



**An Roinn Caiteachais  
Phoiblí agus Athchóirithe**  
Department of Public  
Expenditure and Reform



**Tionscadal Éireann  
Project Ireland  
2040**

# **MPAG Review Note**

## **MetroLink**

**Preliminary Business Case**

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**Date**

21 June 2022

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**Sponsoring Agency**

Transport Infrastructure Ireland

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**Approving Authority**

Government

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**Note**

The purpose of the Major Projects Advisory Group is to support the application of the Public Spending Code and consider major public investment proposals (in particular in relation to costs, scheduling, delivery and risk) in advance of Government Decision.

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**Documents Considered for Review**

MetroLink Preliminary Business Case – February (updated)

MetroLink Preliminary Business Case – Response to DoT/SRAD Comments March 2022

JASPERS Guidance Note - Project Review: Phase 3(Preliminary Business Case) incorporating Independent External Review

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**Date Received by MPAG**

03/05/2022

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**Date of MPAG Meeting**

31/05/2022

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**Date of MPAG Return**

21/06/2022

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## Main Findings and Recommendations

The Major Projects Advisory Group has reviewed the Preliminary Business Case for Metrolink as well as the External Review carried out by JASPERS. The main findings and recommendations arising from the review are below. The Approving Authority and Sponsoring Agency should be satisfied that these are considered and addressed before a decision is made to proceed with the proposal.

### For immediate consideration.

1. It is unclear why Quantitative Risk Assessment (QRA) cost estimates have been used instead of Reference Class Forecasts (RCF). The forecasts should allow for 'unknown unknown' risks within the central cost estimates. The RCF methodology in principle better captures the risks of potential unknown unknowns that can impact final project costs. Against the stated reference class curve, this cost estimate represents a confidence level closer to a RCF P70, implying a 30% chance that the project will exceed its budget.
2. The Sponsoring Agency and day-to-day Approving Authority must ensure the Government is fully briefed of the potential costs for the proposal including the RCF P95 OBC and RCF P95 FBC cost forecasts. Cost estimates based on higher cost uplifts such as RCF P90 and P95 have been provided in supplementary material, which are outlined in the table below. The upper range of this cost estimate amounts to €23.39 billion.

Cost Estimates by Forecasting Methodology (€bn)					
	P50	P80	P85	P90	P95
<b>QRA</b>	10.68	12.25	12.40	12.61	12.92
<b>RCF OBC</b>	9.50	14.20	15.57	18.06	23.39
<b>RCF FBC</b>	9.50	13.08	14.20	16.35	21.50

3. An affordability assessment should be carried out by the Approving Authority based on the full range of available cost forecasts. The Exchequer impact analysis presented in the project documentation utilises the management base target cost estimate which is based on a QRA P50 confidence level. There is a risk that this analysis understates the potential Exchequer funding requirements for the project and therefore it would be prudent to conduct and present an Exchequer impact analysis using the higher confidence level cost estimates available for the project.
4. The day-to-day Approving Authority must be satisfied that the proposal is affordable at the higher potential cost range in the context of allocations under the NDP and

other capital projects in the investment pipeline. At the MPAG review meeting, the TII stated their planned commencement date of 2025 while the D/Transport confirmed that funding will not be available until 2027. This disjuncture has now been addressed, however, it is critical that the project schedule aligns fully with annual expenditure allocations.

5. Based on a P80 cost forecast, delays in implementing the project may result in additional costs of up to €380m per annum. Possible delays to construction should be fully costed, the expenditure implications factored into the affordability assessment and cost forecasts updated to reflect later construction starts. This will ensure that Government is fully aware of the potential capital and operational cost implications of delaying the start of construction to a later start date.
6. There are concerns that the current route duplicates other public transport services and planned transport interventions in the corridor, potentially leading to demand abstraction. Undermining the viability of other transport services may cause difficulties in the planning process. Up to date analysis of the cumulative impacts of major public transport services in the vicinity of Metrolink (existing and planned) is needed in order to confirm the project need and to justify the selection of the most appropriate project design both within the environmental assessment materials and the business case. The potential for likely long-term traffic management on the road networks is not factored in.
7. The rationale for extending the preferred scheme to Charlemont is noted by JASPERS as “strategically weak” given the additional costs involved and the duplication of the LUAS Green Line which also provide a public transport service to the areas of the city centre in question. To counter this point by JASPERS, NTA/TII make a case for the terminus at Charlemont that better provides for a future connection into a new south side transport scenario, whatever that may look like.
8. The Sponsoring Agency and day-to-day Approving Authority must be satisfied that the options analysis underpinning the preferred modal option for the project is sufficiently robust, up-to-date and is adequately described in the written documents submitted with the project’s Railway Order application.

**To be addressed for the next Decision Gate**

9. The project rationale does not sufficiently address specific environmental costs and benefits which the project might entail.
10. Benefits have not been subject to the same level of analysis as costs in the economic appraisal. Potentially useful exercises to de-bias benefits estimates such as using Reference Class Forecasting have not been undertaken for the project.

11. It is not clear from the documentation provided how 2022 prices have been discounted to 2011 price levels for the economic appraisal and whether asymmetries in the trajectory of cost and benefit values since 2011 may skew the validity of the analysis at this point.
12. Further clarity within the project documentation is needed on how the demand modelling is aligned with the population and employment projections of the National Planning Framework.
13. The Sponsoring Agency and day-to-day Approving Authority must ensure project costs are reflective of current market conditions if the project progresses through the next stages of the project lifecycle.
14. JASPERS have noted that estimated costs are high compared to other metro projects in Europe. The comparatively high estimated cost of the project jeopardise the project securing EIB financing, if sought. It should be noted that JASPERS concerns derive from a relatively small sample of metro projects, using costs which combine 75% of pre-construction costs and 25% of out-turn costs. It is not clear if the data available to JASPERS is based on construction costs only, or whether it accounts for all enabling works, property and all other associated costs.
15. Cost Contingency arrangements need to be formalised. The Department of Transport and the NTA as day-to-day Approving Authorities must set out explicit arrangements for contingency governance including which body holds different levels of contingency and detailing the specific circumstances under which contingencies will be released. These arrangements must include incentives to deliver the project as efficiently as possible.
16. The use of higher confidence level cost estimates should be used prudently to inform assessments of affordability in downside scenarios. However, this should be accompanied by stringent contingency governance arrangements and active risk management plans to retire risks to progressively reduce the total required funding envelope. Managing down the tail risk will be a better use of resources than eating into contingencies.
17. It is noted that a number of outstanding concerns remain among key stakeholders, including the OPW, Trinity College and DAA, over the preferred route and detailed project design at stations including those proposed at Stephen's Green and Dublin Airport.

18. It is noted that a judicial review of the railway order application process is deemed likely to add three years to the pre-construction project timeline. The impact of this level of delay should be assessed in terms of project cost and feasibility and the risk actively managed.

19. Once the Railway Order is approved, future opportunities to modify the project scope in order to achieve cost reductions will be heavily constrained.

# 1. Background

1.1 MetroLink is a proposed above and below ground metro system running on a North-South Axis from Swords to Charlemont via Dublin Airport. As set out in the Preliminary Business Case, key outputs of the project include:

- A new fully segregated and automated metro line 19.3kms with 11.7km of single bore double tracked tunnels.
- 15 stations at opening including 11 underground stations. One of these underground stations will directly serve Dublin airport.
- Auxiliary infrastructure including two viaducts and park and ride facilities with 3000 spaces at the northern terminus.

1.2 The prudent client appraisal capital cost estimate for the project is €12.25bn ex-VAT. This figure includes a base cost of €5.80bn, a risk allowance of €3.03bn and an inflation allowance of €3.42bn. The risk allowance is based on a Quantitative Risk Assessment (QRA) P80 confidence level<sup>1</sup>. The management base target cost for the project is €10.68bn which is comprised of the €5.80bn base cost, an inflation allowance of €2.25bn and a risk contingency of €2.63bn. The risk allowance for the management base target cost is derived from a QRA using a P50 confidence level.

1.3 An updated project timeline from that set out in the PBC has been developed which makes the following assumptions:

- July 2022 – Government authorisation to proceed to seek planning consent
- Sept 2022 – submission of Railway Order application
- Q1, 2024 – enforceable railway order (conclusion of planning process)
- Q3, 2025 – Award of main construction and PPP contracts

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<sup>1</sup> A P80 confidence level indicates that there is an 80% probability that outturn costs will fall within the related cost estimate. A higher confidence level requires an increased cost contingency to increase the certainty that project outturn costs will fall within the associated cost estimate. Probabilities and associated cost contingencies are calculated using cost and risk data from similar projects.

- Q4, 2034 – Commencement of operations.

1.4 The key projected outcomes of this investment include:

- Increased public transport patronage and integration of public transport services.
- Reduced congestion on the roads.
- Providing a suitable and reliable alternative to car based travel.
- Increased economic activity and jobs in catchment area.
- Improved access for communities to jobs, Dublin airport and other critical public services including education and health facilities.
- Encouragement of sustainable residential and commercial development within the catchment area.

1.5 Decision Gate 1 approval is currently being sought for the MetroLink proposal. Approval will allow the proposed scheme to proceed to planning and procurement stage of the Public Spending Code (PSC) project lifecycle.

1.6 Transport Infrastructure Ireland (TII) are the Sponsoring Agency for the proposal. The National Transport Authority (NTA) are acting as the day-to-day Approving Authority. Due to the potential costs involved, Government approval is required for Decision Gate 1 and subsequent Decision Gates in the PSC project lifecycle.

1.7 The Preliminary Business Case for the MetroLink has been submitted to DPER to be reviewed as part of the Major Project Advisory Group (MPAG) process. The documents reviewed by MPAG members are the Preliminary Business Case and an external review of the proposal conducted by JASPERS<sup>2</sup>.

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<sup>2</sup> While certain other supporting documents have been made available, these have not been considered as part of the project review.



## 2. Case for Change

### Investment Rationale

- 2.1 **The project rationale does not sufficiently address specific environmental costs and benefits which the project might entail.** The environmental rationale in terms of potential carbon emission reductions and encouraging sustainable transport usage is likely undersold in the Preliminary Business Case document. TII have furnished a supplementary technical note which examines the project's potential impact on greenhouse gas emissions. JASPERS have also noted that the project would align with the climate action criteria of the EU taxonomy.

### Options

- 2.2 **There are concerns that the current route duplicates other public transport services and planned transport interventions in the corridor, potentially leading to demand abstraction. Undermining the viability of other transport services may cause difficulties in the planning process.** Up to date analysis of the cumulative impacts of major public transport services in the vicinity of Metrolink (existing and planned) is needed in order to determine the project need and to justify the selection of the most appropriate project design both within the environmental assessment materials and the business case. The potential for likely long-term traffic management on the road networks is not factored in. The LUAS Green Line, in particular the city centre section, could be at risk from lower passenger numbers. JASPERS have also noted that the preferred route is likely to compete with planned or existing bus services such as the BusConnects corridor through Ballymun. TII have also identified, however, the capacity limitations on the section of on-street LUAS Green Line through the City Centre compared to the segregated sections. In the case of the Ballymun section, the key metro consideration is connectivity with the main-line rail.
- 2.3 **The rationale for extending the preferred scheme to Charlemont is noted by JASPERS as “strategically weak” given the additional costs involved and the duplication of the LUAS Green Line which also provide a public transport service to the areas of the city centre in question.** To counter this point by JASPERS, NTA/TII make a case for the terminus at Charlemont that better provides for a future connection into a new south side transport scenario, whatever that may look like. JASPERS further note that interchange with the Green Line would also remain possible at O'Connell Street in the event the Metro route was to terminate at Tara Street station. TII have highlighted that the decision to terminate the proposed route at Charlemont enables future direct integration of the Metro with an updated Luas Green Line. It bypasses the lower capacity section of on-street Green LUAS line. TII have also noted in their response to these concerns that Charlemont enhances the possibility of other metro extensions to the south-east and south-west of Dublin. The limitations of any further scope for station expansion or upsizing at St Stephen's Green are well flagged. The

business case does address the potential impacts of truncating the proposed scheme at Tara Street. Appraisal of this scenario suggests overall usage of the Metro would decline by 15.64% with a resultant decrease of €1.5bn in present value benefits. Cost savings in this scenario are estimated to be €1.1bn.

#### **Lessons Learned**

- 2.4 **Lessons learned from other major Irish and international transport projects have been considered.** According to the documentation provided alongside the business case, the MetroLink project has incorporated lessons learned from the original Metro North project as well as a number of reports on major projects including the National Children's Hospital and Crossrail in the UK. These learnings have led to changes in project scope, procurement strategy and approach to the Railway Order submission.

### 3. Value for Money

#### Economic Appraisal

- 3.1 **The range of BCRs for the project should be updated to account for the latest inflation adjustments and the various sensitivity and scenario testing.** Sensitivity and scenario analysis has been conducted which examine the impacts of input assumptions different to that used for the central scenario. Lower demand, higher costs and the impact of other infrastructure projects are all factored into the analysis undertaken. The BCRs for the project's sensitivity tests and alternative scenarios will need to be reviewed and adjusted further going forward to reflect future uncertainty and risk regarding inflation expectations. The full range of BCRs for the project, including those for sensitivity and scenario analysis such as the Alternative Growth and NDP scenario, must be clearly presented in any material submitted for the consideration of Decision Makers.
- 3.2 **It is not clear from the documentation provided how 2022 prices have been discounted to 2011 price levels for the economic appraisal and whether asymmetries in the trajectory of cost and benefit values since 2011 may skew the validity of the analysis at this point.** It is unclear how the BCR remains above 1.0 for the RCF P95 OBC uplift given the substantial cost estimate involved.
- 3.3 **The most recent update for the inflation forecast outlines increases of up to €1.8bn over the range of cost estimates presented in the business case.** The central case BCR will need to be updated to account for these updated inflation projections.
- 3.4 **Benefits have not been subject to the same level of analysis as costs in the economic appraisal.** Potentially useful exercises to de-bias benefits estimates such as using Reference Class Forecasting have not been undertaken for project benefits. The business case does outline that a number of sensitivity tests around alternative demand levels are included in the analysis. However, the forecasted benefits have not been adjusted for error or optimism. TII/NTA indicate that this approach might be considered for DG2.
- 3.5 **The long-term sustainability of benefits derived from reduced road congestion is not certain in the absence of road demand management measures.** These benefits form a considerable share of the project's overall modelled benefits. However, experience suggests that removal of road users through modal switching facilitated by MetroLink will induce demand in new road users over the long term without management constraints. Further work examining this issue including further sensitivity analysis around modelled benefits should be undertaken. In any case, a benefits realisation strategy will be required to ensure these impacts.

- 3.6 **Modelling undertaken by JASPERS suggests that demand for the proposal is potentially overestimated.** Based on a demand benchmarking exercise, JASPERS estimated an opening year demand of 40m - 45m which contrasts with the modelled opening year demand of 53m used in the analysis underpinning the business case. Both the NTA and TII have considered the JASPERS' benchmarking exercise and remain confident that the demand modelling and its associated outputs undertaken for MetroLink remain robust. The demand modelling for MetroLink also excludes the potential impact of demand management measures that will likely boost demand for public transport services if introduced.
- 3.7 **Further clarity within the project documentation is needed on how the demand modelling is aligned with the population and employment projections of the National Planning Framework.** Further detail is required on how the regional population and employment projections are distributed at a local level.

#### **Financial Appraisal**

- 3.8 **The revenue component of the financial appraisal is underdeveloped within the main business case document.** Some further discussion on the contracting model and fare policy is outlined in supplementary material but analysis of secondary revenue streams such as advertising and development levies have not been considered in detail. The NTA have noted that work is being undertaken to improve the understanding of potential additional benefits and revenue streams for the project in later stages of the project lifecycle.

## 4. Feasibility

### Cost Forecast

- 4.1 **It is unclear why Quantitative Risk Assessment (QRA) cost estimates have been used instead of Reference Class Forecasts (RCF)<sup>3</sup>. The forecasts should allow for ‘unknown unknown’ risks within the central cost estimates.** The RCF methodology in principle better captures the risks of potential unknown unknowns that can impact final project costs. Against the stated reference class curve, this cost estimate represents a confidence level closer to a RCF P70, implying a 30% chance that the project will exceed its budget.
- 4.2 **The Sponsoring Agency and day-to-day Approving Authority must ensure the Government is fully briefed of the potential costs for the proposal including the RCF P95 OBC and RCF P95 FBC cost forecasts.** Cost estimates based on higher cost uplifts such as RCF P90 and P95 have been provided in supplementary material, which are outlined in table 4-1. The upper range of this cost estimate amounts to €23.39 billion.

	P50	P80	P85	P90	P95
<b>QRA</b>	10.68	12.25	12.40	12.61	12.92
<b>RCF OBC</b>	9.50	14.20	15.57	18.06	23.39
<b>RCF FBC</b>	9.50	13.08	14.20	16.35	21.50

- 4.3 **An affordability assessment should be carried out by the Approving Authority based on the full range of available cost forecasts.** The Exchequer impact analysis presented in the project documentation utilises the management base target cost estimate which is based on a QRA P50 confidence level. There is a risk that this analysis understates the potential exchequer funding requirements for the project and therefore it would be prudent to conduct and present Exchequer impact analysis using the higher confidence level cost estimates available for the project. An updated affordability assessment must take account of recent and projected rates of inflation and the potential impact of Busconnects Dublin and the DART+ programme proceeding as currently envisioned.

<sup>3</sup> Reference Class Forecasting is a cost and benefit forecasting methodology that utilises data from similar projects to increase the accuracy in the calculation of the potential costs and benefits of a project under consideration. The OBC Reference Class cost uplift is based on data from projects where design has not been finalised. In contrast, the FBC Reference Class cost uplift is based on data for projects where design is largely finalised and mature. As a result a Reference Class Forecast using an OBC reference class will have a higher cost estimate than a Reference Class Forecast based on a FBC uplift.

- 4.4 **The day-to-day Approving Authority must be satisfied that the proposal is affordable at the higher potential cost range in the context of allocations under the NDP and other capital projects in the investment pipeline.** At the MPAG review meeting, the TII stated their planned commencement date of 2025 while the D/Transport confirmed that funding will not be available until 2027. This disjuncture has now been addressed, however it is critical that the project schedule aligns fully with annual expenditure allocations.
- 4.5 **Based on a P80 cost forecast, delays in implementing the project may result in additional costs of up to €380m per annum.** Possible delays to construction should be fully costed, the expenditure implications factored into the affordability assessment and cost forecasts updated to reflect later construction starts. This will ensure that Government is fully aware of the potential capital and operational cost implications of delaying the start of construction to a later start date.
- 4.6 **The Sponsoring Agency and day-to-day Approving Authority must ensure projects costs are reflective of current market conditions if the project progresses through the next stages of the project lifecycle.** The project team has accounted for inflation contingencies which have been updated to reflect inflationary rates up to Q4 2021 and revised inflation forecasts to 2034. Sponsoring Agencies and day-to-day Approving Authorities should ensure that all assumptions feeding into the proposal's economic and financial assessments are up-to-date in relation to latest trends in inflation and relevant market conditions before a submission to funding Departments and Government for approval.
- 4.7 **JASPERS have noted that estimated costs are high compared to other metro projects in Europe.** The comparatively high estimated cost of the project jeopardise the project securing EIB financing, if sought. However, JASPERS have indicated that the cost benchmarking exercise underpinning this observation is largely based on the cost of similar projects which have yet to complete construction. Given that the sample of projects used in the analysis is not fully comprised of outturn costs for projects, the JASPERS analysis may be overstating the difference in costs between MetroLink and other European metro projects. The JASPERS analysis also doesn't make adjustments to reflect particular market conditions that might be specific to Ireland.

### Schedule

- 4.8 **Operational planning and financial viability should be aligned. Any misalignment may introduce additional risk, for example relating to time limits on permits and consents.**

The projected timeline should be monitored closely and any changes subject to a full analysis of potential additional cost and risks.

- 4.9 **The project schedule is in part reliant on the ability to conduct tunnelling activities on a 24/7 basis.** There is a risk that permission will not be provided for 24hr tunnelling operations which will adversely impact the project schedule. TII have engaged with planning authorities to mitigate against this risk. It is acknowledged that successful tunnelling in complex ground may require 24/7 working of TBM machines and planning impacts will have been assessed for this (vibration analysis, etc).

### Risk

- 4.10 **There are a number of risks which might warrant review and a higher risk rating such as the delays in securing the Railway Order and constraints in the domestic construction sector.** A risk register which highlights the main project risks is included in the business case. The Sponsoring Agency and the project team should consider other ongoing risks such as disruption to international supply chains in addition to those already included in the risk register.

### Benefits Realisation

- 4.11 **JASPERS have noted that the project needs to place more emphasis on the project realising wider socio-economic benefits as discussion on benefits realisation focuses on scheme operation and service quality benefits.** TII have noted that the project monitoring and evaluation plan for the project have been updated based on feedback received from the Department of Transport and will be updated further as the project progresses through the project lifecycle.

## 5. Implementation

### Sponsorship

- 5.1 **Transport Infrastructure Ireland (TII) is acting as the Sponsoring Agency for MetroLink.** The project board and project team will report directly to the TII board. The National Transport Authority (NTA) is the day-to-day Approving Authority and the Government is the Approving Authority. It is the role of the Government Department – in this case Department of Transport – to fully support Government in this role and it is the role of the Accounting Officer to ensure compliance with the Public Spending Code and to ensure project budgets are properly managed.

### Governance and Assurance Framework

- 5.2 **The governance framework and business case do not discuss the selection of an appropriately experienced project director and members of the project team.** It will be critical to secure a Project Director with international experience of managing and leading other large metro or tunnelling projects. There will be a limited number of individuals internationally who fulfil the relevant criteria and arrangements should be made as soon as feasibly possible to secure the necessary personnel. TII have confirmed in response to queries that they have engaged with the Department of Transport, the market and recruitment agencies regarding the recruitment of 18 positions on the project team.
- 5.3 **The Sponsoring Agency and day-to-day Approving Authority should be cognisant of the risk of turnover in the project team given the projected length of construction time, particularly among senior and experienced members.** There is a risk that the project team may lose key members over the course of the project's implementation period, requiring robust succession and contingency planning.
- 5.4 **Cost Contingency arrangements need to be formalised.** The Department of Transport and the NTA as day-to-day Approving Authorities must set out explicit arrangements for contingency governance including which body holds different levels of contingency and detailing the specific circumstances under which contingencies will be released. These arrangements must include incentives to deliver the project as efficiently as possible.
- 5.5 **The use of higher confidence level cost estimates should be used prudently to inform assessments of affordability in downside scenarios.** However, this should be accompanied by stringent contingency governance arrangements and active risk management plans to retire risks so as to progressively reduce the total required funding envelope as uncertainty is reduced in planning, design and tender phases.



## Planning

- 5.6 **It is noted that a number of outstanding concerns remain among key stakeholders, including the OPW, Trinity College and DAA, over the preferred route and detailed project design at stations including those proposed at Stephen's Green and Dublin Airport.** The proposal will potentially face a number of significant challenges once it enters the planning process. The project has been subject to an extensive public and stakeholder consultation process. These objections may pose risks around the submission of the Railway Order and the overall project schedule unless resolved up-front.
- 5.7 **It is noted that a judicial review of the railway order application process is deemed likely to add three years to the pre-construction project timeline. The impact of this level of delay should be assessed in terms of project cost and feasibility and the risk actively managed.** A judicial review of the Railway Order may significantly impact the envisioned project schedule. Up to 24 months has been allowed for the project to proceed through the planning system in the existing project schedule. However, if the project is subject to a judicial review, it is anticipated by TII that this will add 3 years to that timeframe.
- 5.8 **Once the Railway Order is approved, future opportunities to modify the project scope in order to achieve cost reductions will be heavily constrained.** Scope optimisation in terms of minor scope adjustments such as station layout and fit out will still be possible although other major scope modifications such as change of tunnelling techniques or change to route alignment (outside of the approved limits of deviation) will not be possible once the Railway Order is approved. It is noted that significant changes to the project scope might arise as a result of the planning process.
- 5.9 **The Sponsoring Agency and day-to-day Approving Authority must be satisfied that the options analysis underpinning the preferred modal option for the proposal is sufficiently robust, up-to-date and is adequately described in the written documents submitted with the project's Railway Order application.** A number of years have elapsed since the publication of the Fingal North Dublin Transport Study which underpins the decision to develop a metro system over alternative modal interventions. A document supporting the EIAR Alternatives chapter should be prepared which confirms the appropriate basis for selection of Metrolink over other modal solutions in line with the principles of proper planning and sustainable development including with reference to the cumulative delivery of the associated BusConnects and Dart+ transport projects.

- 5.10 **The Railway Order application includes details and provisions for the local disposal of the spoil generated by tunnelling activities.** The inclusion of this element within the forthcoming Railway Order is noted in that it demonstrates that the Sponsoring Agency has incorporated lessons learned from the Metro North proposal where the issue was not deemed to have been comprehensively addressed in the Railway Order.

#### **Procurement and Commercial Strategies**

- 5.11 **Delivery of the project across multiple contracts increases integration and interface risks.** Further detail and clarity on the proposed Interface Agreement for project contractors should be provided. The decision to deliver the project across a number of separate large contracts is based on previously conducted market engagement. The market engagement highlighted a lack of appetite among potential tenderers for a single works contract. TII have cited that a limited number of large contracts minimises commercial and contract management risks compared to breaking the project down into a series of smaller contracts. The current procurement strategy envisions integration and interface risks being mitigated through the coordination role of the successful M500 contractor which will be awarded alongside the first of the M400 design and build contracts. TII also plan to issue a M200 Interface Agreement which will contractually capture the Interface components of the main contracts.
- 5.12 **The M500 contractor may be taking on a higher level of risk compared to similar contracts used in other metro projects.** The Sponsoring Agency and day-to-day Approving Authority must be satisfied that all known risks regarding the procurement strategy are outlined and consider the potential risks and impact on the public finances if contracting risks manifest as issues. The M500 contractor may find the risk of integration and interface to be challenging to manage with third party contractors and this could have implications for risk, deliverability and value for money of the M500 contract. Also, this requires an earlier tender for the M500 contract which will increase uncertainty and make tendering more difficult to price accurately with risks of cost escalation.
- 5.13 **There are concerns that the project may find it difficult to procure cost-competitive contractors owing to the demand placed on the international market from large metro/tunnelling projects in other jurisdictions.** TII are actively monitoring market appetite in light of the progression of other metro projects elsewhere and are engaging with other project teams to mitigate against the risk of there being a limited market available to tender MetroLink. A key consideration in attracting market appetite may be the risk transfer model proposed and the demand of international contractors for levels of risk sharing outside those proposed.

## 6. Evaluation

### Monitoring and Evaluation Plan

- 6.1 **A monitoring and evaluation plan accompanies the main business case document which links project objectives to measurable medium and long-term outcomes.** Potential data sources for the measurement of outcomes is also included in the document. TII and the NTA have noted that the Monitoring and Evaluation plan for MetroLink will be subject to further updates at later stages in the project development lifecycle.