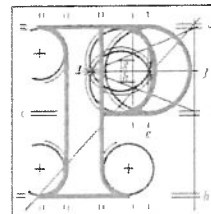


**Our Case Number:** ABP-320164-24



**An  
Bord  
Pleanála**

Anthony Gray  
8 Gray Grove  
Wheaton Hall  
Drogheda  
Co. Louth

**Date:** 05 November 2024

**Re:** DART + Coastal North Railway Order 2024 - Northern Line between Dublin City Centre and Drogheda including the Howth Branch  
Dublin City Centre and Drogheda, located in counties Dublin, Meath and Louth

Dear Sir / Madam,

An Bord Pleanála has received your recent letter in relation to the above mentioned case. The contents of your letter have been noted.

More detailed information in relation to strategic infrastructure development can be viewed on the Board's website: [www.pleanala.ie](http://www.pleanala.ie).

If you have any queries in relation to the matter please contact the undersigned officer of the Board at [laps@pleanala.ie](mailto:laps@pleanala.ie)

Please quote the above mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully,

  
Aisling Reilly  
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## **ABP-320164-24**

*From Anthony Gray, 8 Shady Grove, Wheaton Hall, Drogheda, Co Louth, 087-2486858*

### **DART+Coastal North Railway Order 2024 (ABP-320164-24)**

#### **OBSERVATIONS**

##### **General**

Unfortunately this project is fundamentally minimalist and inadequate. Rather than delivering the critical transformation of the Dublin/Drogheda rail corridor required to cater for the needs of the rapidly growing population of North Dublin, East Meath and Louth it will at most benefit one coterie of users while significantly degrading the service offering for others.

In particular the project does not address the core peak period capacity issues between Connolly and Malahide while at the same time effectively creating a new zone of congestion between Malahide and Drogheda.

The current twin track infrastructure between Connolly and Howth Junction limits the aggregate number of trains arriving in Dublin (Connolly) from all locations on the line including Belfast, Portadown, Newry, Dundalk, Drogheda, Balbriggan, Skerries, Donabate, Malahide, Clongriffin and Howth to a maximum total of 12 trains per direction per hour.

This project will not change the number of trains that can operate each hour, nor will it increase passenger throughput to any significant extent other than through relatively modest gains achieved

- By extending the size of a few short-formed trains up to the maximum train length that can be handled at the existing platforms – i.e. some trains currently formed by six car DART formations will, when new rolling stock is in service, be extended to the equivalent of an existing maximum 8 car formation. The majority of peak services operating into Connolly (whether Diesel or DART) are already 8 car formations and all train running slots are already occupied at the peak period so a modest gain only.
- By increasing the density of passengers per train primarily by reducing the number seats and increasing the available floor area by removing toilets (compared to the existing diesel fleet) and having full width articulated gangways (existing fleets have a narrow gangway unsuitable for standing passengers). The older DART fleet has 4 driving cabs in the same length formation as one of the new equivalent length DART trains so some extra space there also. This again yields a modest gain.
- A process of statistical smoke and mirrors suggests that the peak period would magically extend to 3 hours in both the morning and evening delivering

7 extra trains each way on the core section north of Connolly (over 3 hours). This, along with the above mentioned changes, yields a passenger throughput increase of about 20%, most of it delivered outside the current peak commuter demand envelope.

It is highly likely that existing passengers from Howth, Sutton and Bayside (who will have to change trains) will find it difficult to board peak period trains at Howth Junction while others attempting to join at stations between Kilbarrack and Clontarf Road will have to battle acute overcrowding and may not be able to board some trains at all. This arises because peak trains arriving at Howth Junction from the Drogheda/Malahide direction are already overfull and traffic will clearly gravitate towards any new capacity provided by diverting Howth trains towards Drogheda.

### **Increased Journey Times**

Almost all users of the Dublin/Belfast route whose journeys originate or terminate in Dublin will experience longer journey times. The worst affected service will be the cross-border Enterprise service which in 1997 was scheduled to cover the northbound Dublin/Drogheda segment of the trip in 28 minutes and in practice often took less.

Due to congestion largely caused by an inflexible pattern of slow-moving DART trains this journey time has been gradually extended to 37 minutes but in practice is now typically 45 to 50 minutes. In the absence of additional track infrastructure to enable the Enterprise (and longer distance commuter trains) to overtake slower traffic the service will probably take an hour or more to reach Drogheda, way slower than the steam train era and entirely in conflict with the aspirations of the recently published Strategic Rail Review.

Similarly, most longer distance commuters (to/from stations beyond Malahide) will have to make do with a DART service that is simply an extension of the existing 20 mph average speed all stops service to Malahide. This is hardly an improvement or indeed an effective or efficient use of customer time or indeed provider resources as the slower the service, the more trains and crew that are required

### **Infrastructure Proposals**

#### **Howth Junction**

I can see little requirement for the works proposed at Howth Junction. The entire population of the Howth/Sutton/Bayside area hardly exceeds the proposed shuttle capacity of 21,600 over a 3 hour period. There is no way that these shuttles require to be full size trains. Current infrastructure is more than adequate for a ten-minute interval shuttle service each formed by a single DART unit. The busiest occasions on the Howth line tend to be Summer weekends when there is likely to be adequate track capacity to run trains to & from Connolly in any event.

### Clongriffin

The changes here are long overdue and although minimalist are welcome. (see detailed comments on Clongriffin included in previous submissions).

### Malahide

Malahide is an inappropriate location for a turn-back given the physical limitations of the site and the fact that there is so much new development in Donabate. It is not uncommon for commuters to be left behind at peak times such is the demand. There is also land available and in CIE ownership on which a turnback siding could be built to replace that which existed in the pre-DART era up to the early 1980s ! In the interim and in advance of electrification to Drogheda the line from Malahide to Donabate should be electrified and Malahide DART services extended. This would also reduce the length of battery operation and shorten charging time in Drogheda.

### Skerries

There are limited overtaking facilities here. A second loop should be provided to allow northbound trains overtake slower traffic without interfering with southbound traffic as is the case at present.

### Balbriggan

Consideration should be given to providing a second crossover and re-instating the siding here to provide additional operational flexibility.

### Mosney

The loop should be re-instated here to provide overtaking, turnback and operational flexibility. Ideally there should also be a second loop on the sea side of the line..

### Drogheda

It is unfortunate that the land bank in the former cement factory marshalling yard is not being used to provide a Drogheda North Park & Ride and transport hub which could be located just off the main line at Newfoundwell. There is plenty of space for sidings and charging facilities and the site is close to High Voltage ESB supply stations. Such a station would serve the north of the town and much of South Louth.

### **Previous Submissions**

I have appended previous submissions for consideration.

## Comments In Respect of DART + Coastal North June 2023

### (2<sup>nd</sup> Round of Consultations)

The DART + Coastal North Project (as currently proposed) is sadly a lost opportunity to deliver transformational change to public transport in the North East area. The rail corridor contains the two principal cities on the island as well as many of the largest towns. This project, if implemented at the DART frequencies suggested will increase cross-border journey times to a degree that would be an embarrassment in the steam train era let alone the 21<sup>st</sup> century. The project documents hide this issue entirely. The likely increase in journey time is the equivalent of moving Belfast and Dublin a further 30 miles apart.

The DART + project is critically constrained by the existing limited and already congested twin track infrastructure. Apart from minor changes at Howth Junction, Clongriffin, Malahide and Drogheda, there are no additional tracks proposed and as a consequence this project will deliver sub-optimal, service along the entire route not just to Drogheda and Howth but beyond to Dundalk, Newry and onwards to Belfast.

While electrification between Malahide and Drogheda will deliver some performance and climate benefit it will not compensate operationally for the additional time taken to serve all stations between Dublin and Drogheda. Long journey times mean a less attractive service and require more fleet, larger depots and make poor use of human resources.

With no opportunities for faster trains to overtake slow moving DART trains (current end to end average speed of a DART is 20 mph<sup>1</sup>) it will be impossible to run express commuter services and the Belfast Enterprise will be forced to potter along between Dublin and Drogheda at an average speed of between 35 to 45 mph. In the absence of additional tracks there should be protected slots at least hourly to fleet fast Dublin/Belfast services and limited frequency express commuter trains to Donabate and beyond. The proposed timetable pattern (in so far as it has been published) is clearly incompatible with express services.

It appears that the signalling system is not being upgraded to allow trains run in either direction on either track<sup>2</sup>. In the event of even a minor incident, services will be forced to queue behind each other resulting in the type of intense disruption which is already a frequent and frustrating feature of operations in the Dublin area.

The mock-up of the new DART rolling stock suggests the trains will have no toilets, no luggage space and will provide little opportunity for people to work as they travel. The new DARTs are clearly a high density<sup>3</sup>, low amenity train typically used in other countries for short haul journeys of 12 to 20 km, usually on dedicated tracks. They meet that spec admirably but are well below par for longer, higher tariff trips.

A particularly disturbing feature of the public consultations has been the reluctance to discuss the service pattern – “we are just providing the infrastructure, the timetables will be worked out later” apparently on a make it up as you go along basis. This is like spending billions building a hospital without knowing what you want to do with it. It is a recipe for disaster and highly unusual. Normally infrastructure is built to support a pre-determined service specification.

<sup>1</sup> Average speed to Drogheda will be higher, perhaps 30/35 mph.

<sup>2</sup> Bi-directional working is currently provided on both lines from Lansdowne Road via Connolly to Howth Junction and on one line between Skerries and Balbriggan.

<sup>3</sup> High ratio of standing to seated capacity (4-6 standing passengers per m<sup>2</sup>)

## **Consequences for DART + without Providing Additional Tracks**

Virtually no additional peak hour trains will operate south of Howth Junction as the current 11 trains per hour per direction will only increase to 12 trains per hour per direction. As most trains are already at or near maximum formation and each has a capacity similar to the new DART trains there will be very little addition to core passenger carrying capacity between Howth Junction and Connolly. The intention to run more trains on either side of the peak period may suit some people but it doesn't address the fundamental limitations of a congested twin track railway. If you want to travel you may have to take a train an hour earlier or later. This effectively adds further to journey time.

There will be a general increase in journey times from Dublin to all stations north of Donabate. The additional time added will vary from station to station and service to service but could be up to 20 minutes for some services, particularly to Drogheda and onwards to Dundalk, Newry and Belfast. A downgrade in service quality of this magnitude will not attract people from their cars. The train in consequence will only be competitive at times of extreme road congestion.

There will be increased journey times to Bayside, Sutton and Howth compounded by the significant inconvenience and security issues associated with changing trains at Howth Junction. The transfer outbound is particularly onerous for the elderly or those travelling with children. Journey times to Howth line stations will have a random component as it appears that the branch shuttle will operate "independently" of the main line services. Users of the M3 shuttle from Clonsilla or the Broombridge interchange with LUAS will be very familiar the issues that arise all too often with this type of arrangement.

As a "compensation" for Howth line users it is proposed to double the number of services between Howth Junction and Howth. For some reason the project design team expects that 8-car trains will be required for these shuttles. If the level of traffic remotely approaches the volume of traffic that would fill an 8-car train ever 10 minutes then there will be very large numbers of passengers hunting for space on the "main line" DARTs at Howth Junction.

The additional DART frequency on the Howth Branch will double (or almost double) closure times at Baldoyle Road, Cosh (Lauder's Lane) and Claremont level crossings. At the initial consultations the project team claimed that as trains in either direction would meet at the level crossings the closure times would decrease. This position has now been revised and apart from Sutton, the crossings will be closed for between 28 and 32 minutes every hour.

There is no scope for expanding DART services to Dublin Airport, to Navan (via Drogheda) nor the capacity to add additional stations such as Dunleer/M1 Parkway or Drogheda North. In the first case there will be no physical track capacity unless airport passengers are treated like Howth branch passengers and expected to change at Clongriffin. Journey times dictated by track congestion would make Dunleer/M1 uncompetitive unless as mentioned elsewhere the timetable is designed to provide one or more express passenger slots per hour.

Unfortunately this project will not shift the dial of Ireland's poor infrastructure ratings (19<sup>th</sup> out of 64 global economies in the IMD World Competitiveness Ranking).

## **Questions**

Has this proposal been co-ordinated in any way with the All Ireland Rail Review ?

Has this proposal been discussed with Translink (the joint operator of the Enterprise service) ?

Has this proposal been discussed with the Northern Ireland Department of Infrastructure ?

Has the project team any intention of publishing sample timetables and journey times as they might be when/if the proposed DART frequencies are delivered. Surely this has been modelled ?

Has this project been discussed with the EU given that implementation will result in the downgrading of TEN-T services.

**Drogheda**

The consultation mentions the requirement for a 4<sup>th</sup> platform in Drogheda as well as the need for a new traction substation. Will either or both of these requirements reduce car parking spaces in Drogheda ?

Will there continue to be services from Dundalk, Drogheda and other stations on the line to Tara Street, Pearse, Grand Canal Dock and beyond ?

# **DART + Coastal North**

## **Response to Preliminary Option Selection Report**

### **Non Statutory Public Consultation Round 1**

#### **Table of Contents**

Table of Contents .....	7
1 Introduction and Executive Summary .....	8
2 Limitations of Twin Track .....	9
2.1 Tracks and Service Frequency Comparison .....	9
3 Structures, Bridges, Signalling and Overhead Line Equipment .....	10
4 Dublin/Belfast Enterprise services, TEN-T and Strategic Rail Review .....	10
5 Howth Branch including Impact on Level Crossings .....	11
6 Review of Infrastructure Proposals .....	12
6.1 Howth Junction .....	12
6.2 Clongriffin .....	13
6.3 Malahide and Donabate .....	13
6.4 Skerries .....	13
6.5 Mosney .....	13
6.6 Drogheda & Drogheda North .....	13
7 Need to Publish Modelling Data and Sample Timetables .....	14
8 Passenger Capacity & Crush Loading .....	14
9 Service Patterns, Journey Times and Comparisons with other Routes .....	14
10 DART Performance .....	15



# 1 Introduction and Executive Summary.

This project (as currently proposed) is profoundly disappointing as it fails to address the stark infrastructure deficits on the line north of Connolly, offers a minimal increase in capacity and a significantly degraded quality of service for most users of the Dublin/Belfast rail corridor.

Passengers travelling to Bayside, Sutton and Howth will be particularly disadvantaged by the necessity to change trains at Howth Junction which will result in longer and less predictable journey times as well as additional difficulties for mobility impaired users.

Passengers travelling to Drogheda, Dundalk, Newry, Portadown and Belfast can expect lengthened journey times of at least a further 10 minutes (added to the current penalty time of at least 7 minutes caused by the increased off-peak DART frequencies introduced in 2018). It is difficult to see how the Dublin/Belfast rail corridor can remain remotely competitive with such a significant deterioration in journey times – minimum 60% increase in journey between Dublin & Drogheda in less than 10 years. This is equivalent to adding 25 miles to the rail distance between Dublin and Belfast. It appears that there has been no consultation with Translink or the Northern Ireland Department of infrastructure. The proposal document simply ignores the issue. Ireland will likely be unique in Europe in downgrading a TEN-T route and further reducing cross-border rail connectivity.

Longer distance northern line commuters will get a particularly raw deal with some key services slower than presently and **way slower than deliverable with appropriate infrastructure**. Journey times already compare poorly with services to places like Sallins, Newbridge, Kildare, Portlaoise, Tullamore or Athy. Comparison with services provided into Belfast from places like Portadown, Lurgan, Moira, Lisburn, Bangor, Ballymena and Antrim highlight just how poor the service offering is likely to be.

There will apparently be no distinction between the train type used for short duration DART trips and longer duration journeys – there will be no toilets, no luggage racks and little opportunity to work while travelling.

The promised additional capacity is substantially illusory and masked by the presentation of potential increased frequency over a 3 hour period. At present there are 11 southbound trains between Howth Junction and Connolly between 0801 and 0901. Under the new arrangements there will be up to 12 trains, barely a 9% increase. Extra capacity therefore largely hinges on passengers starting their journeys earlier or later and tolerating slower, less comfortable journeys with a high proportion of passengers standing.

There is no discussion of additional tracks (beyond the minimalist works at Clongriffin and Malahide), no discussion of expanding capacity by increasing train size. Modest lengths of additional track would radically transform the corridor allowing for faster journeys, increased frequencies and large increases in carrying capacity. In addition options would open up for services to Dublin Airport and Navan (via Drogheda) while at the same time maintaining an improved inner suburban all stops service to Howth.

**This project should be transformational rather than just a finger in a leaking dyke. Ignoring the impact on Dublin to Belfast services is yet another example of a partitionist approach so characteristic of many public bodies in this state.**

## 2 Limitations of Twin Track

A twin track railway can efficiently support

- 1) A fast, frequent, regular interval service in both directions with limited stops.
- 2) A slow and frequent service in both directions. Trains make many stops but deliver potentially unattractive and sub-optimal journey times. Ok for short journeys of 10 to 20 minutes but of little relevance to longer distance commuters.
- 3) A mixture of fast and slow services with track time divided between groups of fast and slow trains. This can be more complex to schedule than either option 1) or 2) but can provide similar capacity as well as decent journey times. Service intervals at some stations may be greater than option 2) although capacity can be maintained by using full sized trains travelling in convoys at minimal headway – e.g. a group of slow trains, an interval, a group of fast trains. In this mode longer distance commuters get reduced journey times while carrying capacity is maintained for both short and longer distance users.
- 4) A mixture of frequent slow regular interval services mixed with randomly timed and inefficiently scheduled “limited stop” commuter and Intercity services. This has been the pattern since 2018 and has proven to deliver an erratic and unreliable service with very poor journey times for everybody and perversely a reduction the size of peak period trains as both driver and rolling stock resources are heading away from the city centre at peak times in order to form later off peak services !.

### 2.1 Tracks and Service Frequency Comparison

#### Tracks & Service Frequency Comparison 2022

#### Parkwest/Hazelhatch v Dublin (Connolly)/Howth Junction

	Number of Tracks	Number of Stopping Services	Number of Express Services	Freight Trains	Total Trains	Number of Trains per Track
Parkwest/Hazelhatch	4	88	78	2	168	42
Dublin (Connolly)/Howth Junction	2	190	72	6	268	134

Stopping services typically serve all intermediate stations, although a small number of trains classed as stopping only serve Park West but operate on the dedicated “Slow Lines” between Cherry Orchard & Hazelhatch  
Express Services do not stop between the points mentioned and in most instances the first stop is beyond the 2nd point mentioned

By far the single most impactful improvement on the northern line would be the installation of extra tracks and loops. Proposed enhancements to the track layout at Clongriffin and Malahide are useful but minor compared to the congestion issue that already exists let alone that which will be created by the proposed service patterns.

At one of the consultations a member of the project team asserted that only Belfast trains would use any extra tracks provided – the above table exposes the nonsense implicit in that assertion.

## 3 Structures, Bridges, Signalling and Overhead Line Equipment

Although not strictly the responsibility of this project it is vital to ensure that new housing and other developments are not allowed to closely encroach on the existing railway right of way where such encroachment would prevent future widening of the line from double to triple or quadruple track.

All new overline and underline bridges as well as signalling and overhead line equipment should anticipate future track widening and be designed in such a way as to require little or no modification when such works are carried out.

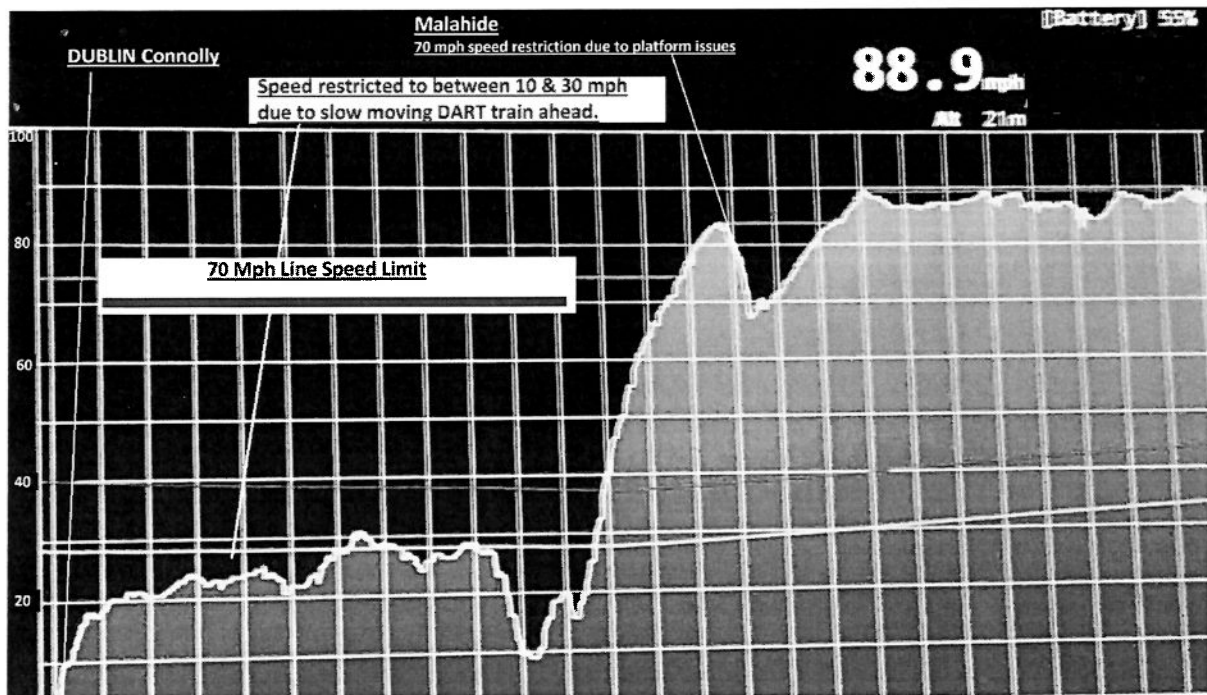
## 4 Dublin/Belfast Enterprise services, TEN-T and Strategic Rail Review

It is entirely unclear how these proposals can be reconciled with the designation of the Dublin/Belfast line to be part of the Trans European Network of key transport routes. It appears that the devastating implications for the Enterprise service of these proposals have been entirely ignored. Neither is there any reference to the Strategic Rail Review or to current proposals for enhanced Dublin/Belfast services delivering both additional frequency and reduced journey times. These aims are entirely undeliverable in the context of the service patterns proposed and the near non-existent investment in additional track infrastructure. This disconnected and disjointed approach is alarming and seriously erodes confidence in the DART + project and transport planning generally.

Various projects under way or planned in Northern Ireland have the potential to reduce existing Enterprise journey times by 15-20 minutes with further reductions of at least 10 minutes achievable through fleet replacement and increased line speeds both north and south of the border. More radical proposals, including new routing between Lisburn and Newry and Drogheda and Dublin (via Dublin Airport) could see even more significant journey time improvements and the provision of a game changing transport corridor serving the most significant economic corridor on the island.

Without either enhanced track infrastructure to accommodate DART services on the existing route or an entirely new route bypassing much of the existing line south of the Drogheda there would seem to be little future for Dublin/Belfast rail services. NTA have already forced the downgrading of Dublin/Wexford services to the point that trains barely average 20 mph in either direction between Dublin and Greystones – i.e. it now takes almost an hour to travel less than 20 miles to Greystones making the route almost irrelevant to a high proportion of potential users.

The effect of a preceding DART train on Belfast services is clearly shown on the attached graph recorded in 2019 after Belfast services were downgraded to accommodate the fixed ten minute interval DART service introduced in September 2018. The Enterprise is unable to travel at anything near the initial 70 mph line speed until after the DART turns onto the Howth branch. Thereafter most of the rest of the trip is completed at close to 90 mph. On this occasion the 9 miles to Malahide took 17 minutes to complete while the remaining 22.75 miles to Drogheda took a further 17 minutes. This is equivalent to operating a motorway with no overtaking lane so that the slowest traffic dominates and delays everything else.



The DART extension with service levels as per ES-3 seems likely to increase journey times for express trains between Dublin and Drogheda to timings bettered in the late 19<sup>th</sup> century. Put another way express journey times between Dublin and Drogheda look set to be almost twice those achievable on the current infrastructure (26-27 minutes) and routinely delivered as far back as 1997.

## 5 Howth Branch including Impact on Level Crossings

Commuters on the Howth branch will be big losers if this project proceeds in the form proposed as not only will they have to change trains they will suffer a journey time penalty of up to 10 minutes and a very awkward interchange in the outbound direction. In addition it is highly likely that passengers from Howth, Sutton and Bayside will be changing to trains on which all seating accommodation has already been taken before the onward connection reaches Howth Junction.

A ten minute interval shuttle service will require 3 train sets and with trains meeting in the vicinity of Baldoyle Road level crossing there is every prospect of inbound and outbound trains movements conflicting with each other at both Howth and Howth Junction. Such conflicts have the potential for missed connections and may require some shuttle trains to use the current southbound branch platform at Howth Junction with city bound passengers required to use the awkward connection via the footbridge.

It is unclear how long it will take disabled passengers to transfer where the connection is from platform 1 to platform 3 or platform 4 to platform 1 or platform 2. Will trains wait ?

A further significant concern for passengers is the prospect of being exposed to anti-social behaviour while changing trains at Howth Junction.

It is clear from table 12.1 in the main report that while aggregate closing times per hour at Baldoyle Road for the 6 TPH (per direction) service are minimally increased the closing times at

Sutton and Cosh level crossings more than double while closing times at Claremont increase by over 60%. The dramatically increased closure times at Sutton are likely to be locally very disruptive and a source of considerable friction with the community. The only way of reducing these closing times would be to further modify the signalling system to allow trains more closely approach the crossings before lowering the barriers. This would require reduced train speed and even longer journey times.

## 6 Review of Infrastructure Proposals

The line between Connolly and Malahide is already heavily congested with most trains forced to travel at reduced speeds due the lack of overtaking tracks. This negatively impacts service quality, journey times, capacity and efficiency. Where trains are slow more drivers are required for a given service frequency and more rolling stock is required to maintain that frequency. For example on Saturdays an express service operates every half hour between Belfast and Portadown and requires only 3 train sets to cover the service. In contrast on Sundays there is an hourly slow service from Dublin to Drogheda which requires the same number of trains. (Drogheda is approximately 6 miles further from Dublin than Portadown is from Belfast). On working days Portadown has an express commuter train every 20 minutes from 0640 to 0900 taking just over 30 minutes with 3 intermediate stops. Track upgrades and signalling improvements are expected to reduce journey time further in coming years.

The most remarkable feature of these proposals is the minimalist approach to track infrastructure with absolutely nothing proposed to provide any new operational efficiencies or flexibility between Malahide and Drogheda. Indeed there is and will continue to be less crossovers, loops and sidings than there were in 1997 when the line was upgraded to support an enhanced cross-border service.

At a minimum there is a requirement for several miles of additional inbound and outbound “slow” tracks at strategic points. This is particularly the case along much or ideally all of the line between Connolly & Howth Junction in order to separate slow moving all stations services from longer distance commuter and Intercity trains. Without such infrastructure this project will deliver very little for most commuters and will likely perpetuate almost all the inadequacies of the existing service including intense overcrowding, poor journey times and indifferent punctuality of peak services.

There are currently four tracks between Park West and Hazelhatch on the Dublin/Cork line. There are significantly fewer tracks than between Connolly & Howth Junction but four tracks ensure that stopping trains do not impede longer distance commuter trains and Intercity services. The table below shows the current mix of fast and slow trains on both lines. Passenger loadings and train sizes of both stopping and non-stopping trains would typically be significantly higher north from Connolly than on Heuston and Phoenix Park Tunnel services with crush loading routine on the northern line and rare on services from Heuston and Phoenix Park Tunnel.

### 6.1 Howth Junction

The proposed works at Howth Junction appear to be to facilitate the use of full size DART trains on the Howth shuttle service. Table ES-3 says that passenger capacity on the branch will be increased by 100% to 41000 passengers per direction over a 3 hour period, a level of capacity equal to about half the proposed capacity for the entire northern route into Connolly. It is very hard to see demand on the branch exceeding the capacity of 3, 5-car DART trains shuttling between Howth and Howth Junction. Indeed the shuttle service will likely suppress demand on the Howth branch as people seek more convenient, less convoluted and faster options. The

necessity for these works should be re-considered and attention paid to easing the pain of interchange particularly between north bound main line trains and Howth bound branch trains.

## 6.2 Clongriffin

The provision of a loop at Clongriffin for south bound trains (& turn backs) is welcome although the loop should extend at least a kilometre back towards Portmarnock to facilitate overtaking movements. Care should also be taken to ensure that the signalling overlaps at the Howth Junction end do not prevent trains being signalled on the main line as soon as a southbound train has entered the loop and is clear of the points at the Portmarnock end.

The northbound loop signalling overlaps at Clongriffin need to be modified to allow main line trains proceed as soon as a train has cleared the points at the Howth Junction end. This does not happen at present and results in an avoidable delay of 3-5 minutes for both the looped train and the overtaking main line service. The northbound loop should be extended at least one kilometre towards Portmarnock to allow a looped train depart Clongriffin before the overtaking train has cleared the points at the Portmarnock end of the loop.

## 6.3 Malahide and Donabate

The suggested turnback at Malahide is almost 20 years too late and now arguably irrelevant in the context of DART services being extended beyond Malahide. Given the massive population growth in Donabate and the further growth planned the provision of a turnback and extended running loops at Donabate would be of significantly greater operational benefit than the proposed minimalist facility at Malahide. A turnback at Donabate would also facilitate alternative and less disruptive service patterns. Early extension of electrification to Donabate would shorten the non-electrified section of BEMU operation and reduce the train frequency requirements beyond Donabate to a level more easily and less disruptively accommodated on twin track infrastructure.

Currently DART trains are parked on one or other main line at Malahide for 30 minutes every hour with northbound trains, including express trains often forced to wait outside Malahide for up to ten minutes.

## 6.4 Skerries

A high speed northbound loop should be provided here extending up to 3 kilometers towards Balbriggan to facilitate overtaking trains in the manner suggested for Clongriffin, possibly with additional platforms slightly to the north of the existing station but easily accessible from the existing entrance and other facilities.

The existing loop on the east side of the station should be extended northwards up to 3 kilometers towards Balbriggan. Any additional crossovers necessary to facilitate turn-back movements should be provided.

## 6.5 Mosney

At least three full speed tracks should be provided here to allow overtaking as well as providing turn-back facilities. Depending on BEMU range it might be possible to operate from Donabate to Mosney and back without re-charging.

## 6.6 Drogheda & Drogheda North

The provision of an extra platform at Drogheda would not be necessary with turn-back facilities at Donabate, Skerries and Mosney. Any investment in Drogheda should focus on the delivery of

a Drogheda North station (& car park) which would be conveniently sited for commuters from the north side of the town as well as the towns and villages of south Louth.

## 7 Need to Publish Modelling Data and Sample Timetables

Before proceeding with this project, either as currently proposed or in a modified format the train service plan should be presented as a model validated sample timetable showing exactly how the train frequencies and service pattern (ES-3) would work so that people could see exactly what their future service might look like, where they might have to change and how long their journey would now take. As these proposals affect all users of the Dublin/Belfast line this exercise should involve Translink and the NI Department of Infrastructure.

## 8 Passenger Capacity & Crush Loading

These proposals deliver very little in terms of additional passenger carrying capacity beyond what would be delivered were all existing services made up to full formations (e.g. 8 carriages or equivalent length of the proposed EMU/BEMUs). Capacity is quoted in terms of a 3 hour morning and evening peak (ES-3) - this disguises the fact that, for instance, there will be at most one additional train through Howth Junction southbound between 0800 and 0900, i.e. an increase in services from 11 to 12 trains.

It is notable that all capacity statements in this proposal assume that trains will be loaded with about 1,130 passengers, a ratio of almost 3 passengers per seat so will potentially deliver little improvement on the excess overcrowding which was such a feature of northern line operations pre-Covid-19.

## 9 Service Patterns, Journey Times and Comparisons with other Routes

The proposed service pattern whereby all trains (apart from Belfast trains) will stop at every station from Drogheda to Clontarf Road couldn't be a less attractive proposition for longer distance commuters and will deliver a particularly poor quality of service and an unattractive sub-optimal journey time.

At present DART trains take 25 minutes (or more) to reach Malahide, an average speed of 21.6 mph (or less). To deliver a Connolly to Drogheda journey time of 50 minutes (mentioned in the webinars but omitted from the consultation documents) would then require a Drogheda train to make a further six stops and travel almost 23 miles in the next 25 minutes, an average speed of 54.6 mph and some 13 minutes faster than the current diesel schedule. Is such a performance deliverable? Will DART performance be improved between Connolly and Malahide?

Longer distance commuters (Newry, Dundalk, Drogheda, Laytown, Balbriggan and Skerries) would be infinitely better served by a limited stop service operated by a full sized train every 20 minutes and taking no more than 40 to 45 minutes from Drogheda. Such a service could also serve Dunleer and Drogheda North. These trains would be diesel operated at least until electrification reaches Drogheda after which BEMU operation might be practical onwards to Dundalk although the lack of on-train amenities doesn't make such an option overly attractive.

A second service could commence at a Skerries turn-back running at a frequency determined by track capacity, but no less than every 20 minutes at peak times. This service would serve all stations to Clongriffin, then non-stop to Connolly before continuing towards Bray.

A third service could commence at a Donabate turnback running at a frequency determined by track capacity, but no less than every 20 minutes at peak times serving all stations to Connolly before continuing towards Bray.

A fourth service would commence from Howth running at a frequency determined by track capacity, but no less than every 20 minutes at peak times serving all stations to Connolly before continuing towards Bray.

The table below, sorted by blended average speed shows how poorly services from Dundalk, Drogheda and Skerries compare with other places in terms of journey time. Even locations on what is essentially a single track railway (Coleraine and Ballymena) fare better.

### Comparison of Commuter Journey Times

Trains arriving at first city station before 0915

	Distance (Miles)	Limited Stop Services	Journey Time (Minutes)	Average Speed (mph)	Stopping Services	Journey Time (Minutes)	Average Speed (mph)	Blended Frequency	Blended Average (mph)
Tullamore/Dublin (Heuston)	57.89	4	69	50				4	50
Portlaoise/Dublin (Heuston)	50.90	4	58	53	2	68	45	6	50
Coleraine/Belfast (Yorkgate)	59.16	4	81	44				4	44
Dundalk/Dublin (Connolly)	54.38	1	58	56	4	84	39	5	41
Kildare/Dublin (Heuston)	30.00	11	38	47	3	45	40	14	45
Ballymena/Belfast (Yorkgate)	30.99	4	43	43				4	43
Portadown/Belfast (Great Victoria Street)	25.25	7	33	46	2	44	35	9	43
Drogheda/Dublin (Connolly)	31.75	1	36	54	8	62	31	9	33
Lurgan/Belfast (Great Victoria Street)	19.96	7	26	46	2	38	32	9	42
Sallins/Dublin (Heuston)	18.00	7	25	44	4	31	35	11	40
Skerries/Dublin (Connolly)	18.00				8	38	28	8	28
Greystones/Dublin (Pearse)	18.50				5	53	21	7	21
Bray/Dublin (Pearse)	13.69				14	42	20	14	20
Malahide/Dublin (Connolly)	9.00				7	25	21	15	21
Howth/Dublin (Connolly)	8.23				8	26	19	8	19

## 10 DART Performance

The performance of the existing DART system has declined markedly since the service was first introduced to great acclaim in 1984. For instance, Howth/Bray journey times have increased by 25% despite the number of stations only increasing by 2 from 25 to 27. There is no discussion of this in the consultation documents or any suggestion that ever-lengthening journey times will be arrested. A restoration of the 1984 journey times would ease pressure on track, reduce congestion related delays and increase crew and train productivity.

### Decline in DART Performance since 1984

Typical Journey Times

	Distance (Miles)	Journey Time 1984	Journey Time 2022	Average Speed 1984	Average Speed 2022
Howth/Dublin (Connolly)	8.23	20	25	25	20
Bray/Dublin (Connolly)	14.69	36	47	24	19



As shown in the journey comparison tables DART barely averages between 19 and 21 mph from Connolly to Howth, Malahide, Bray and Greystones. With virtually no opportunity for longer distance trains to overtake the increased DART frequencies have already had a severe negative impact on journey times beyond Malahide and Greystones and greatly reduced the utility and competitiveness of the railway along the entire east coast corridor from Dundalk (& Belfast) through to Wexford and Rosslare.

Although the new DART trains appear to have a higher maximum speed it is unclear whether the new trains will deliver better acceleration or braking, shorter station dwell times or quicker door open/close cycles. Even an increase in average speed from 20 to 25 mph would partially reduce the congestion caused by slow moving DART trains and at least partially compensate for the clear lack of adequate investment in track infrastructure.