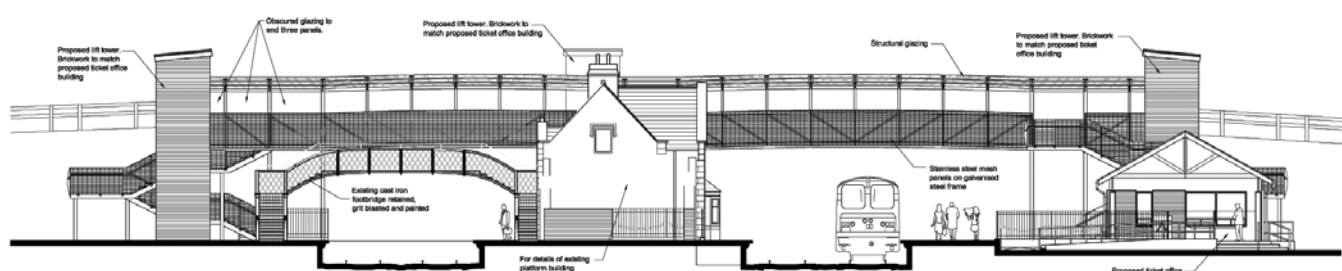
Details of all emissions arising from the development have been assessed in detail in the relevant sections of the EIS. No likely significant effects of the proposed railway works on the environment resulting from the emission of pollutant, the creation of nuisances and the elimination of waste are expected.

Forecasting methods used to assess the effects on the environment

The methods employed to forecast the effects on the environment are standard techniques used in the appropriate professional disciplines. The general procedure employed is to address the receiving environment (the current situation); to add to that a projection of the loading placed on aspects of the environment by the development in it, mitigated by appropriate measures and thereby to arrive at a net or predicted impact. The methodology employed by each of the specialist consultants who compiled this EIS is outlined in Chapter 6 of Vol. 1 of the Environmental Impact Statement.

Interactions

All environmental factors are inter-related to some extent and in practice interactions between one topic and another are documented under each of the those topic headings listed above. Nevertheless a number of important interactions are noted below.



Proposed new station at Hazelhatch

The positive interaction between land use and transportation is fully reflected in the strategic guidance as set out in the Strategic Planning Guidelines for the Greater Dublin Area, 1999, Regional Planning Guidelines and the National Spatial Strategy. The development and operation of the KRP will generate a likely and significant interaction between the mobility and accessibility of residents, employees and visitors, and the development plan policies and development trends along the railway corridor. Other likely and significant interactions include:-

Material assets / Human beings

The operation of the KRP will provide a considerable service improvement to this defined public transport corridor. This will lead to a significant positive interaction between material assets (property) and human beings as the increased accessibility of the area with its range of land uses and development opportunities will improve transport facilities for existing resident and employees in these areas, as well as helping to ensure growth from new investment in property and land. In turn this achieves public transport and land use policies and objectives as recorded in the statutory development plan.

Architectural heritage / Human beings

This interaction reflects the need for a balanced judgement of weighting between the specific heritage importance of conserving certain structures and the clear strategic and statutory benefits of the KRP that would require their removal. On the detail of the various assessments at specific environmental issues contained in this EIS, this balanced judgement reflects the exceptional case category for the demolition of protected structures as contained in the Local Government (Planning and Development) Act 1999 as well as the provisions for works as part of a Railway Order under the Transport (Railway Infrastructure) Act, 2001.

Human beings / Human beings (Community severance / Vehicular traffic)

Although both these topics fall under the human category, there are subtle differences of emphasis that result in a variation in predicted impact. For example, the technical appraisal of traffic flow diversion and congestion during construction is identified as a temporary but significant impact. However the community severance interpretation of vehicle flow is predicted as less so, since the community can adapt to the inconvenience, in the knowledge that it is temporary and that the end product delivered will be a community improvement.

Landscape and visual aspects / Human beings

The landscape and visual aspects of the KRP will interact with the various populations' new perception of the railway corridor including stations. In conjunction with the visual upgrade of the railway corridor the railway will acquire a greater relevance and purpose to local populations as they come to use the improved suburban rail service.

