METRO DART 5 YEAR DELAY OR 100 YEAR WAIT

31

Some of the Advantages of Newton Transport Plan (a)

Map 1. Contraflow bus Loop on the Quays.

Contraflow bus lane most effective bus lane of all, it self-polices.

It works better as there are no shops, stores, or activities on Quayside.

It creates train track effect, traffic free if traffic lights are synchronised.

It creates city interchange.

It creates safety solution for cycling and for bus drivers.

It reduces hampering or delaying Luas.

Maximised bus efficiency.

Solves most public transport problems.

Aids electric buses.

Map two. G-Link Luas.
Disperses all extra passengers arriving in Dublin due to rail dart update.

Takes users close to all areas in the wider city centre area.
Allows more space for the city businesses to functions.

Map 3. Metro Dart. (principle of movement is direct).
Links whole rail network In Dublin by using **standard (Irish) rail gauge.** **Donabate to Glasnevin** 17K on centre of R132 got permission 2009 with Metro North. Let's hope this solution won't discarded for cycle way.

Everywhere in Ireland and Dublin with rail can access Dublin Airport directly, and all other areas of Dublin can directly access other areas of Dublin that has rail. Examples, Stations on Belfast line can access Airport directly, Similarly, stations on Cork, Sligo and Wexford line can also access Dublin Airport directly. Cork to Belfast direct. Unlimited other connections. 10 times better for Swords users.

By being direct suits users, quicker to destinations and more convenient, particularly for users with a disability, baggage, & families with children.

Can be completed relative quickly and inexpensive. (2 billion my figures). The rest on map 3 can fit in on a gradual basis. Aim is to give users choice, reduce car movements, and make Dublin great. These maps can be viewed on website acratu.com. TN 25/3/2024. If wrong rail gauge is used direct access from all areas to Airport will not happen.

3

THE NEWTON TRANSPORT PLAN

METRO DART 150324

Proposed DART, Rail & Luas routes with trackless trams for Dublin
SMART TRANSPORT

Tom Newton (3) (1)

Donabate
Donabate Junction
METRO DART (7A)
Estuary
Swords
Malahide
METRO DART (7A)
Cloghran
Dublin Airport
Clonshaugh
Ballymun
Missing Rail Link M50
Finglas
Mulhuddart
Clonee
M3 Parkway
METRO DART (7A)
DCU
Beaumount Hospital
Howth Junction
Howth
Blanchardstown Centre
Hansfield
Clonsilla
Blanchardstown Hospital
Broombridge
METRO DART (7A)
Glasnevin
Sligo Line
Maynooth
Intel
Celbridge Junction
Palmerstown
Liffey Valley
Chapelizod
Heuston
Connolly
Docklands
Point
Tara
Stephens Green
Ballsbridge
St. Vincent's Hospital
UCD
Dundrum
Dun Laoghaire
Lucan Adamstown
Ballyfermot
Parkwest
Clondalkin Fonthill
Clondalkin Village
Kylemore
Red Cow
Fatima
Dodder
Peamount
Saggart
Tallaght
Spawell
Firhouse
Sandyford
Gallops
Brides Glen
Shanganagh
Hazelhatch
Cork Line
Sallins

LEGEND

1	Outer Luas Orbital & branches
2	Lucan Luas & branches
3	Red Luas, existing
4	Green Luas & extensions
5	G-Link Luas
6	Rathfarnham Luas
7	Rails, existing & proposed
8	Missing rail link (on M50)
9	Service Road from N7 to M1
10	South West Metro DART Underground
7A	MetroDart - Glasnevin to Donabate JNC via Dublin Airport
10A	Dart

Supported by
The Baggot Street Traders
The Pembroke Road Association

T.N

2

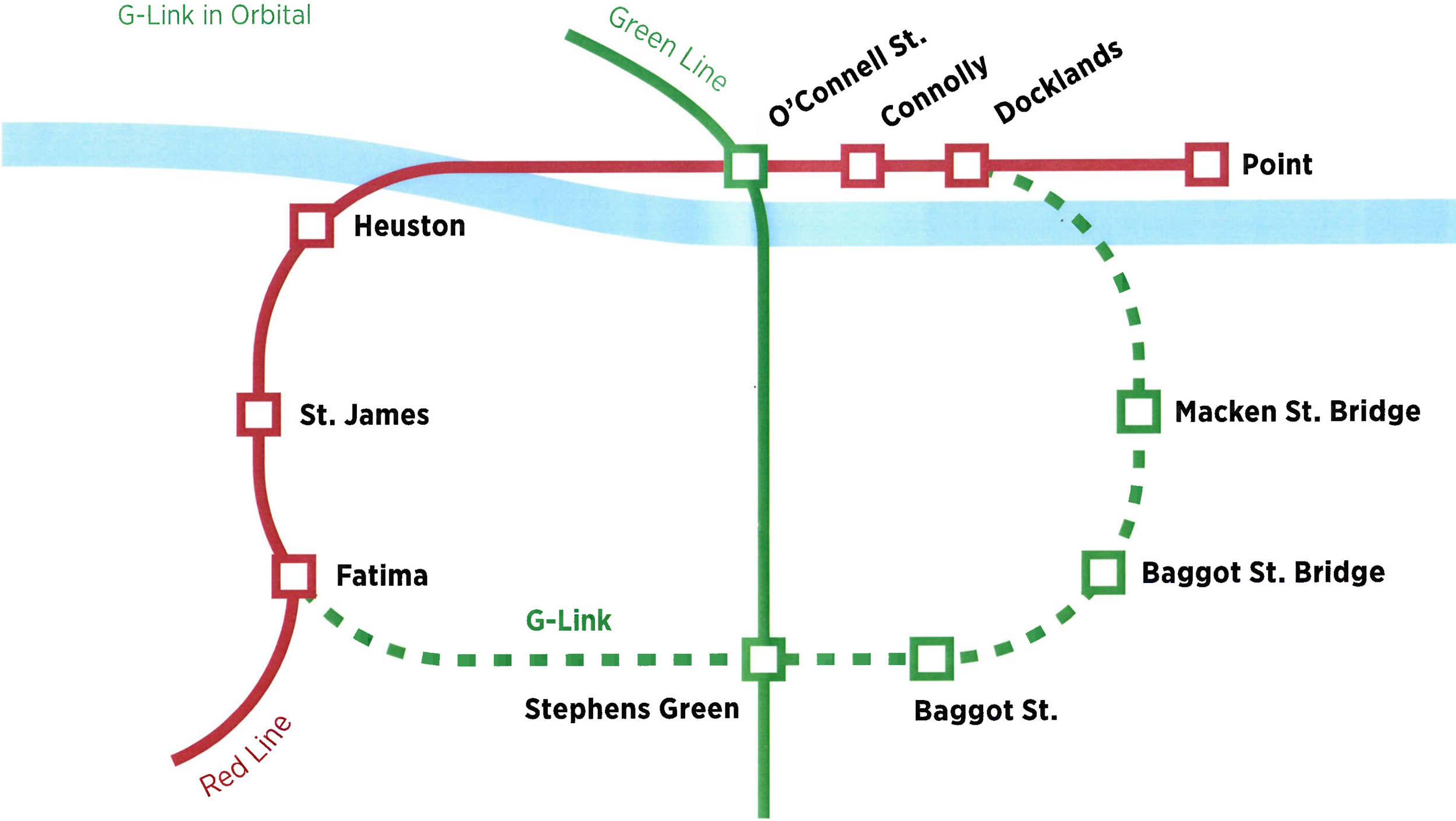
THE NEWTON TRANSPORT PLAN

Luas City Orbital

G-Link in Orbital

Main Benefits

- All Dublin centre areas within walking distance of a rail or Luas line
- Accommodates all arriving at Dublin's three rail stations and bus station
- Maximises bus use, reduces congestion
- Makes city more accessible, especially for users with a disability



I

I


City Bus Network Part of ORBITAL PLAN
Contraflow Bus Loop On Quays
QUAY BUS CONTRAFLOW
Collins Barracks
Saint James's Gate
Dublin Castle
Trinity College Dublin
Dublin Heuston
Connolly Station
Dublin Connolly
Docklands
Dublin Pearse
Grand Canal Dock
Spencer Dock Luas
Mayor Square - NCI
Busaras
Museum
Smithfield
Four Courts
Jervis
Abbey Street
O'Connell - GPO
Marlborough
Trinity
Dawson
O'CONNELL ST
Wolfe Tone Qy
Victoria Qy
Usher's Island
Usher's Qy
Arran Qy
Inns Qy
Merchant's Qy
Ormond Qy Upr
Ormond Qy Lwr
Wellington Qy
Essex Qy
Essex St East
Custom House Qy
City Qy
Nth Wall Qy
Sir John Rogerson's Qy
Britain Qy
Hanover Qy
Parkgate St
Montpelier Hill
Arbour Hill
Brunswick St Nth
King St Nth
Church St
Chancery St
Mary St
Henry St
Talbot St
Parnell Sq West
Sean MacDermott St Upr
Gardiner St Lwr
Townsend St
Pearse St
Hanover St East
Dame St
Castle St
High St
Thomas St West
James's St
Bow Ln West
Cook St
Oliver Bond St
Clare St
Merrion Sq Nth
Ringsend Rd
Hogan Ave
Sheriff St Lwr
Mayor St Upr
Spencer Dock
George's Dock
Grand Canal

Shortened version of our concerns about the MetroLink project for my presentation:

26th March 2024

For Presentation at ABP's Railway Order hearing on the 27th March 2024.

Duncan Stewart
Architect & producer/ presenter of 'Eco Eye' TV documentary series and 'About the House'.

I present this together with a short submission by Tom Newton & Caitriona McClean (ACRA)

1. The exorbitant, unprecedented budget required by TII to develop the MetroLink project.

We are deeply concerned about the colossal 9.5bn euro budget, envisaged for the MetroLink project.
This unprecedented and disproportionate allocation of State funds in capital investment for the MetroLink, for what we perceive as an exceptionally costly, carbon intensive project, which in our opinion, is the most crucial issue to be considered by ABP for this Railway Order.
We also find MetroLink a 'stand alone' project, to be inflexible, incompatible and incapable of addressing the critical mobility needs for Dublin's citizens across the city's wide metropolis and for enabling its long-distance commuters to switch from car journeys to public transport, commensurate to its huge budget, on a cost-benefit analysis and opportunity-loss basis.

This project is very likely to deprive Dublin citizens of the essential funds and resources required to expeditiously transform Dublin to a well-connected multi modal, public transport 'network' that provides easy access across the city, and on the main routes that lead into the city from the GDA and Dublin's wide commuter belt.

Our core interest is to identify solutions that would enable Dublin, our other cities, towns, and rural Ireland to reduce transport's carbon emissions, to align with our mandatory GHG reduction target by 2030 and beyond.

To achieve this, Dublin's 'mobility 'nework' system needs to provide a viable and compelling 'choice' for our citizens and commuters, of an effective public transport system, that entices car commuters to switch to public transport.
This will reduce the excessive demand and dependence on car journeys in Dublin, while simultaneously, it will reduce traffic congestion, and free up urban road space for safe cycling, public realm activities, and tree planting across the city, etc.

(a) The scale of the MetroLink's tunnel:

The complete 18.8km rail route of the MetroLink construction comprises two stretches of tunnel of about 11-12 km (approx) in lengths, where the long stretch (9-10 km), from Claremont to M50)

and the second is through the Airport (2km).

The large single-bore tunnel, at possibly 7-8m in diameter, accommodates the two train tracks. This together with the tunnel's platforms deep below ground, which require much larger tunnels, while similar for their train stations at surface grade, compared to a DART rail line laid at surface grade.

(b) The 'embodied carbon' emissions from the construction of the long tunnel structure:

The sheer scale of the MetroLink's tunnel will generate massive 'embodied carbon' emissions from enormous quantities of carbon intensive materials, concrete and steel. Also, the energy consumption to bore the tunnel, and to power other machinery for its excavations and the transport of its huge quantities of soil and rock.

These factors will considerably amplify MetroLink's embodied carbon, by possibly as much as 27-fold increase compared to a similar rail line route laid at surface grade.
See in-depth study: Olubanjo Olugbenga, Nikolaos Kalyviotis and Shoshanna Saxe.

However, as I do not have access to scaled-drawings (plan & cross section) of the tunnel Construction, to roughly quantify the 'embodied carbon' emissions from the tunnels and their large platform tunnels & stations

In my opinion, the full amount of embodied carbon (in tonnes CO2) should have be accessed early, at the pre-design stage, and have been included as a core issue in the EIAR
Please correct me if TII has done so.

(c) The significant increase in electricity use and CO2 emissions, from it operational' energy, over its lifetime:

The MetroLink's trains, will create a large air-resistance 'drag' effect, when traveling at their required design speed through the long tunnel, This 'aerodynamic' phenomenon occurs from air in the tunnel ahead of the train being compressed, which create a mass of high air pressure in the tunnel at the train's nose, as it travels at fast speeds, along with a strong suction 'drag' effect at its tail, similar to a 'piston in a cylinder'.

Likewise, a large air-turbulence and friction, generated from the train's surfaces relative to the tunnel's surface, develops a shear force along the length of the train's carriages.

As the MetroLink's trains must travel through long tunnels at fast design speeds, the drag effect multiplies the 'air-resistance' exponentially, as its force is proportional to the square of the speed. These drag forces work counter to the flow to the train's forward movement, which considerably amplifies the trains' electricity consumption.
This in-turn generates a similarly large increase in energy consumption and CO2 emissions when the trains become operational and traveling fast, compared to a train line on a surface grade level and open to the air when at similar speed.

Has TII estimated the reduced performance in 'operational' energy and higher CO2 emissions and have they included this in their EIAR?

(d) The MetroLink tunnel stations:

- Require much larger structures, which are factors more costly in capital, and in excessive 'embodied carbon'.
- Rail lines in tunnels require stations at multiple the size of stations for surface rail.
- Deep underground stations create an encumbrance for passengers in accessibility to ground level

(e) The MetroLinks's proposed rail track gauge:

The different width of MetroLink rails' track gauge, at the UK standard of 4ft.8in (1,400mm), compared the 1600mm gauge of Dublin's DART, InterCity and Commuter trains in Ireland.

This design factor will prevent all other trains from traveling on its route.
Likewise, it will prevent the MetroLink trains from traveling on the routes to Cork, Belfast, and all other rail lines across Ireland, and Dublin city.

This clearly limits the effectiveness of the MetroLink rail services. It curtails its flexibility, and confines its trains to this single underground route.
This greatly reduces the potential mobility benefits for Dublin citizens, while inflicting unnecessary limitations on its potential for passenger numbers, which in turn diminishes the potential for achieving reductions in car journeys.

2. The perceived value of an underground rail line for Dublin city:

An underground rail line may appear very attractive at first glance, as it would not incur the restrictions to its required fully-segregated long route, where new rail routes through open land are difficult to find in a built-up urban metropolis like Dublin city.

However, the massive boring excavations, materials for construction works and heavy transport required for this tunnel structure, significantly amplifies its 'embodied CO2', along with the 'drag' effect which will significantly compromise its 'operational CO2' emissions, compared to surface rail line.

This should be a core criteria for assessing this tunnel project.
Likewise, an underground rail line would be inflexible in its ability to achieve efficient and cost-effective mobility solutions for a sprawling low-density city like Dublin.

Also, this single 'stand-alone' radial line, would offer little in benefits in remedial improvement to a badly needed rail 'network' system that is now so urgently required for Dublin at surface grade level.

A sprawling 'underground rail network' below Dublin city, including a vital orbital route would unfortunately prove extremely costly to develop, and cause massive 'embodied' CO2 emissions

from its tunnel's construction.
It would also exacerbate energy consumption and CO2 in operating its rail service, by a 'drag' force from air-resistance, by trains traveling at speed through the long tunnel, compared to a rail network at surface.

The alternative routes and modes that we have discovered, would connect the south and west side of the city to the Airport and Swords by the following:
(a) The two LUAS lines to the city centre, would continue on separate routes (Ballymun Road and the Port Tunnel/M1 from city centre to the Airport and Swords.
.(b) Be underpinned by articulated bus coaches, or BRTs. (Bus Rapit Transit)
(c) The two existing DART lines from Greystones to Tara St and Connolly stations, and from Kildare to Heuston Station, where both existing DART lines are joined at Cross Guns bridge (beside the Royal Canal), where a new DART line would be laid along the same route as the MetroLink to DCU, Ballymun, the Airport to Swords.

This new DART line could also continue eastwards from Swords at Estuary, to join the Drogheda to Connolly to Greystones DART line at a new station located south of Donabate (north of Broadmeadows estuary).

This serendipitously offers a unique opportunity to join both these lines for both their directions, and to join our proposed rail line with sets of points, where trains from Swords and Airport could then travel to Connolly Station, to continue southbound via Tara St Station, etc, and vis-a-vis, or to park at Spencer Dock station.

Ruadhan McEoin's submission rightly proposes that 7 to 8 new DART stations should be posiitioned and be apportioned to the existing Cork and Sligo) lines, to increase their mobility effectiveness by servicing the dense residential areas of 150,000 people along their 12km stretchg to Ballyfwermot. This includes the forgotten line thzt runs along the Royal line, from Cross Guns bridge new Station to Docklands station.

Our proposed joining of the three lines at Cross Guns Bridge opens up multiple opportunities for the new Metro DART trains and for the existing train lines, as it provides optional choices for the routes they can travel, which includes enabling trains to travel to Heuston.

3. This would enable the following combinations of alternative DART route options:

1. DART trains from Cork, Galway, Limerick, Waterford to Kildare via Heuston Station to the Airport to Swords, to join the Drogheda Line to Belfast, or to Connolly to Greystones to Wexford..
2. Or, to travel from Drogheda to Swords via the Airport to Cross Guns Stn to Heuston Stn to Kildare to Cork, or Galway, or Limerick, or Waterford,.
3. Cork, Limerick, Galway, Mayo to Kildare to Heuston to Cross Guns junction to Connolly to Greystones, to Wexford.
4. Kildare to Heuston to Airport to Swords, Drogheda,
5. Sligo to Mullingar to Maynooth to Cross Guns station to Docklands
6. Or switch at Cross Guns junction to Connolly to Greystones to Wexford.

The first 1.75 km stretch of this new rail line from Crosa Guns to south of DCU on Ballymun Rd would be through a tunnel, with another 1km tunnel stretch through Dublin Airport. All the rest of this line to Swords and Donabate would be an open rail line at surface grade. This would reduce the total length of the tunnel to 25% of the MetroLink tunnel.
These options could be realized at a fraction of the cost, time frame, and CO2 emissions, when compared to the MetroLink.

4. An orbital rail route is essential for Dublin:

The four existing InterCity & Commuter rail lines that radiate into the city centre, clearly need to be connected to each other by a new 'orbital' rail route that would extend around the perimeter of the city.
We have a cost effective proposal for this orbital DART, LUAS or BRT bus route, but it is not directly relevant to this Railway Order.

However. this orbital rail route would enable rail passengers that commute in and out of Dublin, or who reside in the outer suburbs, but whose varied destinations are commonly outside the city centre.

5. Commute Journeys in Dublin:

A high proportion of workplaces tend to be spread out across Dublin's wide metropolis. This orbital train would enable their staff to transfer to another rail route to reach their destination. This includes most of those who wish to travel to or from Dublin Airport.

The current wasteful, inconvenience, encumbrance, and inefficiency for passengers (and likewise, for rail service operators), where commuters must reluctantly travel into the city, this can to great extent be ameliorated by a new orbital rail line, where they could transfer to different rail, tram and bus routes at 'transfer hubs' in the outskirts of the city.

This would avoid passengers having to travel all the way into the city centre, where they then must find a public transport route back out in a different direction, to reach their destination. This time consuming inconvenience and uncertainty, is a major cause of long distance commuters driving to work in Dublin.

6. MetroLink's exclusive facilitation of airlines and city centre passengers with a fast and frequent connection to Dublin Airport:

Also of concern, is MetroLink's exclusive 'stand-alone' aspect, where it seems to prioritize a fast access from Dublin city centre to the Airport, such an exorbitant outlay of capital.

When compared to many other available options, at a fraction of the cost and time to install compared to the MetroLink. These offer much more effective connections to public transport that could readily shape the required 'network' for people's mobility

7. Why is NTA directing most of its public transport funds to the MetroLInk project?

This core objective of serving the Airport, appears to take precedence over all the essential Public Transport infrastructure initiatives that are now so badly needed now for Dublin, other cities, towns and all regions across Ireland.
The MetroLink services will feed passenger demand for air flights, which will exacerbate Aviation's current unsustainable and fast growth rate.
Clearly, the main beneficiaries of this project will be the airlines that regularly use Dublin Airport, along with air-passengers, tourists to Dublin and the DDA.

I understand the many reasons why people, (including me), need to travel abroad, on rare occasions, or those who wish to visit Ireland, (for business, family reunions, exploration, holiday experiences, tourism, etc).

However, I fail to grasp at this crucial time in civilizations' history, that Ireland would continue to pour public money into facilitating and subsidizing the Aviation industry.

This contributes to a disproportionate amount of environmental damage to Earth's climate system, where Aviation's CO2 emissions are now so extremely excessive.

They continue to increase very rapidly, rather than reduce fast and in line with our GHG reduction targets.

Likewise, Aviation is a major source for spreading global viruses and other diseases, as experienced from Covid 19.

The richest 10% cohort in the world have caused and continue to cause, the lion's share of emissions, equivalent to 50% of the poorer four billion of global population, in their disproportionate amount of the fossil fuel energy and cement-related CO2 emissions

Compare the above, to the 90% global population in the Developing World, who have least capacity to cope, or to adapt to a rapidly changing climate system, while they contribute by far the least to the CO2 and its damage.

The wealthiest 1% generate 50% of the World's Aviation emissions, where many wealthy people in Ireland fit in this category in their air-flights.

10. Climate Breakdown:

It is unequivocal that we are facing a looming, 'existential', human induced, breakdown of Earth's climate system, along with its cryosphere, oceans and biosphere, where 3/4s of the damage from CO2 emissions, is caused by burning fossil fuel for use in energy-related products, vehicles, industry and heating.

Global GHG emissions in 2023 reached over 57 Gigatonnes CO2eq, the highest ever recorded. Where over 40 Gt (billion tonnes) was from CO2, where 37Gt, or 65% of the global total CO2 is

from burning fossil fuel.

Human induced CO2 concentrations in Earth's atmosphere reached 424 ppm in July 2023 (NOAA), which is over 50% above the level in 1,750, at 280 ppm in its peak level.
Likewise, it is more than 50% above the highest for the past 800,000 years.

However, global emissions seem to show signs of slowing to reach a plateau.
But unfortunately, each additional tonne of CO2 that we humans' release, will continue to accumulate in Earth's atmosphere, which will lock-in further, an ever-increasing level of damage for the next 500 to 1,000 years into the future.

It should be noted that Ireland's GHG emissions are still increasing, and way off track to achieve our 51% reduction by 2030.

Despite signs of close to zero increase, there is no sign of civilization meeting its critical 45% global GHG reduction in GHG emissions by 2030, according to the UN and the IPCC's 6th Assessment Report. This is essential, if we are to have any reasonable chance of limiting it to +1.5C, to avoid a world that fast becomes inhospitable to sustain humanity, and for practically all other species to cope and survive.

11. Ireland's total GHG & its Transport emissions:

1. Ireland's GHG emissions per capita,

This is nearly 60% above the EU average, per capita. It should be noted from EPA assessments that Ireland is currently way off track to achieve its mandatory 51% GHG reduction target by 2030.
Or, the even more daunting challenge of a 2040, 90% reduction in our total GHG by 2040 is now recommended by the European Commission for all its member states to achieve by 2040.
Ireland's transport emissions (including international aviation and shipping) increased by 153% from 1990 to 2022, instead of reducing by 20%.

According to the EPA,

In 2022, Ireland's transport generated largest share of energy-related CO2 emissions at 39.7%
Heat accounted for 32.7% of energy-related CO2 emissions, with electricity responsible for the remaining 27.6%.
Between 1990 and 2022, Transport showed the greatest overall increase of GHG emissions at 126.2%, from 5,143.3 kt CO2eq in 1990 to 11,634 kt CO2eq in 2022,
Road transport increased by 130.2% since 1990.
Emissions from Aviation tripled since 1990.
Transport's Greenhouse gas (GHG) emissions increased by 6.0% in 2022
Road transport which accounts for 94.7% of all transport emissions, rebounded in 2022 by 6.7% (11.0 Mt CO2eq).
These figures are fundamentally out of line with Ireland's reduction targets, which were agreed at COP 21 in 2015 at the Paris Climate Conference.

12. Warnings from scientific reports & from the UN & IPCC:

These bode ominously for our younger generation, but even more so, the most vulnerable in the Developing world, along with practically all diverse species we share Earth's life-sustaining biosphere with.

Repeating warnings from unequivocal scientific evidence, along with the EU, UN, IPCC, IEA, OECD, etc, of a looming 'climate crisis' that is rapidly approaching, unless we make fundamental changes as expeditiously as possible. - As time is clearly running out fast, to have any chance of avoiding a devastating 'Runaway climate system' unfolding.

It is now imperative that we mobilize all possible human efforts and ingenuity, to mitigate our GHG emissions before it is too late, to avoid a pending catastrophe unfolding.

13. Why should Ireland's taxpayers and our citizens fund this carbon-intensive' & vastly expensive project?

Where profit-driven airlines are the primary beneficiaries.
Surely, these large vested interest corporations should fund this project, where it should not be left to the taxpayer?
However, this would not solve the environmental issues I mention.

14. Aviation Industry:

Airlines have so far provided no sustainable alternative fuel as a solution to its excessive and rapidly increasing emissions. - Other than PR spin, hype and manipulation of people by misleading, cajoling bombardment of advertisements. Where CO2 emissions from airlines keep increasing, despite the severe threats we face.
Were the MetroLInk project to eventually become operational, and to facilitate more air-passenger demand, to fuel ever-more air flights and CO2 emissions, what would this project have locked-in, in its total long-term damage, over its possible 100 year timeframe in operation?

15. Increase in Aviation when Climate mitigation beckons:

Aircraft and International air travel generate such disproportionately large GHG emissions, which keep increasing, unfettered.
We seem to be 'in denial' about reality happening, at such a crucial time when Ireland should be in a 'state of emergency' about expeditiously mitigating impacts of Climate Change by radically transforming and reducing our GHG emissions, where the luxury of excessive air travel should be at the top of the list of our mitigation measures.

Ireland's International aviation emissions increased 3-fold since 1990, and continues to ri rapidly, with no alternative fuel available globally to mitigate aircraft's emissions.

14. The majority of the NTA's Budget for Public Transport infrastructure:

At 9.5bn, the MetroLink would absorb about 3/4s of NTA' first decadal tranche of its budget from 2022-2032, as outlined in the Greater Dublin Area Transport Strategy (2022 to 2042), which

comprises a total 25 billion euro over the 18 remaining years to 2042.

But, over the decade of its construction stage, its costs are quite likely to increase. (Children's Hospital's overrun (from originally 800 million to 2.25 billion euro, - a 2.8 fold increase to date).

The MetroLink's budget of possibly 1.25billion each year, would require a very large labour force, which would undoubtedly exacerbate the shortage of trade persons required for the construction of high priority housing projects, and for retrofitting buildings and installing PV arrays and wind energy developments.

It is also likely to inflate Dublin's labour costs, or to induce more foreign nationals to come here for work, which inturn, would further swell the demand for accommodation in Dublin, and to greatly increase traffic congestion and CO2 emissions.

15. Impact of MetroLink on key alternative options for Public Transport:

The disproportionate allocation of State funds that MetroLink would soak up, will undoubtedly have a devastating and debilitating impact on all the much more crucial and more effective but much smaller and more diverse public transport options that currently are available and essential for Dublin.

These are now urgently required to transform Dublin's public mobility needs, across its wide metropolis, to an acceptable standard for a European city, where currently Dublin is near the bottom in its traffic congestion. Likewise, the urgency to reduce Dublin's traffic congestion and its transport's CO2 emissions.

Compared to the MetroLink, all of these mobility options for the city could be achieved at a fraction of the cost, and at a much-shorter timeframe to implement, with significantly less CO2 emissions.
These are essential for Dublin to enable the city to transform its mobility systems, so that it can provide the necessary 'choice' for most commuters' to entice them to switch to public transport, from their current over-reliance on cars for most of their regular journeys.

16. State investment:

This is critically needed for a wide range of strategic improvements in mobility. to enable huge reductions in car use in Dublin city.

By incrementally allocating the 9.5billion euro MetroLink budget to these priority projects over this decade, it would surely transform Dublin.

These funds are clearly vital for developing the essential public transport infrastructure, which should be targeted at creating 'transformative' sustainable, improvements in people's modes of mobility in Dublin, and to stimulate a rapid reduction in car journeys and traffic congestion. By doing so, to greatly reduce transport CO2 emissions.

17. Urgent changes required in Dublin's modes of mobility:

It is clear that transformative solutions are now required, and must urgently be implemented, as time is running out fast for Irelnd to reduce its transport CO2 in line with these legally binding reduction targets.

It is also clear that car journeys are the primary cause of Dublin's excessive mobility emissions, where across Ireland, car journeys generate 92%, while public transport only 8%.
Also, the average car, while traveling in Dublin takes up 20 times the space of road length compared to a passenger in a double decker bus at 60% seat occupancy capacity.

Likewise, cars (and taxis) are the dominant cause of traffic congestion, which in turn, greatly impedes bus movements, that compromises their reliability, punctuality, and instills a perception of 'uncertainty' in bus journeys by many commuters.
(However, there are some streets in Dublin's inner city where too many buses are also impeding each other and the Luas trams).

The quickest way to reduce fuel consumption and emissions from cars, is to reduce speed limits by 25%. By reducing from 120km speeds on motorways to 90km, it will reduce vehicle emissions by nearly 30%.

18. List of questions below:

Q.1. Has TII calculated the 'embodied carbon' in tonnes CO2eq, that will arise from the total construction of this tunnel, stations and completion of its rail line, and the manufacture of all its trains?

This would include the tunnel's GHG emissions from its excavation of soil and rock, the total energy consumed by machinery, the manufacture of all material, components, etc, and emissions from all transport to and from the project, to its completion.
This should include the separate assessment of the amount of tonnes of CO2 in 'embodied carbon' emissions that will be generated by the construction of the long length of the tunnel sections and their large and deep stations, over the duration of its full construction.

Q.2. Have TII measured the excess amount of increase in embodied CO2 that will be generated by the tunnel, relative to a similar rail line at surface grade?

Q.3. What evidence can TII show that they objectively explored alternative surface rail routes, to overcome the high air-resistance or 'drag' effect by its trains passing at their design speeds through the tunnel, especially by the long length of the proposed sections of tunnel, which will hugely amplify its CO2 emissions?

Q.4. Has TII engaged an expert tunnel engineer to carry out an aerodynamic assessment of the effect of the 'drag' resistance on its total use of electricity and its 'operational carbon' per each journey at its trains' required design speed.

This metric should be calculated in tonnes CO2/ km caused by trains traveling at their design speed through the long tunnel section, compared to the trains traveling at or above surface grade, when open to the atmosphere.

Q.5.. The 'carbon payback period' for the tunnel's rail service, in CO2 emissions avoided by the number of reduced car journeys expected by passengers per annum, to negate the huge increase of CO2 by its construction and the drag effect to its operational energy, over the duration of its payback.

This surely should have been assessed at the pre-design stage to inform and assess allternative options.

It appears to me, (but I hope I can be reassured by TII), that its consultants may not have carried out, or at least, not disclosed in the EIAR an estimation of the (tonnes CO2 / annum, that will arise from the full 'operational' energy of the MetroLink services per annum, or the KgCO2/ passenger/km.
Likewise, for each train's full journey from Claremont to Swords Estuary.

Q.6. If TII regard my assumption to be incorrect, I would appreciate their informed and well-considered answer ?

I have not observed a figure mentioned in the presentation by TII, or from its consultants, about the assessment of the total embodied CO2 that this tunnel project will have created by its completion stage, with its trains in place.

As this is such an enormous environmental issue, I would appreciate that a clear breakdown of the key sources of embodied CO2 should be presented and made available for the tunnel's key components.

I could not find a drawing of the cross-section through the proposed tunnel structure (with details of its materials, and drawn to scale, with dimensions shown), to enable me to carry out a rough assessment of its embodied carbon.

I would also request that a detailed cross-section through the tunnel, drawn to scale with dimensions, where its materials are identified, should also be made available. Also the tunnel's tracks varied depths below ground surface.
Likewise, a section through its stations at ground level down to its underground train platforms, stairs, lifts, escalator, ventilation, etc, that show the depth below ground level to the base of the tunnel, or any above ground overpass connections to streets

I would also appreciate a site plan and detail plan (with dimensions), of the two existing Cork and Sligo rail lines behind their proposed Glasnevin Station, (at Brian Boru pub at Cross Guns Bridge), on Phibsborough Road, where these rail lines converge close to each other, and run parallel with the north side tow-pass of the Royal Canal.

Also a drawing to scale of a cross section of the two rail lines (at their closest point), and showing the depth of the rail lines below ground surface of the canal's towpath.

In my opinion, one of the most important environmental aspects to be considered for the MetroLink project, is the amount of the amplified CO2 effect from an underground rail line tunnel on both its 'embodied carbon', and for its 'operational carbon' performance by the air-resistance 'drag' effect.

I am not convinced that TII has adequately explored, identified, assessed and objectively considered other realistic, viable, alternative, infrastructural public transport projects, that in our opinion, are readily available for consideration for north Dublin, Swords and the airport.

However, in our study of a Public Transport Plan for Dublin, we found other alternative public transport initiatives that are clearly readily available and obvious to identify.

This poses a perception or inference, that TII may have taken a biased approach to their assessment of the other alternative solutions, compared to their positive support for the selection of the MetroLink project as their preferred solution.

Q.7. What weight did TII give in comparing the CO2 emissions and other environmental aspects of each of the alternative options?

Q.8. Could TII reassure me by hard evidence, that they were impartial, independent, objective, and fair in their selection of the MetroLink?

Q.9.. With the wide range of large impacts that will arise from the MetroLink project, and with many other alternative solutions available, that offer much more benefits at a fraction of the cost, timeframe, and from both the embodied and operational CO2 emissions, should a Strategic Environmental Assessment have been carried out by TII before it developed this project?
Q10. If TII have prepared an SEA, why then has it not been presented at the Hearing of the Railway Order process?

19. Insufficient evidence that the MetroLink trains will significantly reduce car journeys to the Airport:

At a level commensurate to its huge cost and carbon emissions.

Q11. I therefore, ask why this project should be State funded, when it will further increase Aviation's emissions?

- As now is such a crucial time for Ireland to comply with its severe and daunting legally-binding GHG emission reductions between now and 2030.

But, even more so, by 2040, where we must reduce our total GHG emissions by 90%.
My focus above is on our criticisms of the MetroLink project and mentioning some of the alternative options that are available for comparison.

20. Assessment of Financial Implications of the Metro Link:

With huge unprecedented financial implications and risks associated with allocating colossal amounts of State funding to the MetroLInk project, where an agreement for it to proceed, would most likely impede many other higher priority, but much less costly Public Transport infrastructural projects from proceeding.

Many of these options, in my opinion, would offer considerably more benefits for our citizens' mobility needs. These improvements would also achieve significent reductions in Dublin's transport CO2 emissions.

Q12. Would it therefore be prudent for ABP to consult with the Comptroller & Auditor General, to fully assess this project before it was granted a Railway Order approval to proceed?
Also, for TII to require a Strategic Environmental Assessment to be carried to adequately assess the significant carbon emissions of this project.

I am very concerned about the issues that I raise in this paper. I have spent considerable time researching and writing this long presentation, in my voluntary capacity, with much relevant public transport advice and mobility concepts from Tom Newton,

My apology for inflicting such a long read. I tried to condense it, but found it difficult to omit items. In fact, there is much more that I could include.

We would appreciate it if An Bord Pleanala, the NTA, TII, its expert consultants, and other relevant State agencies, would carefully digest the content that I now present in my written submission, to underpin my verbal presentation.

I am aware I have highlighted many very critical issues, and possibly in a very crude and insensitive manner.
In our submission to ABP we make the case for the MetroLink project to be withdrawn, to be redesigned be fundamentally redesigned, and be resubmitted,
Or, the tunnel to be significantly reduced to a realistic, affordable and low-carbon level.because of deficiencies this project is Premature for a an informed well-considered decision.
I say this, as there are many greivious concerns about current version Of the MetroLink, while there are many alternative options available, that would effectively connect Dublin city centre. These also provide significantly more mobility benefits for Dublin's city and for commuters from Swords, and offer new connections to existing rail lines.

But I must speak frankly on issues, where we all should be prioritizing an expeditious reduction in CO2 emissions from Dublin's transport sector.
I likewise welcome their comments.

Thank for listening and being so patient with my long submission.
Duncan Stewart B.Arch, Dip Arb Law, & retired fellow of RIAI

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THE NATIONAL BODY FOR RESIDENTS' ASSOCIATIONS
SERVING HOME AND COMMUNITY

My name is Caitríona McClean. I have a background in economics and community activism and I welcome the opportunity to make some observations on the proposed Metrolink.

1. We need to be absolutely clear, Metrolink is a standalone project and TII are seeking planning permission from ABP for a project that serves a fraction of the GDA. It's located in the GDA but it does not provide public transport for the entire GDA. It serves Dublin city to Swords and does not interconnect with existing rail because of a deliberate choice of rail gauge. Lego and Duplo pieces are different sizes and so you can build in parallel but not in an integrated way. The Metrolink tracks are a different size to existing rail tracks. This means Metrolink might stop near another service, but passengers will need to transfer. This is suboptimal. The optimal would be direct service to anywhere connected by rail.

2. We need to look at the disruption and projected spending of public money in this light. TII is not a private company and any bilateral agreements made must be revealed in full and included in a cost /benefit analysis. The EU Parliament passed a resolution on 13th June, 2023, regarding transparency on cost/benefit on major transport infrastructure projects. During the course of this hearing we have heard of bi-lateral agreements made, but the public and the inspector were not given details. I witnessed the inspector being refused access to these details. I object to this on the basis of hidden costs. This is unacceptable because public money is to fund the project, and it distorts the true social cost of this proposed standalone project serving one geographical part of the GDA. We must have transparency on all costs, whether agreed in money terms or otherwise. There is a need for an independent cost/benefit exercise other than what has been provided by TII. I am asking that this is done and made available to the inspector and the public.

3. Opportunity cost can be defined as the foregone benefits that could be derived from other options in the use of time and scarce resources. The public purse is limited. Time is limited in context of climate change. Resources and expertise are limited. Therefore it is essential that this project is viewed in terms of what will be foregone if we proceed with the Metrolink.

4. There exist plans and proposals which are currently with Minister Jack Chambers in the Department of Transport which have the potential to deliver what Metrolink delivers, but more than that, at little or no disruption, faster, in an integrated way, benefitting GDA and

all people travelling by train from any part of the country in a Dublin and northward direction to Belfast in a shared island perspective and vision for the future. I have signalled this to the inspector. I object to any further public time and money being expended on Metrolink when much more is possible in a shorter time frame and with greater real impact on public transport needs on this island.

5. Public Transport and Housing must be planned in unison. We have an urgent need now for more housing that is served by public transport. The alternative plan that rests with the Minister provides pockets of land served by an Orbital Luas allowing for population growth without requiring high rise living as the only option and this project is possible alongside a less disruptive Metro dart doing what the Metrolink proposes but without having any disruption in the centre of the city. No building will be knocked down. The area served by the Metrolink, in contrast, is already well served by public transport and the only addition is a stand-alone fast rail link from the city centre to Dublin Airport. The vision is of a trophy project or cathedral like solution of yesteryear. The Newton plan provides more should Dublin airport be the destination of anyone travelling by train from any part of the country. The truth is Metrolink serves City to airport only and anyone wishing to use it needs to travel right into centre of Dublin first and then transfer to the Metrolink.

6. Placing of cycle routes on spaces designated for rail must be evaluated in terms of opportunity cost. This is a no brainer.

7. The wrong type of capital project is being proposed against a backdrop of urgent need to extend public transport options as soon as possible in the context of climate change. Essentially there are two types of capital projects: one that yields ongoing benefits as spending occurs and provides early return on investment in terms of problem solving and fulfilling objectives, and a second type, the National Childrens Hospital for example, that yields zero return until the project is totally complete. This black hole type capital investment is sub optimal in the context of meeting public transport needs in a timely manner on this island. Metrolink is an example of the latter, the Newton Plan is an excellent example of the former. The Newton Plan provides very early significant user enhancement to public transport in the GDA, and further, it is in line with the shared island initiative.

8. Turning now to the question of funding, I would invite TII to look at the bigger picture beyond the technical details of their proposal, beyond the destruction of lives, beyond secret bilateral agreements, beyond the defence of a trophy project to the reality that Ireland is a small island within the EU. The European Parliament passed a resolution regarding large transport infrastructure projects in June 2023, and commended it to the EU Commission for consideration when examining funding or co-funding transport projects. I include a copy for the inspector. But the highlights are closer scrutiny of cost/benefit analysis, greater focus on interconnectivity within regions, greater focus on interstate connection all to be delivered faster, and a means whereby claims regarding socio-economic benefit, climate impact saving, and economic prosperity is measured in reality when the project is delivered. The Metrolink does not tick the boxes. The Metrolink cost projections are in billions. The European Parliament lists EU projects across a range of countries benefitting from funding and mentions the availability of funds, but not a single Irish project is listed. I am asking the inspector to take this into account. Why would we turn our backs on potential EU funding for the sake of building a high-speed connection between Dublin city and the airport onwards to Swords but not to Belfast or any other major centre of population? Why would we reject a project that does tick the boxes for EU funding that requires no destruction of buildings, lives, or trees in St Stephens Green or elsewhere, and does not require extensive tunnelling in the city? Instead it links North and South via Dublin Airport providing interstate public transport, allowing passengers to board a train in Cork or Sligo for example and disembark in Belfast or anywhere enroute including Dublin Airport without moving themselves or their luggage once. A project that has no hidden bilateral agreements, a potential candidate for EU funding, part of a shared island vision, that can be delivered in stages giving immediate return on investment, at a cost of conservatively one fifth of what TII have been defending, I would like this on record, please. This project is now within the Department of Transport in the office of Minister, Jack Chambers. This is the opportunity cost of going ahead with the Metrolink. If it were your personal money, which project would you go for? This is not about agreeing to disagree, it's about spending public money at huge opportunity cost of another viable option that impacts climate change by providing a workable interconnected public transport solution some of which can be delivered within two years. We can't afford to make this mistake, Inspector, on so many levels.

ENDS

Some questions for TII:

1. How has the design of Metrolink been influenced by EU regulations 1315/2013 and 2021/1153, and Trans -European Transport Network policy (TEN-T)?
2. Is TII leading any ongoing negotiations to allow Ireland, as an island, exemption from any requirement for compatibility of infrastructure with large transport projects included in Trans-European Network Policy to enhance regional interconnectivity building on existing networks as per 2021/1153 Paragraph 9 of Introduction? I quote: "*In particular, the TEN-T guidelines envisage the completion of the core network by 2030 through the creation of new infrastructure and the substantial upgrading and rehabilitation of existing infrastructure necessary in order to ensure network continuity.*"
3. Is TII relying on EU Regulation 2021/1153's reference to airport service by rail, as in Paragraph 14 of the Introduction to defend the Metrolink as a standalone airport service?
4. Is TII aware of potential EU funding for large scale transport Infrastructure projects in Ireland? If so would TII make the qualifying conditions available to the inspector and to the public?
5. Will TII update the cost/benefit analysis of the Metrolink proposal to comply with EU resolution of 13th June, 2023, and include also details of bilateral agreements, whether funded via Department of Transport or otherwise in terms of Budget source, both financial and other benefits/agreements to be included, and made available to the inspector and the general public?
6. Could the answers to all these questions be made available in writing to the inspector and to the public, please?

An observation regarding Charlemont Bridge:

I grew up on the Ranelagh Rd. We always had good public transport, made even better in more recent years by the Luas. Walking and cycling are normal modes of transport to the city too. The local population will not be served by placing a Metrolink stop at Charlemont Bridge. There is no facility to transfer luggage from a car if the airport is the intended destination. In my view the placing of the station is to tick a box because it represents where two services can potentially meet. It's not designed from a user perspective. I ask the inspector to consider who is being serviced by this. Those in Ranelagh and environs do not need another mode of transport to the city, and it fails to provide a practical option to the airport for those with luggage of any sort. The argument has not been made for this.

ENDS

REGULATION (EU) 2021/1153 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 7 July 2021

establishing the Connecting Europe Facility and repealing Regulations (EU) No 1316/2013 and (EU) No 283/2014

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Articles 172 and 194 thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national parliaments,

Having regard to the opinion of the European Economic and Social Committee ( ),

Having regard to the opinion of the Committee of the Regions ( ),

Acting in accordance with the ordinary legislative procedure ( ),

Whereas:

(1) In order to achieve smart, sustainable and inclusive growth, to stimulate job creation and to respect long-term decarbonisation commitments, the Union needs up-to-date, multimodal, high-performance infrastructure in its transport, energy and digital sectors to help connect and integrate the Union and all its islands and regions, including its remote, outermost, peripheral, mountainous and sparsely populated ones. Those connections should help to improve the free movement of persons, goods, capital and services. The trans-European networks should facilitate cross-border connections, foster greater economic, social and territorial cohesion, and contribute to a more competitive and sustainable social market economy and to combating climate change.

(2) The aim of the Connecting Europe Facility (the "CEF") is to accelerate investment in the field of trans-European networks and to leverage funding from both the public and the private sectors, while increasing legal certainty and respecting the principle of technological neutrality. The CEF should enable synergies between the transport, energy and digital sectors to be harnessed to the full, thus enhancing the effectiveness of Union action and enabling the costs of implementation to be minimised.

(3) The CEF should also contribute to Union action against climate change and support environmentally and socially sustainable projects, including, where appropriate, climate change mitigation and adaptation actions. In particular, the contribution of the CEF to achieving the goals and objectives of the Paris Agreement adopted under the United Nations Framework Convention on Climate Change ( ) ("Paris Agreement"), as well as the 2030 climate and energy targets and long-term decarbonisation objective, should be reinforced.

(4)The CEF should guarantee a high level of transparency and ensure public consultation in compliance with applicable Union and national law.

(5)Reflecting the importance of tackling climate change in line with the Union's commitments to implement the Paris Agreement and the United Nations Sustainable Development Goals, this Regulation is intended to contribute to mainstreaming climate actions and to the achievement of an overall target of at least 30 % of Union budget expenditure supporting climate objectives. In addition, this Regulation should contribute to the ambition of committing 7,5 % of annual spending under the Multiannual Financial Framework (the "MFF") 2021-2027 to biodiversity objectives in the year 2024 and 10 % of annual spending under the MFF 2021-2027 to biodiversity objectives in 2026 and 2027 while taking into consideration the existing overlaps between climate and biodiversity objectives. Through its actions, the CEF should contribute 60 % of its overall financial envelope to climate objectives, based, inter alia, on the following coefficients: (i) 100 % for expenditure relating to railway infrastructure, charging infrastructure, alternative and sustainable fuels, clean urban transport, electricity transmission, electricity storage, smart grids, CO_2 transport and renewable energy; (ii) 40 % for inland waterways and multimodal transport, as well as gas infrastructure, provided that it enables the use of renewable hydrogen or bio-methane to be increased. The detailed climate expenditure tracking coefficients applied should be consistent with those set out in Annex I to Regulation (EU) 2021/1060 of the European Parliament and of the Council ( ), where applicable. Relevant actions will be identified during the preparation and implementation of the CEF, and reassessed in the context of the relevant evaluations and review processes. In order to prevent infrastructure from being vulnerable to potential long term climate change effects, and to ensure that the cost of greenhouse gas emissions arising from the project is included in the project's economic evaluation, projects supported by the CEF should be subject to climate proofing, where relevant, in accordance with guidance that should be developed by the Commission coherently with the guidance developed for other programmes of the Union.

(6)According to Article 8 of the Treaty on the Functioning of the European Union (TFEU), in all its activities, the Union is to aim to eliminate inequalities, and to promote equality, between men and women. Gender equality, as well as equal rights and opportunities for all, and the mainstreaming of those objectives should be taken into account and promoted throughout the assessment, preparation, implementation and monitoring of the CEF.

(7)In order to comply with the reporting obligations regarding the uptake of Union funds to support the measures taken with a view to complying with the objectives of Directive (EU) 2016/2284 of the European Parliament and of the Council ( ), expenditure related to the reduction of emissions or air pollutants under that Directive should be tracked.

(8)An important objective of the CEF is to deliver increased synergies and complementarity between the transport, energy and digital sectors. For that purpose, the CEF should provide for the adoption of work programmes that could address specific intervention areas, for instance as regards connected and automated mobility or sustainable alternative fuels. The enabling of digital communication could constitute an integral part of a project of common interest in the field of energy and transport. In addition, the CEF should allow, within each

sector, the possibility to consider as eligible some synergetic elements pertaining to another sector, where such an approach improves the socioeconomic benefit of the investment. Synergies between sectors should be incentivised through the award criteria for the selection of actions, as well as through increased co-financing.

(9) Regulation (EU) No 1315/2013 of the European Parliament and of the Council ( ) lays down guidelines for the trans-European transport network ("TEN-T") ("TEN-T guidelines") that identify the infrastructure of the TEN-T, specify the requirements to be fulfilled by it and provide for measures for the implementation of the TEN-T. In particular, the TEN-T guidelines envisage the completion of the core network by 2030 through the creation of new infrastructure and the substantial upgrading and rehabilitation of existing infrastructure necessary in order to ensure network continuity.

(10) In order to ensure connectivity throughout the Union, actions contributing to the development of projects of common interest in the transport sector which are financed by the CEF should build on the complementarity of all modes of transport to provide for efficient, interconnected and multimodal networks. This should include roads in those Member States where there is still a significant need for investment in order to complete their TEN-T core road network.

(11) In accordance with Article 193(2) of Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council (*) ("the Financial Regulation"), it is possible to award a grant for an action which has already begun, provided that the applicant can demonstrate the need for starting the action prior to the signature of the grant agreement. However, the costs incurred prior to the date of submission of the grant application are not eligible, except in duly justified exceptional cases. In order to avoid any disruption in Union support which could be prejudicial to Union's interests, it should be possible, for a limited period of time at the beginning of the MFF 2021-2027, for costs incurred in respect of actions supported under this Regulation which have already begun to be considered eligible as of 1 January 2021, even if they were incurred before the grant application was submitted.

(12) In order to achieve the objectives laid down in the TEN-T guidelines, it is necessary to support, as a priority, the ongoing TEN-T projects, as well as the cross-border links and the missing links and to ensure, where applicable, that the supported actions are consistent with the corridor work plans established pursuant to Regulation (EU) No 1315/2013 and with the overall network development regarding performance and interoperability.

(13) In particular, the full deployment of the European Rail Traffic Management System ("ERTMS") on the core network by 2030, as provided for by Regulation (EU) No 1315/2013, requires the support to be increased at Union level and the participation of private investors to be incentivised.

(14) Moreover, the connection of airports to the TEN-T core network is an important precondition for successful completion of the TEN-T core network and for ensuring effective intermodality. Therefore, priority should be given to establishing such connections where they are missing.

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Large transport infrastructure projects in the EU

European Parliament resolution of 13 June 2023 on large transport infrastructure projects in the EU — implementation of projects and monitoring and control of EU funds (2022/2021(INI))

(C/2024/481)

The European Parliament,

— having regard to Council Regulation (EU, Euratom) 2020/2093 of 17 December 2020 laying down the multiannual financial framework for the years 2021 to 2027 ([1]),

— having regard to Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility ([2]),

— having regard to Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council of 18 July 2018 on the financial rules applicable to the general budget of the Union, amending Regulations (EU) No 1296/2013, (EU) No 1301/2013, (EU) No 1303/2013, (EU) No 1304/2013, (EU) No 1309/2013, (EU) No 1316/2013, (EU) No 223/2014, (EU) No 283/2014, and Decision No 541/2014/EU and repealing Regulation (EU, Euratom) No 966/2012 ([3]) (Financial Regulation),

— having regard to Regulation (EU) 2021/1153 of the European Parliament and of the Council of 7 July 2021 establishing the Connecting Europe Facility and repealing Regulations (EU) No 1316/2013 and (EU) No 283/2014 ([4]),

— having regard to Regulation (EU) No 1315/2013 of the European Parliament and of the Council of 11 December 2013 on Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010/EU (TEN-T Regulation) ([5]),

— having regard to the Commission proposal of 14 December 2021 for a regulation of the European Parliament and of the Council on Union guidelines for the development of the trans-European transport network, amending Regulation (EU) 2021/1153 and Regulation (EU) No 913/2010 and repealing Regulation (EU) No 1315/2013 (COM(2021)0812),

— having regard to Special Report 10/2020 of the European Court of Auditors of 16 June 2020 entitled 'EU transport infrastructures: more speed needed in megaproject implementation to deliver network effects on time',

— having regard to Review No 05/2021 of the European Court of Auditors of 25 November 2021 entitled 'The EU framework for large transport infrastructure projects: an international comparison',

— having regard to its previous decisions and resolutions on discharge to the Commission for the years 2017 ([6]), 2018 ([7]), 2019 ([8]) and 2020 ([9]),

— having regard to Rule 54 of its Rules of Procedure,

— having regard to the opinion of the Committee on Transport and Tourism,

— having regard to the report of the Committee on Budgetary Control (A9-0181/2023),

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([1]) OJ L 433 I, 22.12.2020, p. 11.
([2]) OJ L 57, 18.2.2021, p. 17.
([3]) OJ L 193, 30.7.2018, p. 1.
([4]) OJ L 249, 14.7.2021, p. 38.
([5]) OJ L 348, 20.12.2013, p. 1.
([6]) OJ L 249, 27.9.2019, p. 97.
([7]) OJ L 417, 11.12.2020, p. 365.
([8]) OJ L 340, 24.9.2021, p. 1.
([9]) OJ L 258, 5.10.2022, p. 38.

A. whereas the EU's common transport policy was established to create a common transport area across Europe; whereas its priority operational objective since 2013 has been to build a 'core network' by 2030, and a 'comprehensive network' by 2050; whereas these networks comprise all modes of transport, including maritime, rail, road and air;

B. whereas the Member States bear responsibility for implementing projects in the network and this is governed by the TEN-T Regulation; whereas at EU level, responsibility for devising and implementing transport policy lies with the Commission;

Large transport projects in the EU

1. Highlights that the Union's transport policy aims to ensure the smooth, efficient, safe and free movement of people and goods throughout the EU by means of integrated networks using all modes of transport, aiming to provide efficient, interoperable, safe and environmentally friendly mobility solutions within the EU and to create the conditions for a competitive industry generating growth and jobs; highlights that the Trans-European Transport Network (TEN-T) policy is key to the good functioning of the single market and the EU's socioeconomic and territorial cohesion, as well as to fostering the connectivity and accessibility of all regions in the EU and achieving the European Green Deal's objectives; recalls that large infrastructure projects play a crucial role in delivering on the TEN-T policy and are of instrumental importance in removing bottlenecks and eliminating missing links, including on cross-border sections; recalls that large transport infrastructure may also contribute to the sustainable development of European regions by enhancing green connectivity, which contributes to protecting the environment through the reduction of CO_2 emissions; highlights the fact that completing the TEN-T will foster growth, jobs and cohesion throughout the Union and help it meet its socioeconomic and climate goals;

2. Acknowledges that large projects play a key role in transport networks, delivering great socioeconomic benefits, creating and sustaining employment, improving productivity and competitiveness, enhancing infrastructure and affecting the everyday lives of citizens; observes that investments in infrastructure are more or less equivalent to investments in people, and that large transport projects are tangible examples of the EU budget's impact and solidarity; notes, therefore, that effective monitoring and control and sound financial management of this type of project is one of the keys to their successful implementation; welcomes the revision of the TEN-T aiming to build an effective, sustainable and multimodal transport network across Europe;

3. Understands that there is no generally agreed on definition, at either global or EU level, of what constitutes a large transport project; acknowledges that EU co-funded transport projects may have a regional, national or a cross-border dimension and that the total amounts invested in them vary greatly;

4. Underlines that Member States' transport networks cannot be looked at in isolation, since a Europe-wide transport network has been clearly acknowledged as a vision with benefits that go beyond isolated national action; stresses that proper connectivity within and between European regions is crucial, especially because of that the COVID-19 pandemic crisis, Russia's illegal and unjustified war of aggression against Ukraine and the critical need to establish alternative logistics routes using various transport modes; notes, further, the impact that the war has had on inflation rates in the Union, particularly as a result of rising fuel and energy prices; underlines, in this regard, that high inflation hampers the financial soundness of transport projects; is concerned that the current social and political post-pandemic outlook, combined with the consequences of the war, poses a further threat to the timely completion and development of large projects and especially the core TEN-T network; highlights, therefore, that extending the European transport network corridors to neighbouring non-EU partner countries (such as Ukraine, Moldova, North Macedonia, Albania, etc.) would significantly improve the seamless functioning of the TEN-T network; calls, for Bulgaria and Romania to be swiftly integrated into the Schengen Area, as this would significantly improve north-south connectivity in Eastern Europe; calls on the Commission to support Ukraine and its efforts to strengthen rail connections between Ukraine and the EU with a view to the future integration of Ukraine's transport infrastructure into the TEN-T;

5. Underlines that the success of large transport infrastructure projects in the EU will depend to a large extent on how well the EU succeeds in connecting the infrastructure of the eastern Member States to that of the western Member States; highlights the key role of Connecting Europe Facility (CEF) funding in large infrastructure projects; stresses, in particular, the importance of expanding the TEN-T to encompass the EU's partners in the Eastern Neighbourhood, notably Ukraine and the Republic of Moldova, and of increasing the budget allocation for military mobility;

6. Remarks that, through its TEN-T policy, the EU is aiming to build an effective EU-wide transport infrastructure network using EU funding programmes and initiatives, including the CEF, the European Fund for Strategic Investment, Horizon 2020, the Cohesion Fund and the European Regional Development Fund; draws attention to the different management methods across different EU instruments and to the different responsible Directorates-General (DGs) within the Commission, necessitating a significant degree of coordination and shared management between Member States and the Commission (the DGs for Regional and Urban Policy) on the cohesion policy funds and direct management by the Commission of the TEN-T and the CEF under the responsibility of the European Climate, Infrastructure and Environment Executive Agency (CINEA) on behalf of the DG for Mobility and Transport;

EU funding and implementation

7. Highlights that, since large transport projects are not defined as a separate category in the EU legal framework, there is no comprehensive data available on the amount of EU co-funding provided for such projects; remarks that over the 2007-2020 period, the EU budget allocated over EUR 109 billion to transport infrastructure projects on the TEN-T network, regardless of their size; remarks, furthermore, that alongside these programmes funded by the EU budget, the European Investment Bank provided roughly EUR 151 billion in loans for transport projects in the EU for the 2007-2020 period;

8. Highlights that the EU is currently experiencing an unprecedented situation whereby numerous sources of funding must be absorbed simultaneously and that Member States often do not have the administrative capacity to handle all the funding available from the Recovery and Resilience Facility through the national recovery and resilience plans, while trying to absorb EUR 392 billion of cohesion policy funding before the end of 2027; is concerned by the clear competition between the 2021-2027 cohesion funds and NextGenerationEU, as Member States have to prioritise funding instruments by their eligibility deadline; calls for synergies between cohesion funding and the Recovery and Resilience Facility (the largest instrument in the NextGenerationEU package), with coherence, convergence and coordination between the two, in order to increase the impact of investments on the ground and avoid double funding;

9. Highlights, further, that FAST (Flexible Assistance for Territories) — CARE is providing the opportunity to phase in delayed projects from the 2014-2020 period to the 2021-2027 period; draws attention, nevertheless, to the fact that the possible net reduction of the respective allocations in the current period is putting at risk the EU budget and its implementation;

10. Welcomes the number of high impact, successful projects co-financed by the EU budget; notes, in particular, the impact of projects such as: the construction of a high-speed railway platform (Spain, EUR 749 million); the doubling of the 'Bari — S. Andrea-Bitetto' railway section (Italy, EUR 421 million); the construction of a new Route du Littoral (France, EUR 304 million); the modernisation of the Elin Pelin — Kostenets railway section of the Sofia-Plovdiv railway line (Bulgaria, EUR 553 million); the construction of an express road between Craiova and Pitesti (Romania, EUR 832 million); the construction of the S7 expressway between Gdansk and Elbląg, and Thorns and Elbląg (Poland, EUR 504 million); the improvement of TEN-T road connectivity with South Dalmatia (Croatia, EUR 418 million); works on the MÚK Opatovice-Časy-Ostrov section of the D35 motorway (Czechia, EUR 384 million); the construction of the Patras Pyrgos motorway (Greece, EUR 355 million); the modernisation of the railway line between Púchov and Žilina (Slovakia, EUR 349 million); upgrades to the existing Maribor-Šentilj railway (Slovenia, EUR 195 million); the modernisation of the Ovar-Gaia railroad (Portugal, EUR 140 million); the construction of stage III of the western bypass of Vilnius (Lithuania, EUR 92 million); works on state road No 2, Tallinn-Tartu-Võru-Luhamaa Võõbu-Mäo (Estonia, EUR 59 million); the construction of the main state motorway, A2 (Riga-Sigulda-Estonian border) (Latvia, EUR 44 million); and the construction of a multi-level road junction at EA20A and EA21 along the TEN-T (Malta, EUR 41 million); points out, in addition, the role that the European Investment Bank plays in supporting innovative and sustainable infrastructure projects in the Member States, both at national and local level;

Identified policy shortcomings and challenges

11. Recalls that, in the EU, the competence to implement projects lies with the Member States; highlights that the Commission has for this purpose appointed European coordinators to facilitate the implementation of all infrastructure projects along each of the nine core transport network corridors set out in the TEN-T Regulation; is concerned about the risk of misalignment between the EU's and Member States' strategic priorities and calls for the role of European coordinators to be strengthened in order to facilitate the deployment of infrastructure projects along the TEN-T corridors and to ensure cooperation and the smooth delivery of cross-border projects; underlines that any extension of the TEN-T network, whether maritime, river or road, should be done in coordination with the countries concerned; further recalls that

Member States should ensure consistency between their national transport and investment plans and the EU's transport objectives in order to accelerate the implementation of large infrastructure transport projects and the finalisation of the TEN-T; stresses that projects within the Member States' national plans go hand in hand with projects that are aligned with the Union's transport objectives; calls on the Member States to give priority to completing the core TEN-T network in its entirety by 2030, rather than to completing the extended and the comprehensive networks; recalls the importance of increasing the connectivity of the network and the necessity of incentivising good cooperation among authorities at all levels from different Member States in reducing delays and costs in cases of misalignment of schedules and priorities;

12. Calls on the Commission to submit an annual implementation report to the European Parliament and national parliaments outlining progress on the completion of the TEN-T;

13. Stresses that the Commission should have a more prominent role in the oversight of project planning and implementation along transport network corridors, as Member States' priorities are often mainly determined by their national contexts and so may neglect cross-border sections where EU co-funded large infrastructure projects are located; highlights the risk of decreased utility derived from the use of EU funds if adequate performance is not achieved; believes that in order to address this issue, consistency between national transport plans and investments and EU priorities should be strengthened, as should the conditionality of EU funding on engagement with EU priorities in terms of transport infrastructure deployment;

14. Recalls that under the CEF, the Commission selects the infrastructure projects that will benefit from EU co-funding and determines the EU financial contribution on the basis of competitive periodical calls for proposals; is concerned about the risk of insufficient scrutiny of cost-benefit analyses (CBAs) during project selection; welcomes the fact that, since 2015, the Commission has had dedicated external experts carry out a specific assessment of each project's CBA; regrets that this assessment is sometimes solely based on the information contained in the project proposal; calls for the Commission to require promoters of large transport projects to submit the raw data and analyses used in their CBAs as part of their application in order to ensure adequate decision-making and use of EU funds;

15. Acknowledges that, according to the European Court of Auditors, large transport projects require significant implementation time and the average expected construction time for audited EU co-funded large transport projects up to 2020 was 15 years, with an average delay of 11 years; regrets that EU co-funded large infrastructure projects experience longer delays on average than comparable transport projects worldwide; highlights that this timeframe excludes the planning period, when projects can also receive EU co-funding for actions such as studies; notes that, as EU co-funding is organised around the seven-year multiannual financial framework (MFF) period, large transport projects are often co-funded via several subsequent grants, each requiring a new project proposal and selection process; is concerned that this leads to duplicated efforts by the project promoters and public authorities, increasing the administrative burden; notes with concern that such delays put the efficiency of EU co-funding at risk; urges the Member States to implement the Smart TEN-T Directive ([16]) in order to enable simplified and harmonised permitting procedures and prevent delays in projects;

16. Urges the Member States to implement the Smart TEN-T Directive more effectively, particularly as regards cross-border sections in order to prevent them from becoming bottlenecks, as well as to prevent delays to the completion of the European transport corridors and the TEN-T; stresses that the Member States and project promoters should comply with the Smart TEN-T Directive in order to avoid delays and cost overruns and to ensure the timely completion of the TEN-T; calls, in this regard, for the permit-granting procedures, including environmental assessments, to be carried out according to the measures and shortened time frames of the directive;

17. Stresses, moreover, that many EU co-funded projects are subject to cost overruns compared to initial estimates at the project planning stage; highlights that this will become even more problematic in the post-COVID-19 environment and in the context of Russia's war of aggression against Ukraine; points especially to the rising inflation rates and the increasing costs of construction and raw materials, and their impact on project budgets; draws attention to the fact that inflation

([16]) Directive (EU) 2021/1187 of the European Parliament and of the Council of 7 July 2021 on streamlining measures for advancing the realisation of the trans-European transport network (TEN-T) (OJ L 258, 20.7.2021, p. 1).

represents an enormous risk to current and future infrastructure projects, which may be stalled due to the highly inflated prices of building and raw materials; calls for the CEF budget to be increased to meet the additional costs stemming from inflation, as well as to account for other geopolitical and transition needs and challenges affecting the implementation of the TEN-T, including cross-border sections;

18. Notes the significant delays in the adoption of partnership agreements (PAs) and programmes in the context of cohesion policy implementation in the current 2021-2027 programming period; remarks that the programmes should have been operational since January 2021; is concerned about the slow pace of implementation; acknowledges, however, that we have entered a new phase of implementation and that the Commission has so far approved 25 PAs; welcomes the fact that at least 142 programmes have been submitted in the context of cohesion policy as of 25 October 2022, and that this also constitutes a considerable step forward ([11]);

19. Highlights the risk that outstanding commitments bear on the Union budget and may also generate significant decommitments, which in turn decrease the impact of the EU budget and hinder the planned transport infrastructure objectives of the Union; points to the specific negative impacts of under-execution of payments and implementation delays on large transport infrastructure projects; calls for the Commission to inform the budgetary authority about the factors contributing to this issue and the measures it has taken to address it;

20. Considers it very important that the MFF, as well as the national recovery plans, give stronger priority to infrastructure investments and the completion of the core TEN-T; regrets the strong disparities between Member States in terms of planned investments for transport infrastructure; recalls that f the military mobility budget was reduced from EUR 5,9 billion to EUR 1,69 billion; believes that, given the limited administrative capacity of the Member States, additional financing should be allocated for technical assistance at national and regional level to develop large-scale transport infrastructure projects; considers that the CEF should act as an effective financial incentive to bridge the gap between national interests and European transport priorities;

21. Calls for the Commission and the Member States to rapidly establish a financial framework to better foster and attract private investments for infrastructure projects, and to develop innovative financial arrangements, notably through blending mechanisms; calls for the next MFF for 2028-2035 to include a budget envelope dedicated to 'external transport' under the CEF III in order to increase cooperation with non-EU partners on cross-border projects and infrastructure deployment; believes that, given the current geopolitical reality, the EU's new priorities should be matched with additional money and should not come at the expense of other transport programmes and priorities;

Performance, accountability and monitoring

22. Highlights that the project monitoring performed by CINEA is mainly oriented towards financial aspects and outputs and does not focus on projects' broader results and impacts, including, but not limited to, those on the local population or the environment; calls on the Commission and CINEA to consider making use of more results-oriented goals and indicators to improve the potential for synergies between different funding programmes, as well as to better monitor project results;

23. Welcomes the fact that transparent, accountable and adequate monitoring and reporting measures, including measurable indicators, have been introduced in the new CEF; highlights that performance reporting systems must ensure that the data collected through monitoring of the implementation and results of the CEF can be used for in-depth analysis of the progress achieved, including for climate tracking, and that it is collected efficiently, effectively and in a timely manner;

24. Notes with concern that, while the Union produces systematic *ex post* evaluations of programmes, the Commission has not performed, nor has it required project promoters to perform, systematic *ex post* assessments of individual EU co-funded large transport projects; notes that there is currently no legal obligation for them to do so; highlights that these *ex post* assessments could increase transparency on the effectiveness of the projects and generate lessons learnt for future large infrastructure projects; recommends that the Commission propose indicative definitions for large regional, national and cross-border infrastructure projects eligible for EU-funding, as there is no generally agreed on definition at either global or EU level of what constitutes a large transport project, to provide better focus for the competing project proposals, to add clarity to the data collection for approved projects and to further facilitate monitoring, control and evaluation activities;

([11]) European Commission, 'New Cohesion Policy', accessed 3 May 2023.

Main priorities and recommendations

25. Believes that international experience as regards the financing and implementation of large infrastructure projects is worth analysing, and calls for the lessons from this analysis to be considered in the architecture of future policies (post-2027); points, in this regard, to examples of long-term financial support for large transport projects (Australia and Switzerland), risk-based monitoring systems for large transport projects (United States and Switzerland), and *ex post* evaluations of projects based on standardised indicators at the level of promoters (United States and Norway);

26. Believes especially that a systematic risk-based monitoring system for large transport projects would help to better address the significant delays of large transport infrastructure projects in the EU and would contribute to further improvements in managing cost overruns;

27. Is concerned by the administrative burden that requesting additional information and analysis for the selection process may put upon the project promoters; believes that a two-step approach whereby project promoters are invited to submit a comprehensive project proposal only once their expression of interest has been approved could be considered for the future programming period;

28. Encourages the Commission to consider a way in which it could be more visible in the stakeholder involvement process, which could be extremely beneficial in promoting the EU added value of large transport projects;

29. Is convinced that adequate control over fund implementation is a necessity as infrastructure projects are prone to irregularities including corruption; calls on the Commission and the Member States to put into mandatory use a single integrated, interoperable information and monitoring system, including a single data-mining and risk-scoring tool to access and analyse the relevant data, including information on beneficial ownership, and increase control reliability, with a view to a generalised application, including with the help of the Technical Support Instrument; emphasises that such data should allow for the strengthening of the control and audit processes, notably as regards fraud and conflicts of interest;

30. Notes that effective control depends on close cooperation between the EU anti-fraud stakeholders; calls for further collaboration between the European Public Prosecutor's Office and the European Anti-Fraud Office, with a view to improving monitoring and control systems in shared management and preventing possibilities for mismanagement of funds;

31. Expresses its concern that there is a lack of systematic evaluation of large transport projects in the EU and that existing monitoring is focused mainly on financial inputs and outputs rather than outcomes; calls for the outcomes of such projects to be given greater visibility, as they play a significant role in building long-term socioeconomic and environmental benefits; calls, additionally, for a review of the long-term benefits of large transport projects and for the evaluation of any benefits that are additional to the direct benefits produced by such projects ([12]);

32. Calls on the Commission to further strengthen *ex post* evaluation indicators where possible by introducing criteria such as road safety; reduction of deaths and serious injuries; reduction of emissions, which would improve air quality; reduction of noise pollution; alleviation of other environmental disturbances; increase in economic activity in terms of income and employment benefits for the local population and businesses; time- and transport-cost benefits for people and freight; and other social benefits; notes, in this regard, that the lack of effective enforcement related to the quality of infrastructure is a significant additional contributor to poor road safety resulting in deaths and injuries; believes that measuring economic impacts through regional or national macroeconomic models could assist in alleviating any potential risks arising from the lack of scrutiny ([13]); recognises the need for streamlined regulatory processes to ensure appropriate public consultation and environmental impact assessments, while ensuring that critical infrastructure projects are not unduly blocked; stresses the importance of performing a thorough socioeconomic cost-benefit analysis and environmental impact assessment using standardised methodology and the whole life-cycle approach for every large transport infrastructure project;

([12]) International Transport Forum, *Major Transport Infrastructure Projects and Economic Development*, ITF Round Tables, No 154, OECD Publishing, Paris, 2014.

([13]) Ibid.

33. Calls for close alignment between the EU's and the Member States' strategic priorities; calls for the Commission to be given greater oversight over the planning and implementation of projects along transport network corridors; notes that, in many Member States, priority treatment is given to certain project categories based on their strategic importance, characterised by shorter timelines and simultaneous and/or simplified procedures; considers that, when such a framework exists within a national legal framework, it should automatically apply to projects on the TEN-T; calls for the Member States whose national legal frameworks lack such priority treatment to establish it for transport projects, with a view to limiting the administrative burden for project promoters and to ensuring a more seamless and efficient procedure; concludes that this could have a positive impact on accelerating large transport infrastructure projects; stresses that multiple, different and complex permit-granting procedures, cross-border procurement procedures and other procedures greatly hinder the timely implementation of projects and often result in significant delays and increased costs; highlights, in this regard, the benefits of having one designated authority for streamlining administrative procedures at national level;

34. Calls on the Commission to focus on the development of cross-border transport infrastructure to ensure better and greener connectivity in Europe; recommends increasing the availability of international night trains to provide sustainable transport alternatives;

35. Is concerned that long waiting times at internal EU borders negatively affect EU-funded infrastructure and decrease its overall usability, with impacts on cities and citizens, air quality and noise pollution, as well as an increased risk of road accidents, while compromising working conditions for drivers; calls, therefore, for the establishment of an EU-wide standard of one minute on average for the processing and control of EU registered heavy-duty vehicles at EU borders in order to help facilitate optimal usage of transport infrastructure and networks; calls further for the prioritisation of cross-border interconnectivity projects aimed at removing bottlenecks, addressing missing links, identifying strategic segments and enhancing cross-border connectivity and projects for interconnectivity, as well as of different transport modes to promote multimodality and sustainability; considers that cross-border and missing-link projects provide the highest European added value and stresses that their urgent realisation is of the highest priority; calls additionally on the Member States to use lessons learnt from ongoing TEN-T projects when considering new infrastructure projects funded by the EU and to share best practices and relevant information in a timely and effective manner, with the ultimate aim of improving the implementation of transport infrastructure projects;

36. Calls for the European Cross-Border Mechanism to be swiftly adopted, as it would improve the efficiency of EU investments in cross-border transport infrastructure;

37. Calls on the Commission to establish a European fast track for the infrastructure projects along the core and comprehensive TEN-T network; considers that the fast track should comprise three pillars:

— Binding *ex ante* consultations between the Member States and the Commission, prior to the submission of the projects application forms, which should shorten the procedure time by allowing the Member States to address potential negative observations by the Commission as early as possible;

— An accelerated environmental impact assessment and approval procedure by the Commission to further reduce application-to-implementation times;

— Common EU-wide minimum standards for financial and economic assessment of the projects (i.e. economic viability, maturity, return on investment), which should ensure clarity and uniformity and work to minimise any potential issues arising from the carrying out of audits;

38. Calls for the recognition of specific added value in projects contributing to the much-needed harmonisation of alternative fuels infrastructure deployment across the Union; calls for a swift agreement on and the implementation of the proposed regulation on alternative fuels infrastructure ([14]);

39. Proposes that contingency measures and funding flexibility be considered in order to allow for the continued implementation and completion of key projects in the event of force majeure or crisis situations, taking into account general project duration; proposes introducing appropriate indexing or other models to adjust the costs of construction and raw materials in line with the rate of inflation;

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40. Instructs its President to forward this resolution to the Council and the Commission.

([14]) Commission proposal for a regulation of the European Parliament and of the Council on the deployment of alternative fuels infrastructure, and repealing Directive 2014/94/EU of the European Parliament and of the Council (COM(2021)0559).