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Date: 09 December 2022

Re: Railway (Metrolink - Estuary to Charlemont via Dublin Airport) Order [2022]
Metrolink. Estuary through Swords, Dublin Airport, Ballymun, Glasnevin and City Centre to
Charlemont, Co. Dublin

Dear Sir / Madam,

An Bord Pleanála has received your recent submission and oral hearing request (including your fee of €50) in relation to the above-mentioned proposed Railway Order and will take it into consideration in its determination of the matter.

The Board will revert to you in due course with regard to the matter.

The Board has absolute discretion to hold an oral hearing in respect of any application before it, in accordance with section 218 of the Planning and Development Act 2000, as amended. Accordingly, the Board will inform you on this matter in due course.

Please be advised that copies of all submissions/observations received in relation to the application will be made available for public inspection at the offices of the relevant County Council(s) and at the offices of An Bord Pleanála when they have been processed by the Board.

More detailed information in relation to strategic infrastructure development can be viewed on the Board's website: www.pleanala.ie.

If you have any queries in the meantime, please contact the undersigned. Please quote the above mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully,

Niamh Thornton
Executive Officer
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14 Stonepark Abbey
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14 Nov 2022

Observation: "Railway (Metrolink-Estuary to Charlemont via Dublin Airport) Order 2022"

Sir/ Madam.

To ensure a proper planning and sustainable Dublin transport solution for the next 50 years, ultimately TII goal should be a LOA4 (Level of Automation 4) Metrolink spine running North/South.

This TII railway order is but half that solution. With the utmost of respect I have concerns that the incumbents in TII have unfortunately hamstrung the next generation of designers in two key areas:

- 1) The inappropriate selection of Charlemont as the Southern Metrolink Terminus.
- 2) Insufficient airport stakeholder engagement to determine future Capacity enhancements requirements at Dublin Airport.

This submission seeks to guide ABP to areas that for some unknown reason are lacking in the TII RO documentation.

An ABP Oral hearing with presentation from TII and DAA officials outlining Metrolink and Airport expansion plans could enlighten the Board in reaching a final RO determination.

1.0 Executive Summary.

- 1) A Luas terminus spur to the St Stephen Green East station (SSE), incorporating a turn back, should be designated the southern Metrolink terminus.
- 2) The Metrolink design should incorporate future Airport capacity enhancements without disturbing the operational line.

1.1 Background:

2016 TII position

"New Metro North (NMN) is one of a number of Light Rail Infrastructure projects that is proposed to be delivered within the lifetime of the National Transport Authority's (NTA's) Transport Strategy for the Greater Dublin Area 2016–2035 (The Strategy). The Strategy defines NMN as a high speed, high capacity, high frequency public transport link from Dublin City Centre to Dublin Airport and Swords, with the city centre section underground."

The 2016 GDA strategy stated NMN ".....detail the requirement for upgrading the existing Luas Green Line to Metro standard, through the extension of NMN southwards, via a tunnel, and enabling the through running of Metro trams from Swords to Bride's Glen".

2017 TII position

TII LGLTI (Luas Green Line – Tie in) "Appraisal study" chose option 4B (Ranelagh) as the NMN tie in location.

2022 TII position

The 2016 GDA strategy is revised and Metrolink RO is now based on a "Draft"/New Strategy. Originally New Metro North (NMN) was a light rail system. Metrolink is presented as an upgrade with a proposed underground terminus located at Charlemont. The system is supposedly capable of further expansion towards...? TBD. (TII to indicate tie in location at an Oral Hearing?)

Therefore of note, is the fact that this RO does not give any long term detail to the southern portion of the Metrolink spine.

1.2 Metrolink Terminus: Charlemont V's St Stephen Green east.

EIAR Vol 2, Chapter 7 Alternatives: P63-65.

EIAR Vol 2, Chapter 7 Alternatives: P97-119

EIAR Vol 2, Chapter 8 Consultations: P28 Table 8.9 (Luas Upgrade & Metrolink Terminus at

SSE)

Southern Terminus:

A Luas Terminus spur to the St Stephen Green East station (SSE), incorporating a turn back, should be designated the southern Metrolink terminus.

'Location, Location, Location' is the catchphrase that encapsulates the correct choice of key infrastructure. When it comes to Transport links it is vital that it is future proofed.

In relation to TII choice of Charlemont over St Stephan Green East (SSE) as outlined in EIAR Volume 2 Chapter 7 Consideration of the Alternatives P63 Section 7.7.8 and Table 7-16. I am sceptical that this future proofing of Metrolink can be achieved at Charlemont.

1.2.1 Is TII transfixed on Charlemont?

New Metro North (NMN) has morphed within a revised "draft" GDA strategy - from a light rail tram system to an automated high floor Metro carriage system.

From operating power supply, to platforms, to segregation issues and carriages, neither transport modes are compatible.

- 1) A LOA4 autonomous Metrolink system joining a manually operated Luas green line is quite evidently portrayed by TII as problematic.
- 2) The Board Inspector must be acquainted with the LGLTI (Luas Green Line Tie in) appraisal study. TII chose Option 4B tie in, however they overlooked the Grand Canal Sewer obstacle - hence option 4B tie in was subsequently shelved. Consequently, NMN and now Metrolink is therefore being left underground with literally nowhere to go or resurface.
- 3) Why therefore does TII still profess the long term option of a future Green line - Sandyford tie in?
- 4) Why bury the TBM head at Option 6 instead of Option 9B (Vol 2 Chapter 7 P 118 Diagram 7.41)?
- 5) Why isn't TII retrieving the TBM from a portal at Option 6?

1.2.2 TII RO Southern Terminus.

TII chose Charlemont over St Stephen Green East. Their justification is outlined at Vol 2 Chapter 7 page 65, whereby TII state:

"In Summary, the analysis identified Charlemont as the preferred location for a termination station driven by the following the key rationale;

A shorter interchange walking distance at Charlemont with almost 5 minutes shorter interchange time when compared to St Stephen's Green (Refer to Diagram 7.11 and Diagram 7.12);

- ✓ *Charlemont allows for future proofing of the extension of Metro further south, either by way of a connection to the Luas Green Line or an alternative metro route alignment to the south of the city;*
- ✓ *Charlemont bypasses capacity constraints on the Luas on-street running section between St Stephen's Green;*
- ✓ *Charlemont provides additional public transport connectivity to key trip attractors south of St Stephens Green, with high demand for services in this area predicted;*
- ✓ *Charlemont provides additional fare/revenues collected with a favourable Cost Benefit ratio likely; and*
- ✓ *Charlemont avoids more significant environmental impacts on St Stephen's Green."*

1.2.3 Why Charlemont is not a suitable Metrolink Terminus.

At the outset I sought to guide ABP to areas that for some unknown reason are lacking in the TII RO documentation. I propose a LUAS Green line terminus spur at St Stephen Green SSE Metrolink and shall now counter TII justification for a Charlemont St Metrolink Terminus.

TII Position:

- *"A shorter interchange walking distance at Charlemont with almost 5 minutes shorter interchange time when compared to St Stephen's Green (Refer to Diagram 7.11 and Diagram 7.12);*

Response:

A Luas Green line terminus (opposite the Shelbourne Hotel) trumps the interchange distance at Charlemont (Diagram 7.11.). A safe comfortable surface transfer and assured interconnection (with luggage) is a strategic Metrolink bonus for revenue generation from Southside residents.

TII Position:

- ✓ *Charlemont allows for future proofing of the extension of Metro further south, either by way of a connection to the Luas Green Line or an alternative metro route alignment to the south of the city;*

Response:

Of particular note is the fact that TII chose not to complete tunnel boring to a position directly underneath the Luas line (Option 9B Vol 2 Chapter 7 P 118 Diagram 7.41).

TII declared position on the "Luas Green Line Deferral" outlined at Vol2 Chapter7 Section 7.7.7. P60-61 cast's doubt on any future connect to Sandyford.

An oral hearing would give TII an opportunity to update ABP on a revision to the flawed Option 4B LGLTI (Luas Green Line Tie in) "Appraisal study".

IMHO a Metrolink terminus at SSE gives better future catchment/alignment options to south city suburbs.

TII Position:

- ✓ *Charlemont bypasses capacity constraints on the Luas on-street running section between St Stephen's Green;*

Response:

"....capacity constraints on the Luas on-street running section between St Stephens Green" are a function of road usage and have nothing to do with where a Metrolink underground Terminus is located. Luas Road usage limits are outlined at Table 7-15 Vol2 Chapter 7 P62-63.

Prior to Luas reaching its notional absolute "on-street running" capacity, a decision on a Metrolink South extension would naturally have already been made. A Metrolink extension natural objective, is to relieve pressure on the Luas system.

An additional new Luas Terminus at SSE absolutely ensures no capacity/constraints on the on street platforms "between St Stephen's Green". A co-located Luas/ Metrolink Terminus at SSE future proofs the uptake of Metrolink passengers to/from Dublin Airport.

TII Position:

- ✓ *Charlemont provides additional public transport connectivity to key trip attractors south of St Stephens Green, with high demand for services in this area predicted.*

Response:

Charlemont will continue to "provide additional....." with "high demand for services" from an enhanced Luas System from SSE Metrolink Terminus.

TII Position:

- ✓ *Charlemont provides additional fare/revenues collected with a favourable Cost Benefit ratio likely;*

Response:

A comfortable connection between Luas and Metrolink for Airport Passengers (with luggage) will seal additional revenue success. Both are naturally achieved with a new SSE Luas Terminus.

TII Position:

- ✓ *Charlemont avoids more significant environmental impacts on St Stephen's Green.*

Response:

Neither St Stephen Green East (SSE) Metrolink location nor its internal design are changing. An underground "turn back" shall obviously be required so TII could elaborate on the "more significant environmental impacts" comment at an ABP hearing?

1.2.4 Why St Stephens Green SSE Metrolink Terminus is suitable.

It's alleged that most politicians on the Southside appear to favour a South / Southwest Metrolink extension.

It's obvious why Dartmouth Square residents don't want Metrolink. Charlemont has the propensity to become the Southside's one stop drop off / pick up point for Airport Bound passengers.

Southside Airport Passengers will naturally seek to avoid DAA Long term Car park fees or exorbitant round trip Taxi Fares. Therefore the true success of Metrolink is dependent on an assured airport passenger connection particularly with a southbound LUAS.

So how does TII overcome future capacity issues with on street Luas platforms whilst endeavouring not to be overwhelmed by a naturally expanding Green Luas line coupled with additional projected DAA enhanced airport capacity demand?

Answer: ABP to condition TII to create a new Luas Green Line terminus at the SSE Metrolink terminus.

If the ABP inspector walks the ground on the Northern side of St Stephens Green one can see the original Luas Green line turn back.

What if this Northern stretch was upgraded to twin tracks, extended and designated a Luas (Southbound only spur). The benefits of this spur are as follows;

- ✓ The Transfer time from Luas to Metrolink shall reduce the minimal connectivity distance extolled by TII at Charlemont.
- ✓ The Luas/SSE transfer is at surface level making luggage transport safer and more comfortable.
- ✓ All Southbound Metrolink passengers are assured of near empty trams at the new SSE Luas terminus opposite the Shelbourne Hotel.
- ✓ Southbound Metrolink Airport passengers (seeking assured Luas seats) won't now have to transfer from O'Connell St Metro to Luas Parnell, therefore freeing up Green Line commuter space exiting the city centre.

- ✓ Dedicated Northbound Green Line "SSE Metro Terminus" trams dovetailing with peak airport hours, will deter City Centre bound passengers from boarding.
- ✓ An Express Metrolink service SSE-Airport with limited stops during Airport peak hours shall allow greater Luas Metro uptake connection along the Sandyford line, thus easing pressure on the M50 to the Airport.

Were the ABP inspector to delete the Charlemont Metrolink terminus from this RO then all is not lost.

TII still have the option to extend the SSE line by 390m, extract the TBM and incorporate a ventilation shaft / emergency stairwell for turn back tunnel staff. The ideal location for these works are adjacent to the Iveagh Gardens or outhouses at the Southern end of the NCH.

Future Metrolink stops options are Portobello thereafter Central Rathmines whilst Line Curvature from Charlemont may restrict / necessitate having to bypass central Rathmines?

1.2.5. The Customer votes with their feet?

TII engineers make no reference to the passengers experience when interfacing with Metrolink. Airport passengers with suitcases are expected to interchange with the Luas Green Line at Charlemont. It's strange that no mention is apparently made within the RO to a Luas Red line interchange point?

A TII appraisal team looked at the various options on how passengers shall transfer at Charlemont. Four Options are outlined at EIAR Vol 2 Chapter7 P113.

"Option 1 was the preferred option as it reduced the potential for a setting impact on the Carroll's Building (when compared to option2)". No doubt this is of little comfort to passengers who in perpetuity shall haul suitcases up a flight of stairs to the Charlemont Luas Southbound Platform.

A connecting link for Southside residents is critical to the success of Metrolink—A minimal stairwell just doesn't do it.

Given TII projected capacity expansion of the Luas Green Line, pressure will continuously mount on the southbound uplift carrying capacity/ capability of Metrolink passengers at Charlemont. So is Charlemont interchange really suitable for southbound airport passengers to 2042? Will there be even space then on a Southbound Luas exiting the city?

Finite Tram floor space capacity.

A Luas tram has a maximum capacity of 408 passengers. Conservatively, assuming the Luas exclusively had airport passengers, then the usable floor area reduces to $408 \div 2$ (as each passenger would invariably hold a pull along suitcase). This finite Luas minimum capacity (204) may determine where passengers will actually strive to connect from Metrolink to LUAS.

ABP field study.

Prior to a possible Oral hearing I would encourage the ABP inspector to view the premier transfer route for South Dublin residents who seek to connect with Metrolink at Charlemont. Senior citizens (bound for Dublin Airport with luggage in tow) will have difficulty navigating the confines of this minimalist stairwell.

In essence the stairwell and new (replacement?) single lift facility at Charlemont is neither adequate nor suitable for the projected peak flow transfer passenger volumes to 2042.

Having studied the Luas and Metrolink network, astute southbound airport passengers may decide that the best option to connect with suitcase is where Southbound Luas Green line passengers disembark.

- ✓ The first logical assured link is Metrolink O'Connell St – Luas Parnell St.
- ✓ Metrolink SSE- Dawson St is second in order to overcome any station street congestion issues predicted at the St Stephen Green Luas Stop.
- ✓ The Last option is for passengers to remain on Metrolink to the Charlemont terminus. (Assuming one wants to haul a suitcase up a flight of stairs, take one's chances alongside fellow airport passengers in boarding a southbound Luas tram that's projected to increase its passenger volumes existing the city).
- ✓ Airport Passengers travelling southbound may also have boarding restrictions and no doubt shall invariably remain adjacent to tram doors (with suitcase) thus making for an awkward journey for all customers.

If there is a slight truth to this portrayal of the Charlemont Southbound Luas platform experience then ABP must reflect on the exact reasons why TII are adamant that Charlemont beats SSE as the preferred terminus. Is it because the NTA have invested large funds in carrying out enabling works at Charlemont before submitting a Railway order? Is it face saving for TII executives? How realistic is Metrolink ever really going to connect with Luas?

1.3 TII Metrolink RO

The TII RO proposes an underground terminus with an extended 350m bore incorporating a Turn back tunnel past Charlemont station. Thereafter the TBM head shall be sacrificed and buried.

If ABP were minded to rubber stamp and approve the TII RO as is, then this may pose future challenges to TII designers?

- A) How will the tie in challenges be overcome when Metrolink is in full operational mode?
- B) What are the capacity limit/constraint of the Option 1 passenger link stairwell between Luas and Metrolink?
- C) Where will Metrolink go?

A) Future Expansion of the line when in full operational mode:

The TII RO submission fulfils its own self brief and that of a "DRAFT" GDA transport strategy plan. Future expansion of the Metrolink line is conveniently outside the "scope of this project".

Therefore one asks ABP to ascertain by way of an oral hearing how further extension of the North/South Spine shall tie in with the operational line that terminates 350m south of Charlemont.

For instance:

- If future expansion is professed by TII, then why isn't the TBM head retrieved via a portal?
- Are there any environmental effects to ground water resulting from a buried TBM?
- It's obvious that spoil from future boring must be extracted in a southerly direction, therefore how shall the future tunnel be mined/joined when an advancing TBM head meets a sealed buried TBM head?
- The RO outlines various curvature radii options between TARA St and SSE. A new station located south of Charlemont must therefore lie within a tolerance arc e.g. (The minimum permissible 80km/hr track curvature radii line commencing 350m South of Charlemont). Would this defined Arc eliminate a future connection to a major suburb, eg Central Rathmines?
- Would a SSE terminus not give Metrolink South better catchment potential whilst diverging from Luas heading south?

B) Passenger Integration Option 1 between Luas and Metrolink at Charlemont.

Option 1 was chosen as the preferred route citing minimum transfer times. This begs the following question;

Who is minded to disembark from a Northbound Luas at Charlemont when one is so close to the City Centre?

Inevitably the answer would predominately be local employees or Airport bound travellers, certainly not city centre shoppers/workers or commuters.

Therefore it's vital that the connection with Luas must primarily suit Airport Bound passengers with suitcases. Charlemont doesn't do it!

C) Where will Metrolink go?

The million euro question. One wonders how many worldwide Metro systems terminate underground with no strategic decision on where the line eventually resurfaces. "Fail to prepare...prepare to fail", In my humble opinion, a flawed weak decision to terminate at Charlemont does not bode well for a future Southern Metrolink spine.

1.4 Ideal Integration between Metrolink the Luas Green Line and future Metrolink potential.

As the notion of ever linking Metrolink to the Luas Green Line fades, attention will no doubt gather pace as to where Metrolink Southern spine shall terminate.

Were ABP to designate SSE as the Metrolink Terminus then the next future Metrolink stop could be Portobello, thereafter central Rathmines, before Metrolink continues routing to areas outside of the current Luas Green and Red lines catchment areas.

The important thing is to future proof Metrolink. Charlemont doesn't do it and if TII were honest they would probably say the same in private.

ABP are respectfully asked to consider southbound airport passengers with luggage when deciding on a suitable Metrolink / LUAS connection point. Dedicated Luas trams modified with overhead luggage compartments would add additional appeal to the SSE- Sandyford line.

My proposal for a Luas Green line Terminus spur at SSE ticks all the boxes and opens up the South Central Suburbs for future line extension/connection to Metrolink. A future northbound bore can terminate and connect with Metrolink at the temporally sealed Iveagh Gardens Portal.

2.0 Insufficient airport stakeholder engagement to determine the future Capacity enhancements requirements at Dublin Airport.

Metrolink has the potential to drastically reduce DAA car park revenue generation. This may justify the DAA to seek ABP approval to increase its Eastern campus cap above current 32mppa as vehicular traffic volumes may reduce the impact at the airport terminal set down kerbs.

My Dublin Airport Metrolink RO concerns relate to:

- 1) Dublin Airport Metrolink platform size.
- 2) The lack of RO capacity enhancements to meet DAA expected passenger volumes to 50mppa.

1) Dublin Airport platform size.

The Metrolink RO treats Dublin Airport as a normal in-line station. Every Metrolink passenger embarking or disembarking Metrolink at Dublin Airport shall invariably have luggage in tow. Therefore this station is without question the most critical on the network in respect of platform space.

DAA, with the undoubted approval from FCC plan to expand the Airport from 32 to 40mppa (by 2030) thereafter to 55mppa, will guarantee that Dublin Airport Station platforms will be the first stress test Metrolink constraint.

What is the theoretical safety limit for passengers entering the Station, - to cover simultaneous transit movement from both 65m length platforms?

Is it the maximum carrying capacity of inbound and outbound MetroLink carriages, 1000 or the equivalent 500 passengers with suitcases?

I believe that the proposed 65m platform (with only single sided entry/exit points) may not suffice for peak aircraft wave returns to Dublin Airport.

For passenger comfort the station box should either be extended into two segregated 65m sections for separate in line arrival and departure platforms OR this unique pinch point station should incorporate an additional central island platform thus segregating the proposed 65m platforms for a more comfortable uninterrupted arriving and departing passengers flow experience.

- 2) The lack of RO capacity enhancements to meet DAA expected passenger volumes to 50mppa.

The DAA airfield Masterplan and FCC local area plan extends the Airport into the "Western Campus". Therefore as Airport passenger Volumes increase to 55mppa when does TII see the 65m platforms becoming a constraint? How will Metrolink passengers link up with a western Campus Terminal? Will Metrolink link only the Eastern Campus?

Future proofing a link spur (South of the Dublin Airport south portal) either stand alone or via Dardistown would ensure that any future Western Campus Airport Terminal development can link up with Metrolink.

3.0 Summary:

I trust that I have highlighted the flaws with Charlemont as the designated Southern Terminus. I am dubious whether TII have any future plans to ever connect Metrolink with Luas.

If ABP approves this RO, then Metrolink passengers shall interface with Luas via a substandard passenger link unsuitable for airport bound passengers.

The expected increase in Luas passengers could ultimately be detrimental to the success of Metrolink for Southside passengers (outside of DART connection) that seek to route to Dublin Airport.

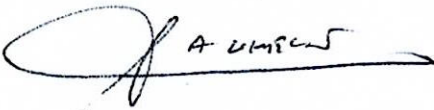
To ensure uptake and future proofing of Metrolink - the St Stephens Green East (SSE) Metrolink station, combined with a Green Line terminus Spur, is my preferred ideal transfer location.

In relation to Dublin Airport, the 65m platform is the limiting factor. DAA expansion plans may be curtailed to this limit as is the M50/M1 constraint today.

Traditionally as a nation we don't future proof major infrastructure projects, Metrolink is no different. Expect soul searching when the DAA wish to expand terminals as the Metrolink thwarts line construction options.

Finally ABP should query why some select station platforms aren't capable of being future proofed (via locally mined extensions) – if even to ensure a rapid airport service from select stations. (The Current RO predicts- acceleration and deceleration every 1Km, to every station!) An M50 lift may still be quicker for Southside residents.

Yours Sincerely.

A handwritten signature in black ink, appearing to read 'A Whelan', with a long horizontal flourish extending to the right.

Andrew Whelan.