Appendix D
Complete set of replies received from TII

Doc. No. P0027301-1-H3 Rev. 0 - September 2022

For the RFIs from #1 to #4 and #6, the following documents have been received.

- ✓ **RFI#1**
  1. ML1-JAI-FAE-ROUT_XX-ST-Y-00001 | Safety Strategy
  2. ML1-JAI-GEO-ROUT_XX-DR-Y-00123 | Barrier effect mitigation measures
  3. ML1-JAI-GEO-ROUT_XX-DR-Y-00013 | Geological Long Section - Phase 1
  4. ML1-JAI-GEO-ROUT_XX-DR-Y-00037 | Geological Long Section - Phase 2
  5. ML1-JAI-GEO-ROUT_XX-DR-Y-00014 | Hydrogeological Plan
  6. ML1-JAI-GEO-ROUT_XX-DR-Y-00015 | Hydrogeological Long Section
  7. ML1-JAI-GEO-ROUT_XX-SU-Y-00006 | Factual Report AGI-3- Concept Design-2018
  8. ML1-JAI-STU-ROUT_XX-DR-Y-00003 | Greenfield Settlements MAP – Lay out
  9. ML1-JAI-STU-ROUT_XX-DR-Y-00004 | Typical cross sections of the TBM tunnel
  10. ML1-JAI-STU-ROUT_XX-DR-Y-00006 | TBM - Tunnel. Ring General Layout - Distribution of the different segments on the TBM ring
  11. ML1-JAI-STU-ROUT-XX-DR-Y-00016 - TBM Tunnel. Ring Details - Details of screws and other auxiliary elements for segments connection
  12. ML1-JAI-STU-ROUT-XX-DR-Y-00018 | TBM Tunnel Monitoring. Special Buildings - Typical instrumentation for buildings during tunnel construction
  13. ML1-JAI-STU-ROUT-XX-DR-Y-00025 | General Arrangement. Plan Layout - Drawing including the tunnel alignment in plan view superposed with the ground orthoimage
  14. ML1-JAI-STU-ROUT_XX-M2-Y-000042 | Albert College Park Intervention Shaft. - Construction sequence - Construction method statement of the shaft
- ✓ **RFI#2**
  15. ML1-JAI-EGN-MS09_XX-RP-Z-00001 | Collins Avenue Station: Draft Environmental Assessment Report of the Options
- ✓ **RFI#3**
  16. ML1-JAI-ARC-ROUT_XX-RP-Y-00001 | Value Engineering Report
  17. ML1-JAI-FAE-ROUT_XX-RP-Y-00001 | Proposed Ventilation Strategy – Smoke Control
  18. ML1-JAI-FAE-ROUT_XX-RP-Y-00002 | Assessment Design Fire for Rolling Stock
  19. ML1-JAI-FAE-ROUT_XX-RP-Y-00003 | Firefighting Track Design Principles
  20. ML1-JAI-STU-ROUT_XX-RP-Y-00015 | Tunnel Fire Safety Pros and Cons of a Single Bore Tunnel Arrangement
- ✓ **RFI#4**
  21. ML1-JAI-ARC-ROUT_XX-PP-Y-00021 | R132 Station Design Concept + Urban Realm | Preliminary Design Changes
  22. ML1-JAI-PLD-ROUT_XX-PP-Y-00011 | R132 - Boundary Compliance Check
  23. ML1-JAI-RTA-ROUT_XX-DR-Y-00010 | (title of drawing not present)
  24. R132 presentation 20180830_Hot Spots
  25. R132 Alignment Option 3 | Horizontal and Vertical Profiles
  26. 011_04_R132 documentation, including GIS Model, CAD drawing and the following Reports:
  27. Option 3 Route Drawings
- ✓ **RFI#6**
  28. ML1-JAI-PLD-ROUT_XX-RP-Y-00406 | Preliminary Design Report - Volume 4 - Chapter 6 - Sub-Surface Stations

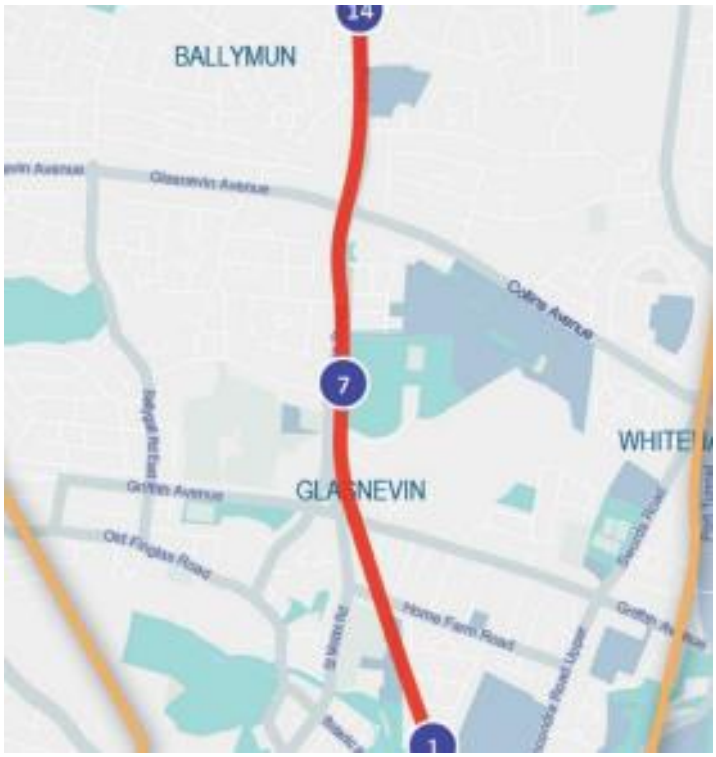
TII Response to RFI 6.

TII acknowledge the request for additional information surrounding the design of the Colins Avenue station box, and the request to comment on the proposed alternative location of the station box adjacent to Albert College Park.

With regards to the proposed alternative, this particular station location was assessed as part of the Alignment Options Study in 2018 as part of route options B0, B5 and B8. While alignment options containing this station location were assessed on a route wide basis rather than via individual stations, the initial phase before developing the "spider web" of potential routes was the assessment of possible Metro Station Zones (MSZs). DCU Ballymun Road was assigned MSZ 7, with DCU Collins Avenue allocated MSV 9.

Station descriptions for MSZ 7 and 9 and approximate station location for MSZ 7 is extracted from Alignment Options report below (Albert College Park indicated in green on map).

7	DCU Ballymun Road	Broad area to the west of DCU on Ballymun Road in the vicinity of St. Canices Road.	12,250	DCU Glasnevin DCU Sports Grounds
9	DCU Collins Avenue Junction	Broad area to the north-west of DCU at the junction of Ballymun Road, Collins Avenue and Glasnevin Avenue.	17,250	DCU Glasnevin The Helix



During this pre-route establishment phase, each MSV was assessed for potential trip demand (number of potential trips in a 24 hour period). This demand (2035) was extracted from the National

Transport Authority's Eastern Regional Model (for more detail, please see the following link: https://www.nationaltransport.ie/wp-content/uploads/2018/06/ERM_Road_Model_Development_Report_Final-2.pdf) and a representative centroid selected in each MSV. For DCU Ballymun Road, the number of potential trips within a 24hour period was estimated at 12,250, while for DCU Collins Avenue, the figure was estimated at 17,250. While both station zones were not directly assessed against each other, this estimated difference in trip generation between the zones was factored into the Multi Criteria Analysis carried out against prospective routes. Furthermore, environmental impacts of constructing the station within the environs of the park and the proximity of the DCU Collins Avenue station to orbital bus routes operating along Collins Avenue were also differentiating factors between the two MSZs.

Regarding the provision of a single entrance at Collins Avenue, given the relatively short station box length, direction of greatest demand coming from Collins Avenue/DCU Helix and the provision of 2 x escalators and 2x stairs from surface to concourse, a single entrance was deemed to be fully capable of meeting projected demand. For more information, please find attached to this RFI the Preliminary Design sub-surface station chapter setting out the key design principles for this station (and other sub-surface stations along the scheme).

Request for Information #7 - Content of Environmental Impact Assessment Report (EIAR)

Please Confirm that the EIAR will cover at least the following phases;

- Preparatory works
- Tunnel construction and spoil extraction
- Equipment installation
- Commissioning
- Operation

The EIAR will address the entire lifecycle of the project, including those described above.

Please confirm that the EIAR will include inter alia:

- Location of assessment points, along the entire metro route (including stations and shafts for ventilation).
- Type of impact (noise, vibration, atmospheric emission, settlements, etc.).
- Level of tolerance and acceptability (with reference to Irish Law and / or international

good practices).

The EIAR will describe and/or assess each of these elements listed above.

- Mitigation measures and compensation scheme details for unacceptable impacts and damages including the length of time the compensation scheme will run for after the system is completed.

The Property Owners Protection Scheme has been introduced to provide the comfort to any property owner of a private property located within the scheme area that there is a fast, free, independent survey service and redress scheme available to them on an individual basis to look after their concerns about any structural impact from the construction of MetroLink.

The Property Owner Protection Scheme (POPS), which is easily accessible, cost-free and open to all relevant property owners will be launched prior to the construction phase of the project. Under this

scheme, property owners can choose one of three independent survey companies to undertake a condition survey on their property. The panel surveyor shall recommend the repairs required where they assess that damage to the property has been caused by the construction of MetroLink.

The premise of the scheme is that any property owner of a private property located within the scheme area, may sign up to the POPS and avail of free, independent condition surveys of their property. Condition survey data will be gathered before, during and for one year after MetroLink is operational.

– Possibility of temporary relocation of residents who are subjected to unacceptable impacts and the criteria for assessing these.

This will be addressed within the EIAR as part of the RO submission.

– Restoration of the existing situation, if it is modified by the construction activities.

Where feasible, any temporary land take acquired for the purposes of constructing MetroLink will be reinstated on a like-for-like basis. This will be described within the EIAR.

Request for Information #8 - Alternative locations and alignment options

Alignment options

(#35) Does the current preferred route of the project not take full account of the current Fingal Co. Co. Development Plan 2017-2023, in particular for the Ashley Area?

The Fingal Development Pan for 2017-2023 was developed with an indicative route of the New Metro North scheme (approximately the Emerging preferred Route).

Since the publication of the 2017-2023 plan, TII have been consulting with Fingal County Council on the development of the MetroLink preferred route and this route will be reflected in the 2023-2029 Fingal Development Plan.

(#103) Some Bus Connects and the Metro appear to have parallel alignments in our area. What integration and coordination between the two systems is being planned for? We are the only area which will have a CBC directly above a Metrolink - have TII adequately referenced this in their decision making on PR? Does it make sense to have these significant overlaps in service provision?

Throughout the development of MetroLink, there has been close coordination with the BusConnects team working on behalf of the National transport Authority, including sequencing of the works, placement of BusConnects bus stops with regards to the proposed MetroLink station locations etc.

While there are some sections of the alignments with an overlap in service provision between MetroLink and BusConnects, this significantly improves the level of integration between these two transport systems, allowing MetroLink passengers to easily interchange with an upgraded BusConnects core radial corridor with improved dedicated bus and cycle lanes, and connections to orbital routes providing an integrated service across the city, and vice versa.

Shaft and venting

(#19/1) In the current Metrolink project, residents suggested to TII that the proposed intervention shaft structure already planned for Albert College Park could be up scaled to a fully functioning station. What is the actual cost difference between the two options? Has this been properly costed?

The capital cost difference between an intervention shaft (of the size proposed for Albert College Park) to a MetroLink station is estimated to be 92.5m. This figure excludes indirect cost, land and property, risk inflation and VAT.

(#19/2) Given that it will only have 60 metre platforms and 1 entrance would it not make sense to have another station in ACP rather than an intervention shaft? What would be the cost difference between these 2 options? What would it cost to make provision for a future station in ACP even if not activated at the present time?

The capital cost difference between an intervention shaft (of the size proposed for Albert College Park) to a MetroLink station is estimated to be 92.5m. This figure excludes indirect cost, land and property, risk inflation and VAT. Providing for a future proofed station at Albert College Park would not make economic (or operational) sense given the proximity to the neighbouring stations.

(#66) Intervention Shaft access point during the operational phase – will these be used

for routine access by maintenance teams?

The shafts will not be used by maintenance teams for routine access onto the system. Occasional maintenance attendance at the intervention shaft access point will be required periodically.

Request for Information #9 - Construction, installation and operation methods

Spoil extraction

(#69/1) Will the shaft site be used for extraction spoil from the TBM tunnel especially from some of the more constrained station sites?

The shaft site at Albert College Park will not be used for the extraction of spoil from the TBM tunnel.

All TBM extracted spoil will be returned through the TBM tunnel to Northwood for management in accordance with all relevant legislation.

(#69/2) Routes of spoil extraction:

- a) are they dependent on NTA CBC implementations?

MetroLink and BusConnects will follow different timelines for construction therefore it can be assumed that they are independent of each other, however, all interface issues between the projects are captured in the EIAR chapters.

- b) will they be part of RO or decided at a later stage by DCC/TII?

A Scheme Traffic Management Plan (STMP) setting out all traffic management arrangements during construction will be included in the RO.

- c) will spoil /construction traffic routes be part of RO?

Yes, they will be included in STMP.

- d) Can TII or NTA provide a map of how soil to be removed?

This will be included in STMP and the relevant chapters of the EIAR which all form part of the RO.

− e) Can Four Masters tunnel spoils be removed elsewhere via another site station

like Des Kellys location to reduce truck traffic in our locality?

The Four Masters tunnel spoils will be removed directly from the site station location via the tunnel to Northwood for management in accordance with all relevant legislation.

(#69/3) Can TII provide a SPOIL MANAGEMENT PLAN, including the following details: − Sites used for extraction spoil and relative quantities of heavy vehicles

The extraction of spoil, the estimated number of heavy vehicles and associated vehicles movements will be addressed in the STMP and the relevant chapters of the EIAR which all form part of the RO.

− Traffic routes for heavy vehicles and operating program (night / day / all day)

Traffic routes for heavy vehicles and an outline of their operating programme will be included in the Scheme Traffic Management Plan (STMP) which will be included in the RO.

− Sites used for spoil relocation

Sites proposed for soil relocation will be captured within the EIAR.

Tunnel

(#85) Estuary Residents will accept the alignment if it is entirely cut and covered. Can TII confirm that this is the case?

While the entire MetroLink alignment along the R132 is not entirely cut & cover, the section of the alignment from the point the track crosses under the R132 directly adjacent to Estuary Court to the Seatown Station is contained in a cut & cover structure.

(#94) Duration of TBM pass-through, in particular for Dartmouth area?

Anticipated TBM production rate is to be 70 meters/week.

Works boundary

(#25) Will the EIAR/railway Order Application Contain a Detailed Construction Code of Practice/Construction Plan? What will it contain? Will it include where exactly any works boundary fences will be placed while the works are being completed?

The EIA process will assess all likely significant effects on the environmental through all phases of the project. This includes the construction phase and a specific construction phase management plan, the Construction Environmental Management Plan has been developed to provide a framework that outlines how contractors working on MetroLink shall manage and where practicable minimise potential negative environmental effects during the construction phase. The construction phase will include all site preparation, enabling works, demolition, material delivery and storage, waste storage and removal, construction activities, line wide installation and commissioning, post project restoration and any associated engineering works. This document will be included as part of the overall RO submission.

Land references and all temporary land take will be shown on the RO drawings and will indicative of the works boundary during the construction stage.

Request for Information #10 - Details about Railway Application Order, Documentation and RINA involvement

Content of Environmental Impact Statement

(#70) Please provide the main information about EIA/EIS, in particular: − Contents of EIA/EIS

- Documents included
- Data collected
- Experts involved
- Multi-criteria Assessments Undertaken

The EIAR is organised into over 30 separate chapters, each chapter focussed on a particular area of assessment (such as landscape, air quality, biodiversity etc) and the impact assessment process, including the documents included, data collected (and methodology used) and any multi criteria analysis carried out set out in each. Each chapter provides a description of the assessed environmental impact across the entire scheme.

Content of Railway Application Order

(#41, #56, #59, #77)

Please provide the main information about documents included in the RO Application. In particular confirm that the following ones will be included:

- Site Survey Report and Geotechnical Data

A summary of all advanced Surveys completed will be incorporated within the various chapters and appendices in the EIAR.

- Location and typology of electricity substations

Details on the proposed electrical Substations will be confirmed as part of RO submission.

– Construction methodologies (in terms of used technologies and indication of working hours

The Construction Phase EIAR Chapter will include details on construction methodology.

- Routes for extracted spoil

A Scheme Traffic Management Plan (STMP) describing these proposed routes will be included in the RO.

Subject: Request for Information #11 - Green areas and recreational spaces

Trees replacement and new planting

(#33, #36, #39, #88)

Please provide the main information about ENVIRONMENTAL IMPACT

ASSESSMENT REPORT – MITIGATION ACTION PLANS, including:

- Trees replacement and new planting
- Biodiversity compensation
- CO2 compensation (considering the reduction due to removal of trees and existing vegetation)
- Acoustic barrier effect mitigation (of existing trees and vegetation) both during and after construction

Reduction of construction site footprint

- Alternatives to proposed laydown and storage areas considered

All information above will be included in the EIAR as part of the RO submission.

Request for Information #12 - Impacts, damages, monitoring and compensations

Archaelogy and Heritage

(#83) Please confirm that the EIAR will provide ARCHAOLOGICAL SURVEYS of the route. Please provide indication of the number and locations of these surveys and the levels of detail within them. General impact during construction phase

The EIAR will contain details the multiple phases of archaeological investigations undertaken along the route of the proposed scheme and these will be included with the RO submission. As the proposed scheme shares a somewhat common alignment with old Metro North, a substantial amount of the aforementioned archaeological surveys had taken place prior to the development of MetroLink.

The combined archaeological investigations for old Metro North and MetroLink comprise Geophysical Surveys, Wade and Metal Detection Surveys, Archaeological Monitoring of Geotechnical Investigation's and Utility Slit Trenches in addition to the undertaking of Advance Targeted Test Excavations and Intensive Archaeological Test Excavations.

The MetroLink Archaeological Surveys comprise:

1. Geophysical Surveys
    a. Four Phases of Works from St Stephen's Green to Lissenhall
2. Wade Survey
    a. Broadmeadow River- areas not previously covered by the old Metro North Survey(Licence Area 4)
3. Advance Targeted Archaeological Test Excavations
    a. Estuary Park & Ride (Lissenhall; Licence Area 1)
    b. Griffith Station (Home Farm Football Pitch; Licence Area 3)
    c. Dardistown Depot (Licence Area 4)
4. Archaeological Monitoring of Geotechnical Investigations
    a. Five Phases of Works from St Stephen's Green to Lissenhall (works ongoing, reports incorporated into GI documents)

Reports from the previous archaeological investigations carried out during Metro North can be found on TII's website at https://www.tii.ie/tii-library/archaeology/

(#51) If one house on a terrace is within the zone of influence should the full terrace not be included- (Stella avenue for example)

It is assumed that the zone of influence refers to settlement – in which case where a single house on a terrace falls within this zone, the POPS scheme (see response to RFI 7 for a description) considers the entire terrace rather than just the single dwelling in terms of potential impact.

(#84) Please provide the main information about ENVIRONMENTAL IMPACT ASSESSMENT REPORT – MITIGATION ACTION PLANS, including:

- Trees replacement and new planting
- biodiversity compensation
- CO2 compensation (considering the reduction due to removal of trees and existing vegetation)?
- Acoustic barrier effect mitigation (of existing trees and vegetation) both during and after construction?
- Reduction of construction site footprint
- Alternatives to proposed laydown and storage areas considered

All information above will be included in the EIAR as part of the RO submission.

- (#106) Construction Code of Practice includes the issues related to small tight site?

The Construction Phase EIAR Chapter will include details on construction methodology.

- (#112) Construction Code of Practice includes the issues related to work during weekend?

The Construction Phase EIAR Chapter will include details on construction methodology. Proposed standard working hours during the weekend will be set out in the EIAR.

General impact during operational phase

#79/1) Will homes on Hampstead need to be evacuated if incidence in the tunnel and fans need to clear smoke

No evacuation of houses is envisaged as being required in the event of a fire incident in the tunnel, however, further analysis is underway to confirm the extent of possible fires and the consequential extent of smoke exhausted – TII to revert.

(#79/2) Please provide details of the IMPACT MONITORING PLAN for the following phases:
− Preparatory works
− Tunnel construction and spoil extraction
− Equipment installation
− Commissioning
− Operation

The plan should include:
− Location of monitoring points, along the entire metro route (including stations and shafts for ventilation)
− Type of monitored impact (noise, vibration, atmospheric emission, settlements, etc.)
− Level of tolerance and acceptability (with reference to Irish/EU Law and / or international good practices)
− Frequency of monitoring and proposed length of monitoring
− Procedures for consultation of the monitored data
− Mitigation measures and actions in case of overcoming of maximum impact level

The EIAR will detail a range of mitigations measures including environmental monitoring.

These will include specific monitoring locations, tolerances acceptable and frequencies. Any alterations to those will be informed by any RO granted by ABP and any such related conditions.

Impact on property values

(#17) What effect will this project have on property values before, during and after project completion? Some residents may wish to consider selling up and moving rather than face major disruption for a period of 7-10 years. Please provide Private Property Assessments that show these effects including the likely impacts of house insurance premiums for those above or close to the line.

TII have not carried out any such analysis. For information, previous analysis of property prices for those properties in proximity to Luas or Dart stations carried out by daft.ie can be found at The Daft.ie DART & Luas House Price Map: By Stop

Monitoring

(#7, #53, #58, #71, #78)
Please provide details of the IMPACT MONITORING PLAN for the following phases: − Preparatory works
− Tunnel construction and spoil extraction
− Equipment installation
− Commissioning
− Operation

The plan should include:
− Location of monitoring points, along the entire metro route (including stations and shafts for ventilation)
− Type of monitored impact (noise, vibration, atmospheric emission, settlements, etc.)
Level of tolerance and acceptability (with reference to Irish/EU Law and / or international good practices)
− Frequency of monitoring and proposed length of monitoring
− Procedures for consultation of the monitored data
− Mitigation measures and actions in case of overcoming of maximum impact level In particular will homes on Hampstead need to be evacuated if incidence in the tunnel and fans need to clear smoke?

The EIAR will detail a range of mitigations measures including environmental monitoring.
These will include specific monitoring locations, tolerances acceptable, frequencies will be informed by any RO granted by ABP and any such related conditions.

Request for Information #13 - Timeline and Penalties

Penalties

(#37) Please can TII give an indication about:
− Details of mechanisms of penalties for contractors and subcontractors who does not adhere to contractual conditions relating to the EIAR and Stakeholder Impacts?

All contractors and subcontractors engaged on the MetroLink scheme will be contractually required to adhere to the conditions set by the Railway Order. Exact mechanisms or penalties for non-compliance will be determined once drafting of the contractual documents have been completed.

− Communication plan for stakeholder, including changes to programme schedules and their reasons

TII has engaged extensively with stakeholders along the route. The section on Consultation in the EIAR will capture the extent of the consultation and communication with stakeholders. This will be published as part of the Railway Order application process later this year.

Changes in programme schedules in mega projects such as MetroLink will arise for a variety of reasons. Every effort is made to meet indicative targets and programmes but unfortunately circumstances will arise from time to time which will result in changes to schedules – all contractors working on MetroLink will be required to maintain lines of communication with stakeholder groups to ensure such events are quickly communicated.

Timing

(#3) Please provide the complete timeframe of the project, including the following phases:
− Design and permitting
− Bord Pleanala approval
− Preparatory works
− Station and Tunnel construction (area by area)
− System fit-out (area by area)
− Equipment installation
− Testing and Commissioning
Start of operation

The complete timeframe, broken down per phase as detailed above, is currently being finalised and will be provided as part of the RO submission.

Request for Information #14 - Traffic and accessibility

Resident access

(#4) Please provide the TRAFFIC MANAGEMENT PLAN during construction and operations phases, in particular indicating (area by area):

- If the resident accesses are close to the construction sites, how they will be

regulated? How will access times be kept to a minimum?

- Will local parking restrictions (residents only) need to be introduced?

- What are the traffic limitations or reductions in the in the area adjacent to the works?

Will any roads be temporarily or permanently narrowed? Will there be a loss of on- street parking in the temporary and permanent situations?

The management of traffic during construction and operational phases will be included within the Scheme Traffic Management Plan and the relevant chapters of the EIAR.

Request for Information #15 - Impacts, damages, monitoring and compensations

General impact on construction phase

(#72) Residents noted that the Dublin Port Tunnel and other works had resulted in significant activity by rodents and other small vermin. What does TII propose to do to monitor and control such vermin during and after the construction works for MetroLink?
Mitigation measures for noise and vibration

With the construction methodology of MetroLink, with sealed concrete lined tunnels, sealed concrete station structures and the length of the overall underground section, the likelihood of similar rodent activity affecting residents in proximity of the works is deemed to be much less than Dublin Port Tunnel. Regardless, throughout the works, residents will have a clear line of communication to report any such issues.

(#26) What mitigation measures will be put in place so as to prevent any vibrations either during the construction phase or in the future operation of the Metro link, being felt in houses once the track is in use (for example floating track or specific operational measures and so forth)?

The Vibration and Groundborne noise chapters of the EIAR will detail the expected impacts during construction, largely through the operation of the TBM (which will be of a transitory nature). During operation, no perceptible vibration or ground borne noise from train operation of the scheme is expected. A significant source of vibration and noise during train running is corrugation of the track through wear, which will require infrequent rail grinding operations, a potential source of vibration and noise. Nearly affected residents will be consulted before these types of maintenance activities take place.

Request for Information #16 - Traffic and accessibility

Traffic management and disruption

(#97) If the road traffic projections for our area turn out to be inaccurate and residents suffer a much greater traffic density than forecast, with the consequences of congestion, delay and hampered accessibility to our area - who is responsible for introducing any corrective traffic management measures and over what time period?

A detailed traffic assessment has been undertaken for the project and details of this assessment have been discussed with local authorities i.e. DCC, FCC. The outcome of these studies did not indicate any significant impact. Similar to Luas Cross City, during the construction stage a traffic forum will be set up with representatives from TII, the Contractors, the local authority and An Garda Síochána to quickly react and respond to any changing circumstances.

Subject: Request for Information #17 – Follow-up to RFI#6 – More Detailed Transport Demand Modelling

In relation to our activities related to IEE Services for the MetroLink project, you may recall that we presented the RFI#6, where we raised some points which had been raised by the Stakeholders and which seemed to be appropriate for a response given the controversial nature of the intervention shaft in ACP, and the positioning of Collins Avenue Station (especially in the light of the response to RFI#2).
Following the TII response, Albert College Residents Association and Ballymun Road (North) Area Association have expressed some significant doubts related to the transport modelling approach employed in the EPR stage by ARUP – in other words using a strategic approach to look at different alignments but extrapolating these results to the actual station demand, which was both not detailed enough for the purpose, likely gives a misleading result, is now probably outdated and does not accurately reflect the future passenger demands in the area, especially given the future educational and residential development plans for the area, which are substantial. The IEE agrees that this is a matter that should be better supported with demand forecasting analysis at the appropriate level of detail.
For these reasons, we would transfer to TII a request for a revision of the previous modelling be carried out to reflect not just current, but also future footfall demands at an appropriate and more detailed level of model zoning, which will provide a more balanced set of metrics on which to base such an important decision affecting the lives of so many stakeholders in the area.
We attach the resident's actual response to this RFI.

TII Response #17

The Regional Model System is a suite or transportation models covering Ireland which are developed by NTA. The Eastern Regional Model (ERM) is one of this family and covers much of East and Central Ireland, in particular Dublin and its surrounding area. The model has been used to identify and assess proposed improvements in the country's travel infrastructure (covering both highways and public transport) over recent years.

The modelling processes used to identify the optimal locations for the stations have been developed over a number of iterations to reflect the choices travellers make in terms of destination choice, mode choice and route choice. The decision processes are sophisticated and are based on best practice within the industry. The models use zones to represent spatial areas as origin and destination points of any journey. The spatial geography is detailed in the urban area in order to support accurate journey costs and realistic choices between alternatives. The model zones in turn are built from smaller units based on the national Census geography; these are used to collate future anticipated land-use developments, populations and employment. The calibration and validation of ERM gives a representation of travel which responds appropriately to cost and delay change, the addition of infrastructure, policy initiatives and changes over time. ERM's level of detail (in terms of its data inputs, spatial resolution, modelling processes and calibration) means that it is well suited to assess or appraise policies, schemes and proposed transport infrastructure, such as the Metrolink.

Request for Information #18

District 7 Community Alliance suggested an alternative of the alignment in their area, which seem to be appropriate for a response.
The proposed alignment is much straighter on the eastern side of Botanic Road, passing straight down from the Griffith Park stop, under the Smurfit site and interchanging with IE under the present tennis courts, again a good construction site compared with the one proposed by TII. The line could then travel straight under the Canal, the corner of Mountjoy and have a station at the 'Musgraves' site, avoiding the difficulties associated with passing under so much poorly founded housing with a very curved alignment and giving a far better site for constructing the station behind Mater, rather than in Four Masters Park.

TII and Irish Rail had carried out initial feasibility assessment of the Glasnevin Interchange Station in 2019 in order to explore all feasible options in vicinity of Cross Guns bridge that would meet NTA requirements for passenger interchange between Irish Rail and MetroLink. Option of locating Irish Rail passenger platforms east of Cross Guns Bridge was explored but found not feasible for following reasons:

a) Length of Irish Rail platforms of 174m would require significant property take along Whitworth Road / David Park.
b) Irish Rail would require four platforms (width of 4m each) to fulfil operational requirements set out by NTA transport modelling. This would inevitably impact on MGWR retained cut space proofing, resulting with reduced width of the Royal Canal Greenway and removal of Whitworth Road along proposed IE platforms.
c) Vertical alignment of Irish MGWR (falling toward Docklands) and GSWR (climbing towards Drumcondra Station) would be on the IE design and operational limits (maximum gradient of 1:60 on plain line and 1:120 within the platforms). The MGWR vertical realignment would extend further east by 700m to Drumcondra bridge. This results with maximum gradient of 1.8% and would impose operational restriction of MGWR rail line for particular rolling stock.
d) Level difference between proposed MGWR and GSWR platforms would require stairs and ramps for accessibility.

It was concluded that the position of the MetroLink Station East of Cross Guns Bridge, was not optimal and Glasnevin interchange platforms should be located on the west side of Cross Guns Bridge.

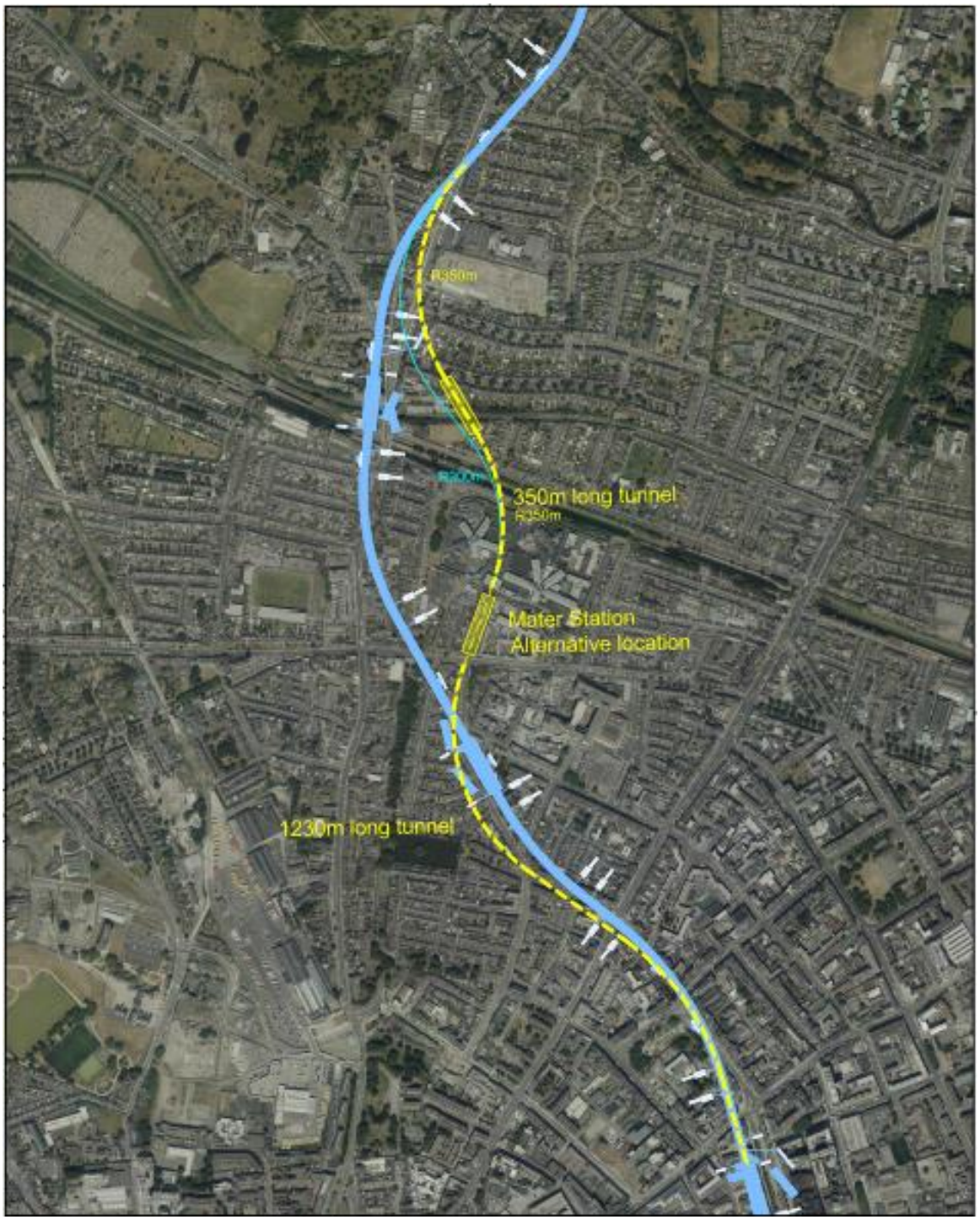
Musgrave Site alternative station location

TII have previously assessed a station location at the Musgrave site in 2020 (below) in lieu of the currently proposed Mater Station in its current location.

The findings from the desktop study are as follows:

a) Proposed Musgrave Station would be constrained by limiting horizontal curve alignment of 350m to the north, which would allow to place "East Glasnevin Station" on straight section of the alignment. Position of the proposed station would be east of tennis courts and would significantly impact on the residential area north of GSWR.

b) Placement of Irish Rail platforms would be impact on surrounding area (see below).
c) The tunnel section between the proposed station beneath the Musgrave site and the Glasnevin "East" Station would be only 350m which would impact on the efficiency of MetroLink operational pattern (90 seconds headway) and passenger demand.
d) Omitting Mater Station from the scheme would result with 1230m long tunnel between the station at the Musgrave site and O'Connell Station. Consequently, an intervention shaft would be required between stations to satisfy safety requirements of maximum 1,000m distance between emergency exits.



Request for Information #19

In relation to Albert College Park Tunnel Intervention Shaft, could the site be reduced in footprint substantially?

For example, there appears to be a significant amount of parking space, which we would not consider appropriate. Emergency access will be directly from parking on the Southbound Side of the Ballymun Road dual carriageway in our view.

TII Response RFI#19

TII and our designers, Jacobs/IDOM, have been very closely consulting with Dublin Fire Brigade throughout the development of the design of the Albert College Park intervention shaft, and the current design reflects this engagement in terms of space and access requirements for the shaft in the event that fire brigade intervention is required at this location. As such, TII do not consider the reduction in the surface footprint of the intervention shaft as feasible.