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Project Manager: Neil Cowie
Author: J. MAGEE
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Jacobs Engineering Ireland Limited

Merrion House
Merrion Road
Dublin 4, D04 R2C5
Ireland
T +353 1 269 5666
F +353 1 269 5497
www.jacobs.com

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Executive Summary

The public consultation programme led by the NTA/TII in 2018 resulted in many submissions and for the proposed station Tara Street the concerns related to:

- Property acquisition of residential units, leisure centre and office building at College Gate;
- Impacts on surrounding properties during construction due to vibration and ground movement;
- Disruption during construction due to increased traffic movements from construction traffic accessing the site; and
- Health and safety concerns due to construction generated dust and noise.

Scheme wide issues were also raised including:

- Concerns on how the EPR will impact on their proposed developments or planning application.

Subsequent to the EPR consultation, a number of proposed changes to the scheme have been brought forward. The key changes that affect the design for the interchange station at Tara Street include:

- A change from twin bore tunnels to a single bore tunnel carrying trains running in both directions, with associated flank platforms required rather than the previous island platform. Internal arrangements for horizontal and vertical circulation inside the station box have been revised to suit.
- Confirmation that the trains would be of high-floor design and be fully automated to operate at a 90 second interval/headway (time between trains). This means that instead of the 90m long low-floor trains required for the previously developed EPR, the high-floor trains are proposed to be shorter at 64m long, with associated scope to reduce platform and overall station length.

To address the specific concerns relating to the need for demolition of College Gate, some specific alternative options were suggested arising from the EPR consultation in respect of the Tara station location. Three options as submitted by College Gate residents, with the station relocated either to the north or south of the EPR proposed location, have been reviewed in detail. In addition, other options developed through the Preferred Route design process including a mined option and realignment of the route to the east of Tara Street station have also been reviewed. All were assessed against the EPR proposed station location (Option 0: Station Box and Building Demolition) as a base case, adjusted to suit the single bore and reduced station box length noted above.

The various options were taken through a Multi Criteria Analysis to compare aspects of each different Option. This has identified that for a number of reasons including constructability, cost and retention of a good interchange facility that Option 0, including demolition of College Gate, remains the preferred station location and Option to be included in the development of the Preferred Route.

1. Introduction

1.1 MetroLink Route Development

Metro North was the project name of the original proposal for a metro railway system connecting Swords and Dublin Airport with Dublin City Centre at St Stephens Green. This scheme was developed by the Rail Procurement Agency through the Railway Order process to successful planning approval by An Bord Pleanála (ABP) in 2010. The global economic downturn intervened, and in 2011 the Government postponed the Dublin Metro North project.



Figure 1 – MetroLink Route Map with R132 highlighted

The National Transport Authority's (NTA) Transport Strategy for the Greater Dublin Area, 2016-2035 identified a Metro service as the preferred public transport mode to address the transport needs of the Swords-Airport-City Centre corridor. It also envisaged the upgrading of the existing Luas Green Line between Ranelagh and Sandyford to a Metro level of service.

Project Ireland 2040 included the National Development Plan (2018-2027), which combined those two projects to form MetroLink. MetroLink will provide a fast, high capacity, high frequency, modern and efficient public transport service for people travelling along the Swords/Airport to City Centre corridor. In addition, the Scheme will connect to the existing Luas Green Line (an existing surface light rail line) in the South City area, enabling through running metro services from Swords to Sandyford. MetroLink will result in a north-south segregated metro system from Estuary to Sandyford as shown in Figure 1 here.

The metro route length is approximately 26km and the completed system will have 25 station stops (including 15 new stations), 3,000 Park & Ride spaces, and a journey time of approximately 50 minutes from end to end.

The NTA commissioned Arup Consulting Engineers to undertake a Route Alignment Options Study for the Scheme in 2016. The objective of the study was to carry out a comprehensive route option

selection to identify an Emerging Preferred Route (EPR). The study was completed at the end of February 2018 and it included a Concept Design for the EPR.

Separately, in January 2018, the NTA/TII commissioned Jacobs and Idom JV (Jacobs/Idom) to provide ongoing engineering design services through to scheme completion.

1.2 Public Consultation

A programme of public consultation led by the NTA was conducted between 22nd March and 11th May 2018, during which members of the public and other stakeholders were invited to submit their views and observations of the EPR.

There were 26 submissions in relation to the proposed Tara Station as shown in Figure 2 below. The station is located on the western side of the existing heavy rail line adjacent to the existing Tara DART Station. This plot of land is currently occupied by some residential town house units, a mixed-use building with approximately 70 apartments and a leisure centre and an office building as well as some vacant plots directly beside the rail line embankment.

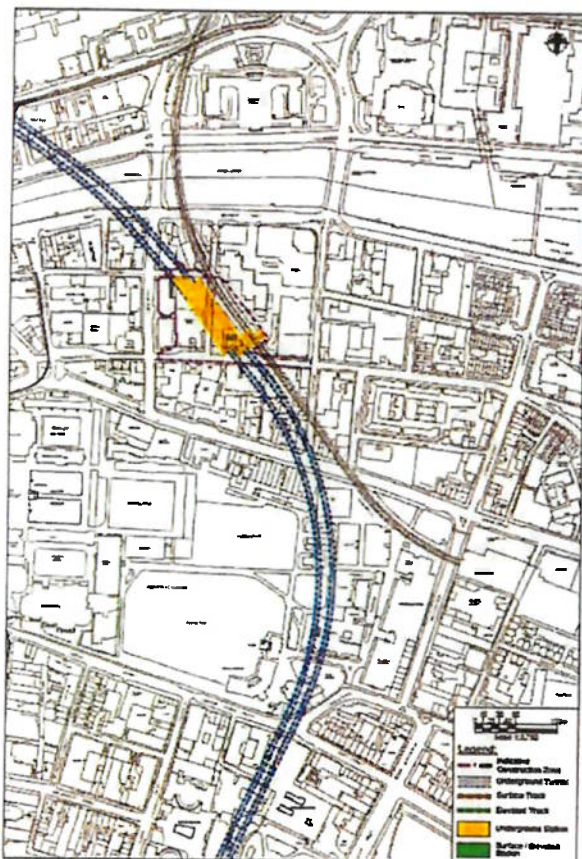


Figure 2 – Tara Street Station for EPR

The main concerns raised for the Tara Street proposals related to:

- Property Acquisition of residential units, leisure centre and office building;
- Impacts on surrounding properties during construction due to vibration and ground movement;
- Disruption during construction due to increases traffic movements from construction traffic accessing the site and
- Health and safety concerns due to construction generated dust and noise.

An alternative option was suggested during the consultation phase to move the station northwards to avoid acquisition of College Gate

The Public Consultations also raised a Scheme-wide issues and from the total of 573 submissions some of them related to Tara Street Station as listed below.

- Concerns from several stakeholders on how the EPR will impact on their proposed developments or planning application;
- Ensuring integration with the cycling, walking and bus networks;
- Additional park & ride locations should be considered;
- Impacts on surrounding properties during construction due to vibration and ground movement;
- Disruption during construction due to increases traffic movements from construction traffic accessing the site;
- Health and safety concerns due to construction generated dust and noise.

The public consultations process prompted the "Save College Gate Group" to submit a document called, "Analysis, concerns and alternative Metrolink station options based on documents published by Metrolink and other public sources." To avoid the demolition of College Gate Building, the document proposed the following alternatives:

OPTION 1: Station under Hawkins Development

OPTION 2: Station moved northwards under Tara Street and a proposed new CIE development

OPTION 3: Station moved southwards

In addition to these suggested alternatives to the EPR station location the Metrolink project team has also considered further options that would potentially avoid demolition of College Gate; these are:

OPTION 4: Mined station at concept design location

OPTION 5: Alignments passing to the east of the existing Tara Station

The NTA and its advisors have carefully considered the many statements and submissions made from the interested and affected parties along with other proposed route improvements which has resulted in several proposed changes to the Metrolink scheme.

This report presents the proposed changes to the planning of MetroLink since the Public Consultation that have led to the Preferred Route and specifically the considerations for Tara Street Station.

2. Tara Street Station for EPR

2.1 Proposed Station and Surroundings

For the EPR the underground station at Tara Street was located close to the existing Tara Street (DART) railway station in a high-density city office area. It was designed to be at 24m depth and was to include a traction power substation as well as providing key interchange facilities with the DART station.

The station would have transport Integration with Bus services (four service lines) and a bike station was to be provided along with taxi rank & drop off bays. The DART and Dublin Commuter services on the twin track heavy rail line are high frequency, currently at 12tphpd and with a future capability for up to 18tphpd.

The City Centre location gives potential for Over Site Development (OSD) to integrate with the interchange station, commercial properties, and retail areas. A new public realm space might be feasible above the station box.

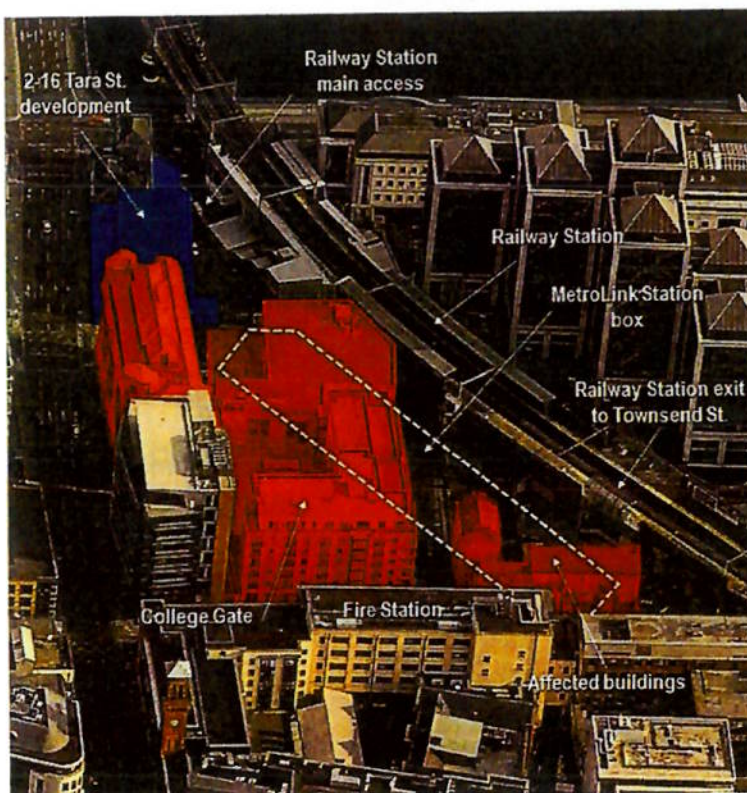


Figure 3 – EPR Station Surroundings

Development constraints include the existing buildings in the area as shown in Figure 3 above as well as the new developments that are affected. Demolition of buildings is necessary and housing owners are affected at College Gate.

There will be some traffic disruption in the local area during construction in this city centre area. The Fire Station's alternative access onto Townsend Street will be affected along with the George's Quay Plaza underground parking during implementation of temporary traffic management measures.

Affected utilities include as a minimum a large diameter sewer, an underground (38kV) ESB Power Line and a trunk watermain of 400mm diameter.

2.2 Existing Tara Street (DART) Station

The DART Station is owned by CIE/Irish Rail and any works considered necessary in relation to Metrolink is the responsibility of Irish Rail.

The plan layout of the DART Station is shown in Figure 4 below. It indicates the two station entrances; the main one is accessed off Georges Quay (R105) near to and east of its junction with Tara Street on the south side of the River Liffey. There is another secondary southern entrance giving access off Tara Street, which is currently only made available during week-day peak hours.

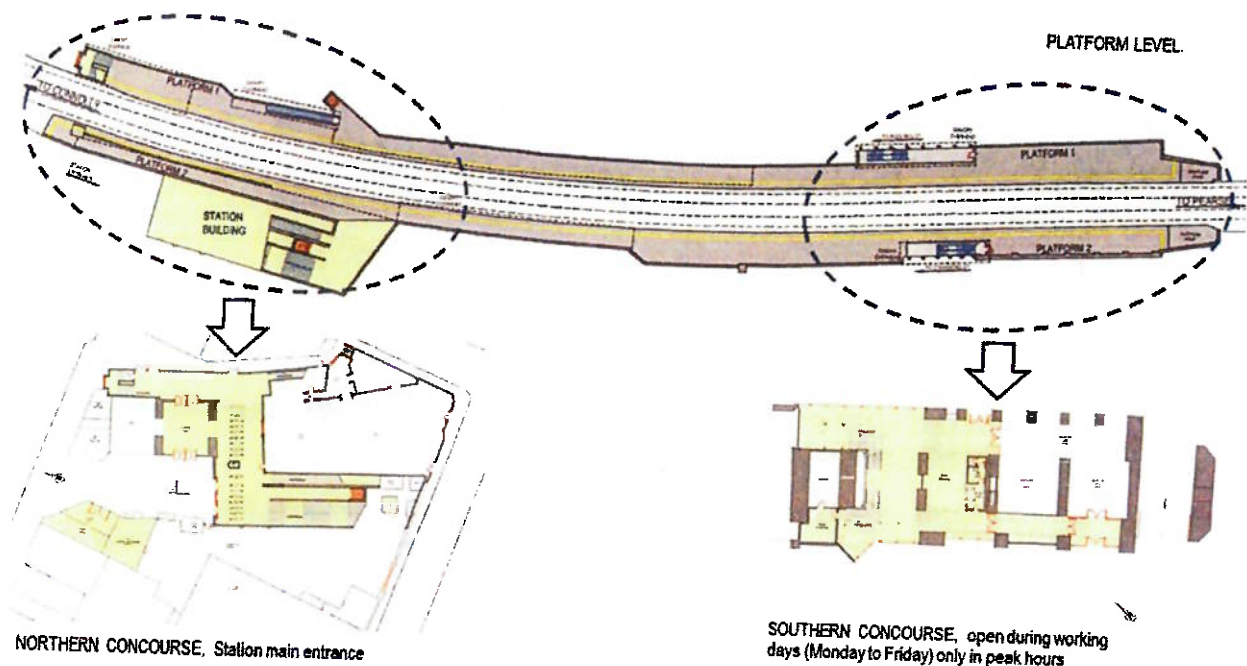


Figure 4 – Tara Street DART Station.

2.3 Planned Developments and Affected Buildings in Area

There are several planned developments and affected buildings around the Tara Street Station and the proposed Metrolink interchange station. These are listed below with reference to Figure 5 below.

- **2-16 TARA STREET:** Office and hotel, twenty-storey building, two basements, Metrolink Tunnel under the site. Site was recently denied planning permission.

- 157-164 TOWNSEND STREET: Office development, seven-storey building, two basements, Metrolink Tunnel under the site.
- HAWKINS HOUSE: Site is not affected by Metrolink alignment

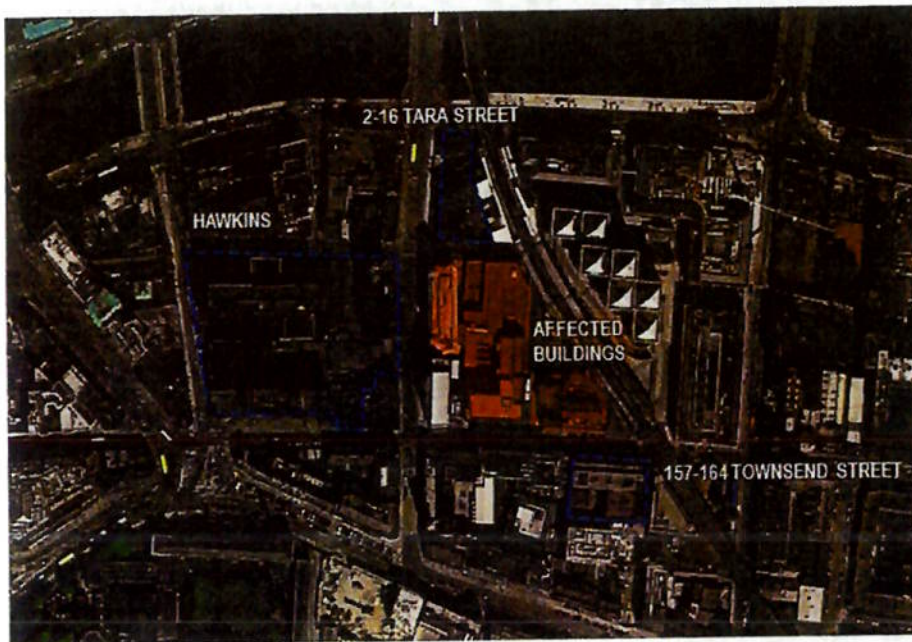


Figure 5 – Aerial View on Tara Station with Planned Developments and Affected Buildings

The existing buildings that would be affected by the proposed works are listed below with reference to the images shown in Figure 6 below.

- RESIDENTIAL UNITS: 70 apartments on 6 upper storeys, basement level residential car park, bicycle storage and waste management
- MARKIEVICZ LEISURE CENTRE: Ground level, renovated completely in 2016, owned by Dublin City Council, only public leisure centre with 25m swimming pool in Dublin City Centre,

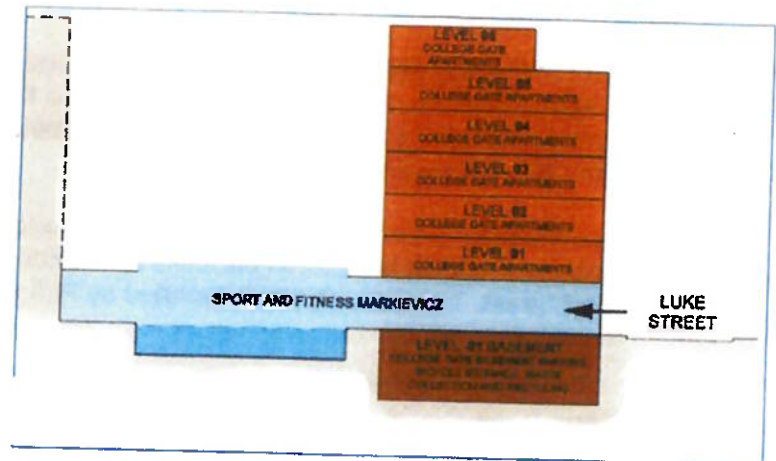


Figure 6 – College Gate and Markievicz Centre

2.4 EPR Station Concept

The EPR Tara Station concept for MetroLink was for a new independent concourse located to the south of the existing Tara Rail Station main access. The design included a shared intermodal concourse for the Metrolink and Irish Rail's DART services with a gate-line at street level. The dedicated Metrolink concourse was at a level underground. This arrangement is shown in Figure 7 below.

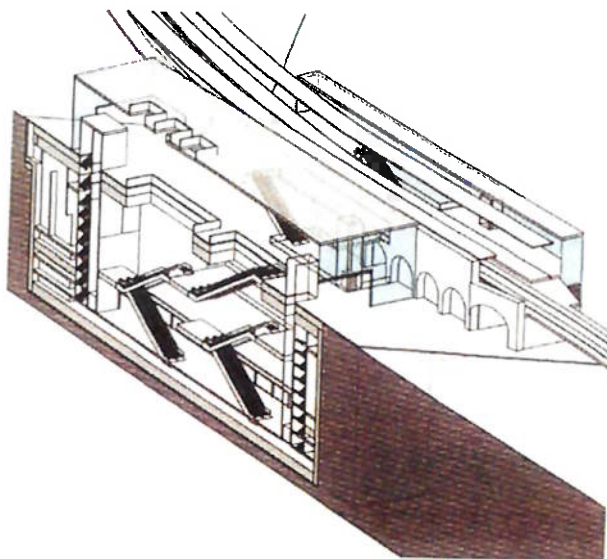


Figure 7 – 3D Image of MetroLink and DART Station Interchange (looking North)

The key benefits of this proposal are that at construction stage it limits disruption to the DART station and train services and for train operations the wayfinding for passengers is clearly signed through the intermodal concourse.

Demolition of existing buildings is necessary for construction and this includes College Gate building, Ashford House office building, two derelict Georgian buildings and four townhouses. It is anticipated that refurbishment of Tara Rail Station will be required but this is not included in the MetroLink scope as it is an Irish Rail responsibility.

There is a potential lack of space in the EPR Station proposals for back-of-house facilities and the required traction power substation because of the constraints of the surrounding Poolbeg Street and Townsend Street. This issue is demonstrated by Figure 8 below.

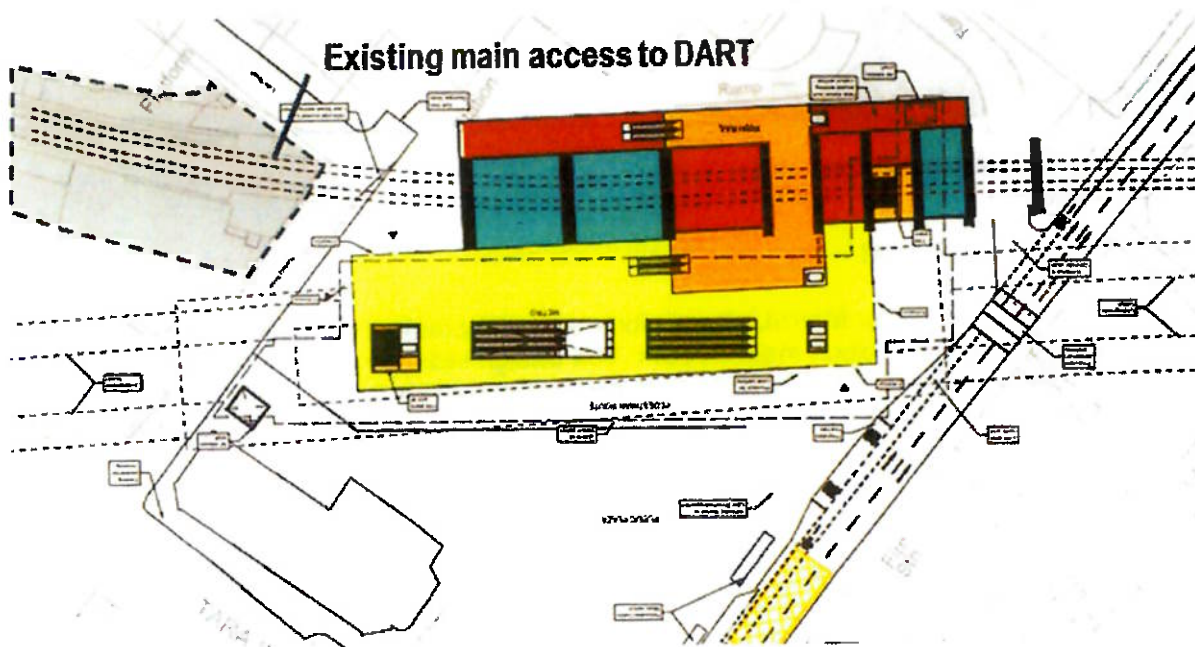


Figure 8 - EPR Station Constraints

3. Preferred Route and Tara Street Station

3.1 Key Design Changes for Preferred Route

Arising from the review of the Route Alignment Study and other associated documentation including the Tunnel Configuration Study, significant changes were proposed by Jacobs/Idom, which were subsequently accepted by the NTA/TII and were carried forward into the preliminary design. These changes included:

- the alignment would run above ground from the proposed Northwood Station, pass northwards over the M50 motorway, before returning to tunnel under Dublin Airport. This effectively split the tunnelling works into two separate sections. Previously this section of the alignment had all been in tunnel.
- a change from twin bore tunnels to a single bore tunnel carrying trains running in both directions,
- confirmation that the trains would be of high-floor design and be fully automated, operating at a 90 second interval/headway (time between trains).

There were several implications arising from the changes noted above but the key change for the Tara Street Station is:

- 1) **Single-bore instead of Twin-bore Tunnels:** This change has a major impact on the station design. The two railway tracks occupy the single bore and side platforms are required rather than the previous island platform and the internal arrangements for horizontal and vertical circulation inside the station box are revised to suit
- 2) **Reduction in length of underground stations.** High floor trains have more capacity than low floor trains and this combined with the 90 second peak headway made possible by the planned use of (GoA4) driverless train technology, enables the scheme to satisfy the target demand of 20,000 passengers per hour per day (pphpd) with shorter trains. This means that instead of the 90m long low-floor trains required for the previously developed EPR, the high-floor trains are proposed to be shorter at 65m. This reduction in train length gives more flexibility on the size and placement of the station so that surface impact can be minimised.

3.2 Preferred Route Alignment

The Preferred Route alignment for the single bore MetroLink tunnel and the proposed Tara Street Interchange Station is almost parallel to Tara Street (DART) Railway Station as shown in Figure 9 below. It follows the centre line of the EPR route alignment almost exactly apart from minor deviations to account for the change from twin bores to a single bore.

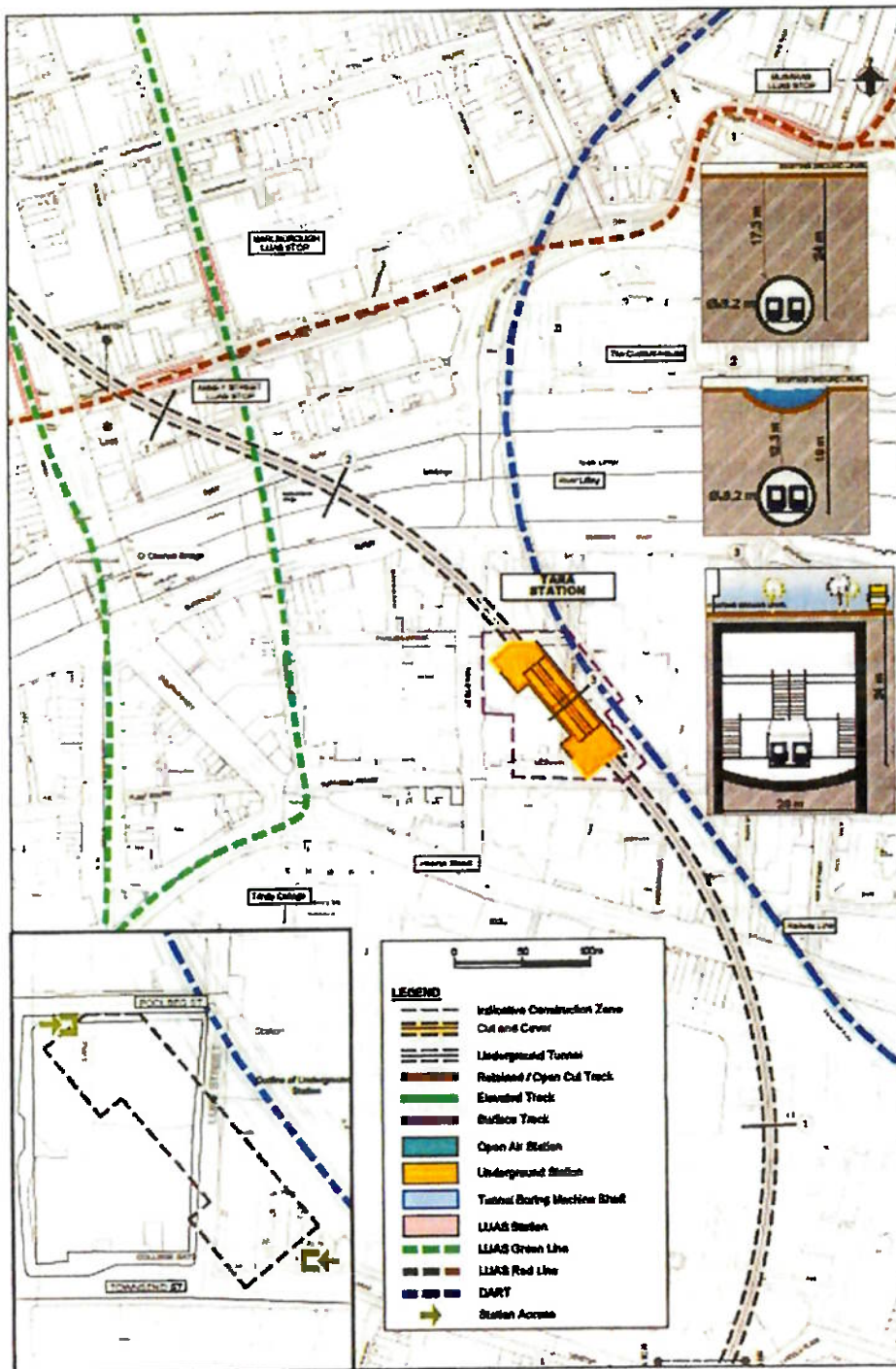


Figure 9 – Preferred Route at Tara Street

3.3 Option 0: Base Scheme with Station Box and Building Demolition

We have retained the EPR concept design as the base case but with the tunnel arrangement changed to single bore and the station box reduced in length because of the shorter trains and platforms required. This is known as Option 0: Base scheme with Station Box and Building Demolition, and the layout is shown in Figure 10 below.

The proposed construction method for the station box is "top-down" and this requires all properties to be acquired on the station footprint. The Option retains good connectivity with the associated Dart Station, a key requirement of this Option.

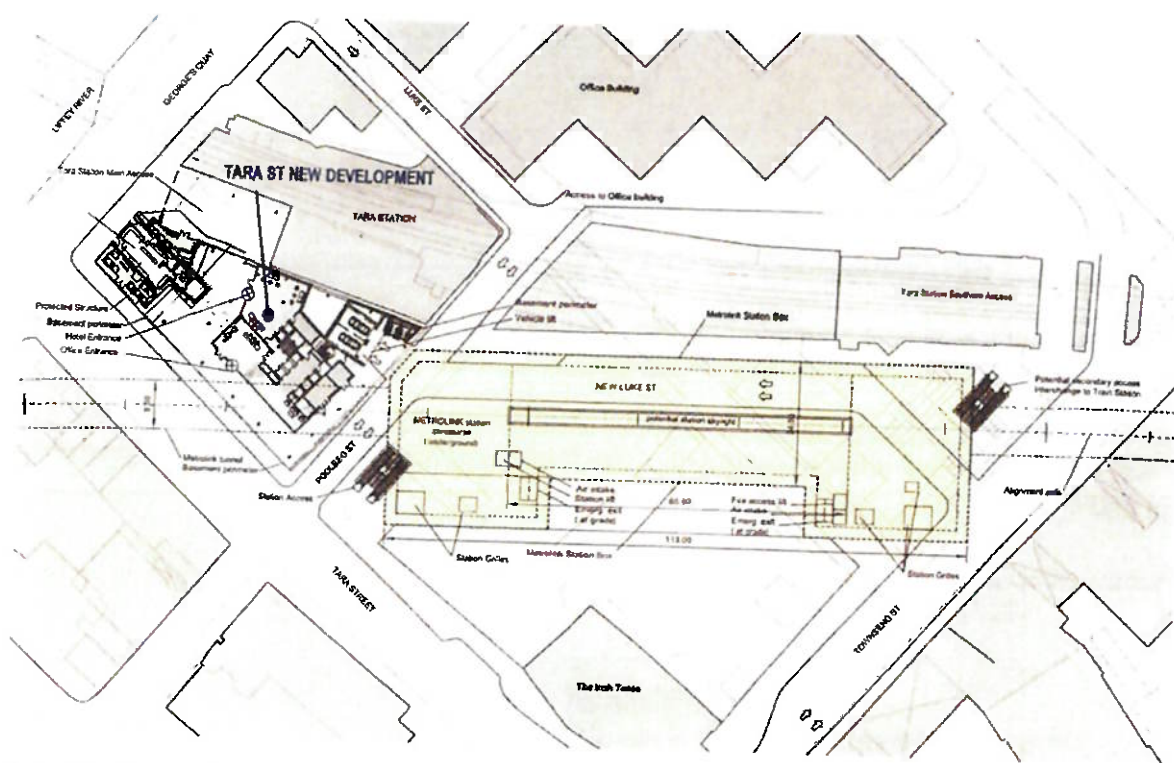


Figure 10 – Preferred Route and Tara Street Interchange Station

As for the EPR proposal, and as shown in Figure 11 below, demolition of the College Gate building, the Ashford House office building, two derelict Georgian buildings, and four townhouses will be necessary. Poolbeg Street and Luke Street must be closed during construction and Townsend Street is also affected.

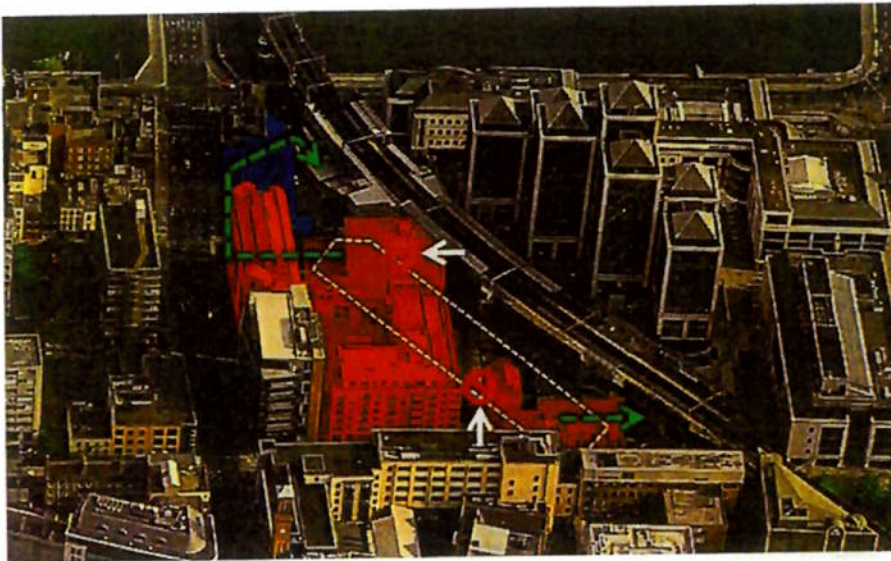


Figure 11 – Interchange Station Environment

We anticipate that a major refurbishment of Tara Rail Station will be required but this is not included in the MetroLink scope as it is an Irish Rail responsibility.

A cross section of the proposed MetroLink station looking North is shown below in Figure 12. College Gate must be demolished, and the proximity of the DART infrastructure will need careful engineering design and construction.

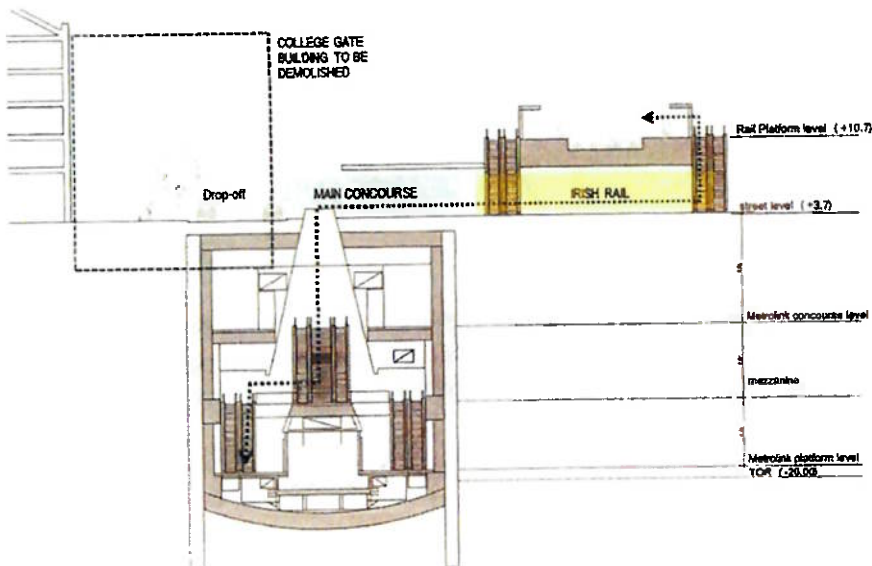


Figure 12 – Cross Section of MetroLink Station (looking North)

Surface restoration is necessary and once the station box is completed there will be opportunities for new developments and / or public realm initiatives. An indication of the possibilities is shown in Figure 13 below.

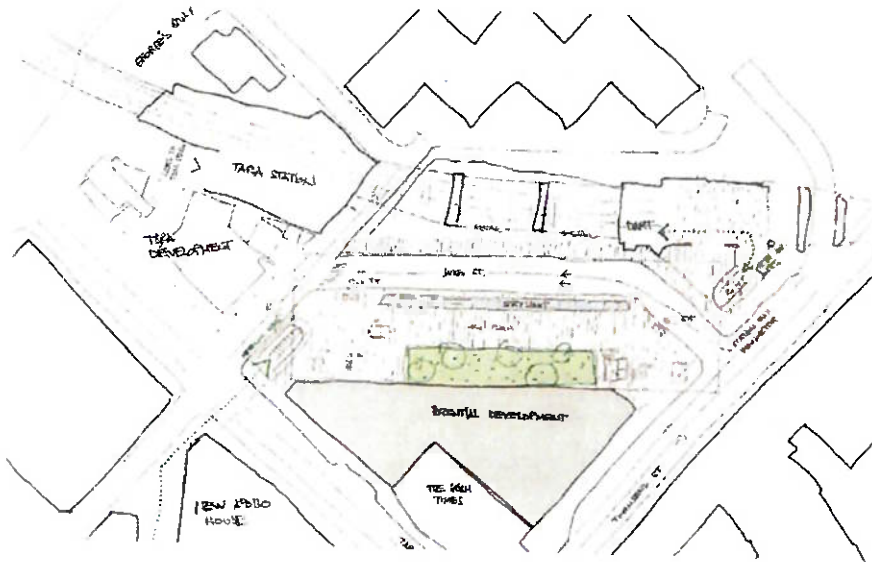


Figure 13 – Urban Setting

3.4 Alternative Options from the EPR Public Consultation



Figure 14 – Alternative Option Locations

The alternative Option locations identified through the Public Consultation process, including the EPR Concept location, are presented in Figure 14 above.

3.4.1 Option 1 – Station under Hawkins Development

A MetroLink station located parallel to Tara Street and integrated into the new Hawkins development would require a complete re-alignment of the tunnel approaches as can be seen from Figure 15 below. To achieve this would make it impossible to reach the proposed O'Connell Street station because of the unacceptably low track radii needed to align both stations, which are incompatible with TBM tunnel construction. As a result, this Option 1 is not viable.

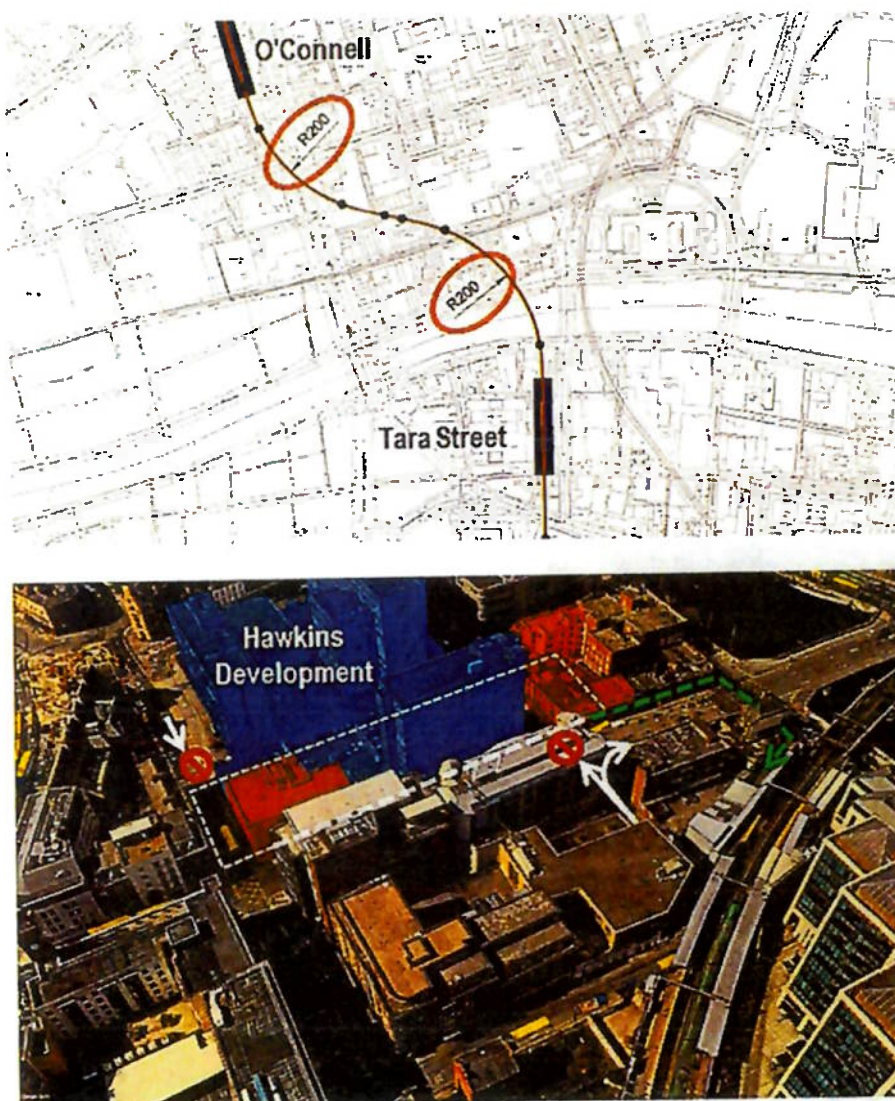


Figure 15 – Option 1 Location and Track Alignment

3.4.2 Option 2: Station moved northwards

The orientation of the station box is altered to one that can enable a feasible alignment with acceptable track curvature (but is less desirable due to increased maintenance requirements and poorer ride quality) but which would connect with the proposed O'Connell Street station. This is shown in Figure 16 below.

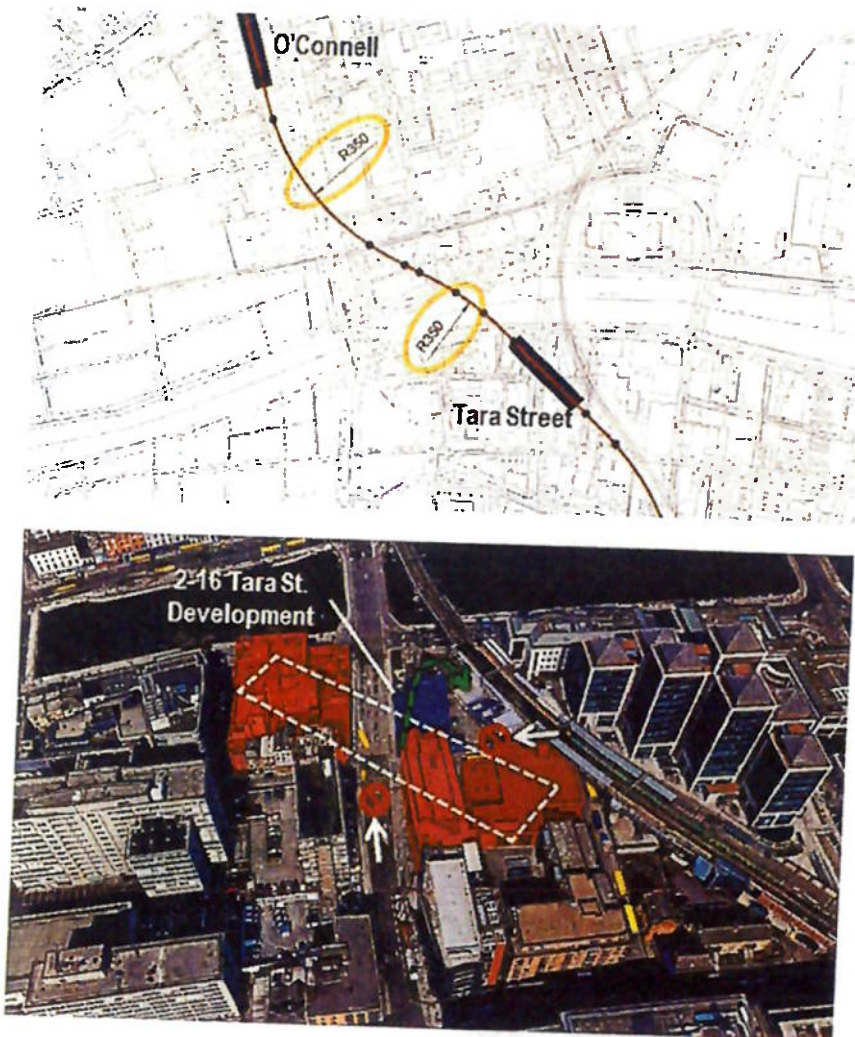


Figure 16 – Option 2 Location and Track Alignment

The construction method would be “top-down” and all properties on the station footprint would need to be acquired. Ashford House office building and the entire city-block defined by Tara Street, George's Quay, Corn Exchange Place and Poolbeg Street would need to be demolished.

Agreement and design details would need to be finalised with the 2-16 Tara Street developer to integrate the station box and above ground elements in the development, including access points, emergency exits and ventilation shafts. Suitable surface restoration will be needed on completion and Interchange flows would need to be coordinated with the new 2-16 Tara Street Development.

Poolbeg Street would be closed during construction and Tara St. would be either closed or significantly restricted with extensive traffic management required and widespread traffic disruption.

Passenger transfer to the DART Tara Street Station would use the existing main access.

3.4.3 Option 3: Station moved southwards

Moving the station box towards the south means changing the existing alignment and this can be achieved with acceptable track curvatures while also connecting to the proposed O'Connell Street station. The situation is shown in Figure 17 below.

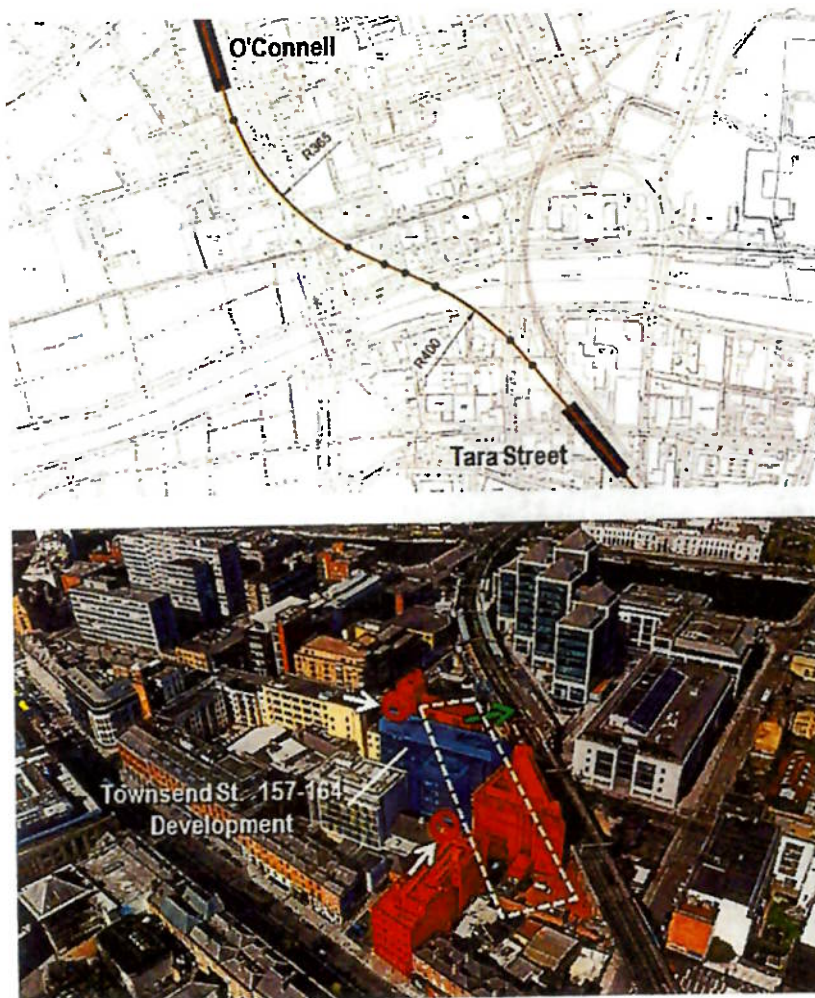


Figure 17 - Option 3 Location and Track Alignment

The construction method would be "top-down" and all properties on the station footprint would need to be acquired. Buildings at Townsend Street and Spring Garden Lane would need to be demolished. And Townsend St. and Spring Garden Lane would be closed during construction.

Agreement and design details would need to be finalised with the 2-16 Tara Street developer to integrate the station box and above ground elements in the development, including access points,

emergency exits and ventilation shafts. Suitable surface restoration will be needed on completion and interchange flows would need to be coordinated with the new 2-16 Tara Street Development.

Passenger transfer to the DART Tara Street Station would use the existing southern access, which would need to change from a peak hour access to a permanent access. Irish Rail is responsible for any necessary refurbishment. Any potential above ground development between the station box and the Dublin Fire Brigade Headquarters would require agreement.

This option would also directly impact existing large sewers along Townsend Street which would require diversion; a significant engineering challenge in this built-up area and an important constraint on this option.

3.5 Other Options Considered

In addition to the three options identified through the Public Consultation process Jacobs/Idom have also considered additional options that could mitigate impact on College Gate. These have included consideration of a mined (excavated station option) or review of railway alignments passing to the east of the existing Tara Station. These are described below.

3.5.1 Option 4: Excavated (mined) station

This solution would involve mining a gallery (or cavern) in rock between two access shafts, which would be placed each side of the College Gate building. The arrangement is shown in Figure 18 overleaf.

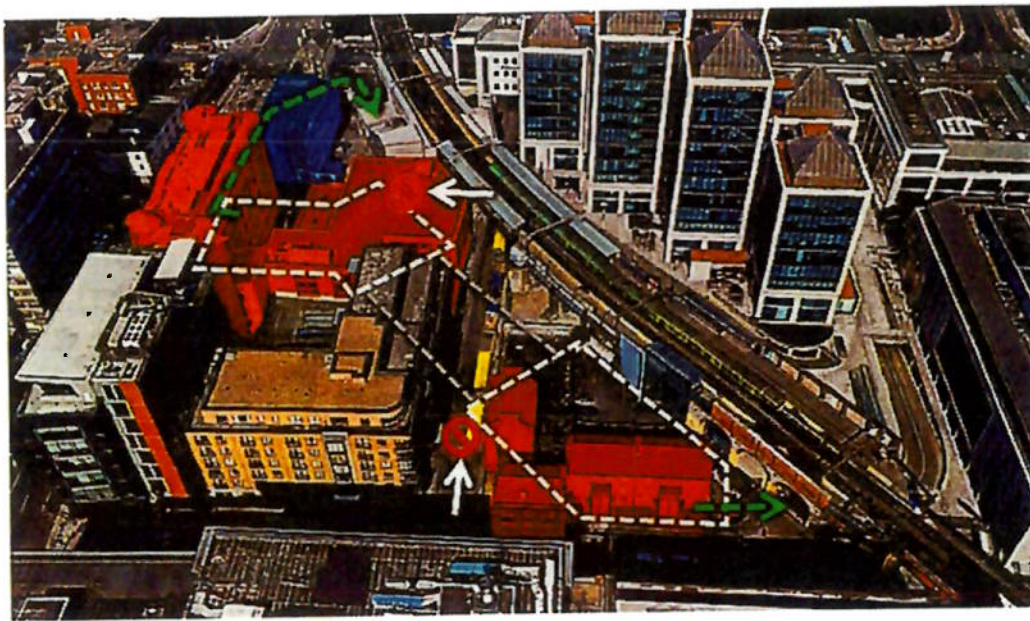
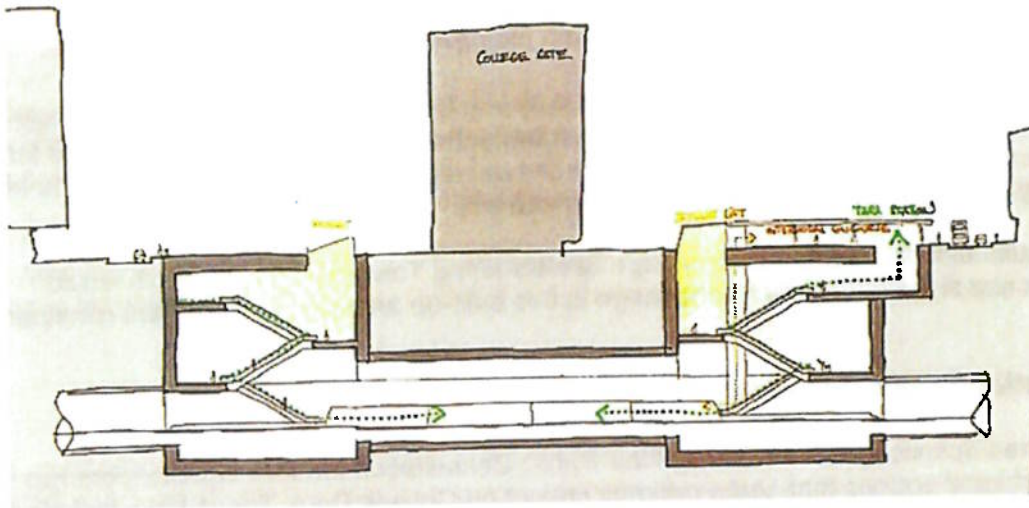


Figure 18 – Option 4 Shaft Locations and Access Gallery

This option was intended to remove the need for the demolition of College Gate.

The EPR route alignment would be unchanged apart from the single bore tunnel design. The shafts at each end of the station end would enclose the escalators, stairs, lifts and back-of-house facilities. The side platforms would be inside the excavated gallery between shafts at track level. A similar sized gallery or cavern is shown in the photograph in Figure 19 below. This design would be subject to confirmation of the piled foundation details of College Gate.

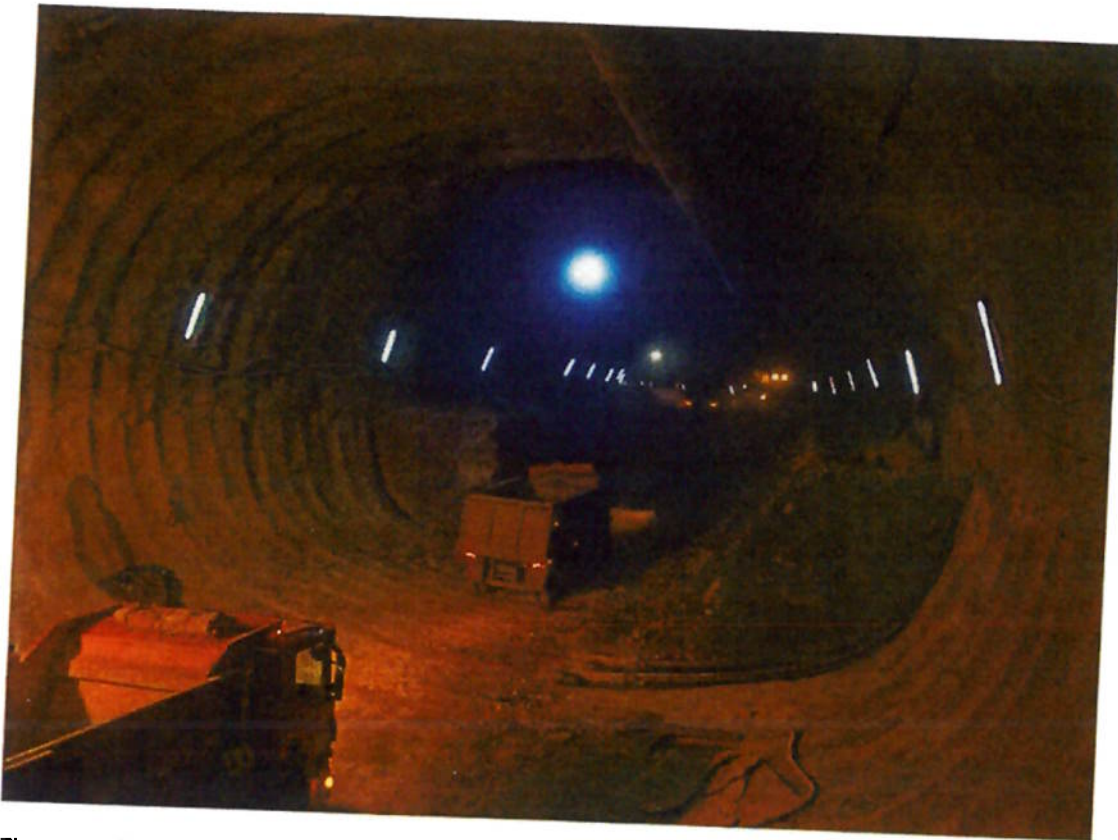


Figure 19 – Similar-sized Gallery Example

The construction method would be “top-down” and all properties on the station footprint would need to be acquired. The Ashford House office building, two derelict Georgian buildings and four townhouses would need to be demolished. Poolbeg Street and Luke Street would be closed during construction and Townsend Street would be affected requiring traffic management.

Construction of the two shafts between which the mined section would be constructed would lie close to the College Gate structure due to the space constraints of the site. The mined section between the shafts would produce noise and vibration during excavation work and disturbance is likely to residents during construction. The College Gate foundations are constructed on piles and there could be interference with the mined tunnel section where it would pass under the edge of the existing building, resulting in more construction disturbance. It should be noted that this method of construction typically carries higher construction safety risks than the open box construction.

There would be two points of access to the underground station; one from Tara Street and the other connecting to Tara Station. A potential new plaza could be constructed above the station shafts and the station skylights and ventilation grilles could be integrated with a new public realm.

There would also be potential for an over station development (OSD) above the northern shaft.

3.5.2 Option 5: Railway Alignments to the East of Tara Street Station

An assessment of potential railway alignments passing to the East of the existing Tara Station has also been assessed, but no viable option has been identified.

Three options were considered, with the avoidance of the Georges Quay Plaza development considered a key requirement. The Options considered are shown on Figure 20 below.

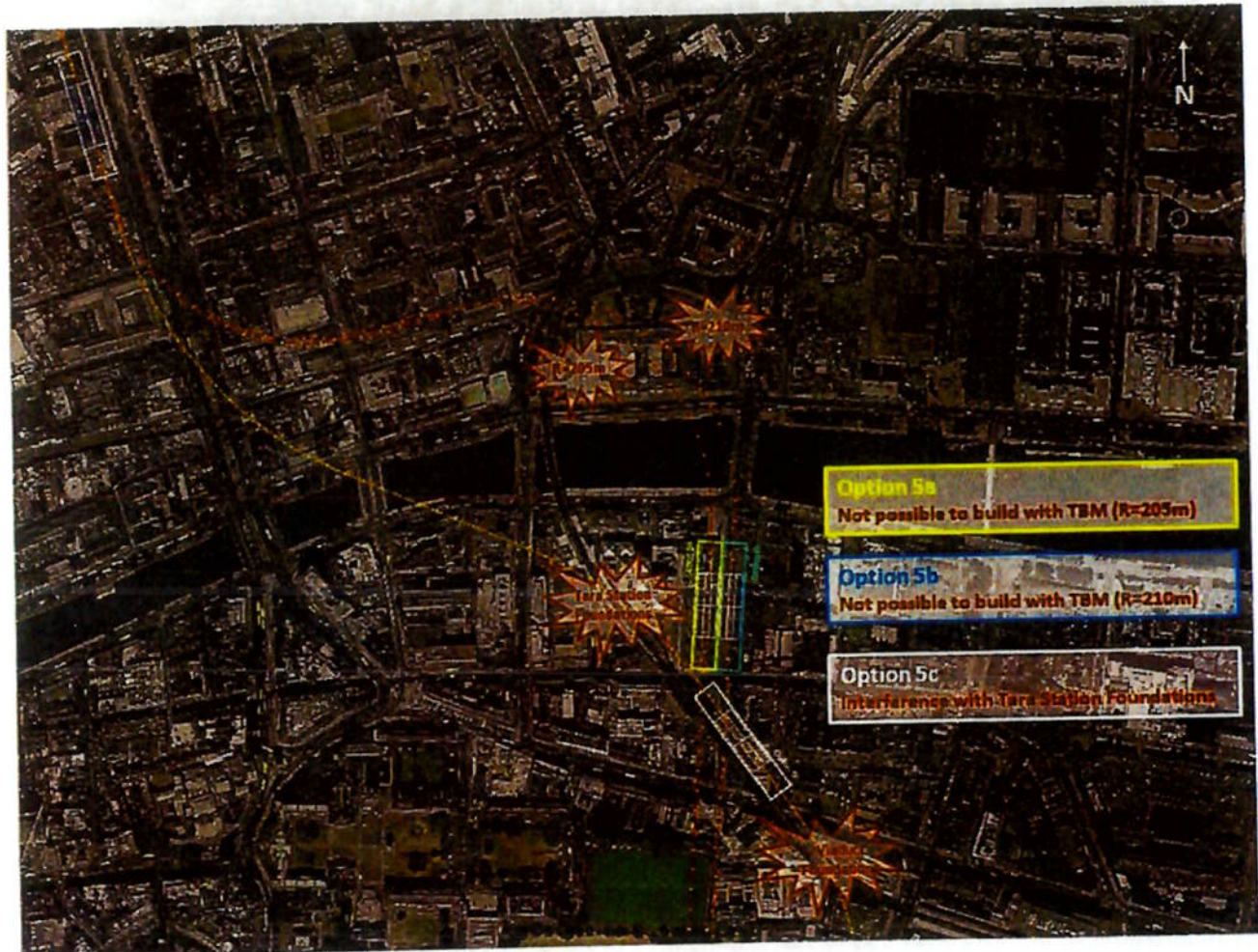


Figure 20 – Option 5a, 5b and 5c with Tara Street Station to east of DART Station

Alignment options 5a and 5b were considered to avoid the significant impacts identified under Option 5a, are not viable as the bored tunnel alignment cannot be constructed to accommodate the alignment required.

The additional option 5c would provide a viable railway alignment but would compromise the existing Tara Station foundations and the Dart viaduct foundations towards Pearse Street. To avoid Georges Quay Plaza buildings and the sewers under Townsend Street the station box would need to be remote from the existing Tara Street Station, providing poor interchange opportunity. It would also extend under Shaw Street, affecting buildings to the east of Shaw Street. The lack of direct station connectivity, significant disruption associated with this option and the major impact on existing structures and buildings mean this option has not been progressed.

4. Conclusions

Jacobs/Idom has considered the submissions made during the Public Consultation process and examined several alternative options to that proposed in the EPR. We have taken account of the design changes made since the EPR was developed, including the proposed single bore tunnel and reduced platform lengths made possible by the greater capacity of the proposed high-floor trains.

The Option characteristics as described above were collated through a two-stage Multi-Criteria Analysis (MCA) as presented in Figure 21 below.

	Base Scheme (0)	OVERALL OPTIONS COMPARISON					
		1	2	3	4	5a, 5b	5c
Alignment	All parameters within normal values	Not viable - rail line to west of O'Connell Street Station - alignment not feasible	Exceptional parameters	All parameters within normal values	All parameters within normal values	Not viable - rail line to west of O'Connell Street Station	All parameters within normal values
Demolition of Buildings	College Gate building, Ashford House office building, 3 derelict Georgian buildings and 4 townhouses	The Brokersgate apartments, the Long Stone Pub, an apartments block and several 3 stories buildings at Poolbeg St.	Ashford House office building, entire city-block between Tara St. and Conn Exchange Pl.	2 derelict Georgian buildings and 4 townhouses, office buildings at Spring Garden Lane	Ashford House office building, 2 derelict Georgian buildings and 4 townhouses	Impacts not assessed	Impacts buildings on Shaw Street
Interference with ongoing developments	None	Yes, Hawkins development	Yes, Tara Station development	Yes, 157-164 Townsend St.	None	Impacts not assessed	None
Metro - Rail Transfer	Using existing existing structures	Long transfer to main access. Pedestrian tunnel may be required.	Using existing existing structures	Only with current south access (requires refurbishment and changes in operation)	Using existing existing structures	Impacts not assessed	Very long transfer to Tara Street Station
Urban Integration	New Public realm improving integration of all station pop-ups	Requires coordination to integrate station pop-ups with new developments	Requires coordination to integrate station pop-ups with new developments	New Public realm improving integration of all station pop-ups	New Public realm improving integration of all station pop-ups	Impacts not assessed	Impacts not assessed
Traffic Impacts	Poolbeg St. and Lisle St. closed during construction. Townsend St. affected. Significant impacts on Fire Brigade Emergency Routes	Townsend St. and Poolbeg St. closed during construction. Significant impacts not assessed	Tara St. and Poolbeg St. closed during construction. Significant impacts on North/South pedestrian movements, North/South Cycle movements, bus routes and other traffic. Closure unlikely to be achieved from 2023	Townsend St. and Spring Garden Lane closed during construction. Significant impact on East/West cycle movements	Poolbeg St. and Lisle St. closed during construction. Townsend St. affected. Significant impacts on Fire Brigade Emergency Routes	Impacts not assessed	Impacts not assessed
Utilities	Potential for localised diversions	Potential for localised diversions	Significant diversions required	Significant diversions required. High flows unlikely to agree diversion or any performance with access	Potential for localised diversions	Impacts not assessed	Impacts not assessed
Environment & Planning	Visual, Socio-Economic, waste impacts, loss of community infrastructure	Not assessed due to inherent geometrical alignment constraints	Visual, Socio-Economic, waste impacts. Potential archaeological impacts. Development impacts	Visual, Socio-Economic, waste impacts, development impacts	Noise, air quality impacts. Public realm/ high density development opportunities.	Not assessed due to inherent geometrical alignment constraints	Impacts not assessed
Construction Costs	€116.17M excluding risk	Not costed due to alignment constraints	€116.17M excluding risk	Not costed but actual assumed Option 2 costs due to major utility costs	€161.7M excluding risk. Increased risks compared to Option 0	Not costed	Not costed
Construction Health and Safety Risk					Mining is inherently more dangerous than other typical forms of construction		
Property Costs	To be confirmed	Impacts not assessed	To be confirmed	To be confirmed	To be confirmed	Impacts not assessed	Impacts not assessed
Recommendation							

Figure 21 – Multi Criteria Analysis: Stage 1

The table indicates that:

- Option 1 is not viable due to alignment constraints.
- Option 3 cannot be delivered without significant disruption to key elements of the Dublin sewer network running along Townsend Street.

- Option 5 alignments are either not viable or do not provide an acceptable interchange with the existing Tara Street station and hence other impacts have not been assessed.

For these reasons, these Options have been removed from further consideration and Options 0, 2 and 4 were subsequently taken forward to a second stage of analysis as shown in Figure 22 below.

	OVERALL OPTIONS COMPARISON		
	Base Scheme (0)	2	4
Alignment	All parameters within normal values	Exceptional parameters	All parameters within normal values
Demolition of Buildings	College Gate building, Ashford House office building, 2 derelict Georgian buildings and 4 townhouses	Ashford House office building, entire city-block between Tara St. and Corn Exchange Pl.	Ashford House office building, 2 derelict Georgian buildings and 4 townhouses
Interference with ongoing developments	None	Yes, Tara Station development	None
Metro - Rail Transfer	Using both existing accesses	Only with current main access	Using both existing accesses
Urban integration	New Public realm improving integration of all station pop-ups	Requires coordination to integrate station pop-ups with new developments	New Public realm improving integration of all station pop-ups
Traffic impacts	Poolbeg St. and Luke St. closed during construction. Townsend St. affected. Significant impacts on Fire Brigade emergency routes	Tara St. and Poolbeg St. closed during construction. Significant impacts on North/South pedestrian movements, North/South Cycle movements, bus routes and wider traffic. Closure unlikely to be obtained from DCC	Poolbeg St. and Luke St. closed during construction. Townsend St. affected. Significant impacts on Fire Brigade Emergency Routes
Utilities	Potential for localised diversions	Significant diversions required	Potential for localised diversions
Environment & Planning	Visual, Socio-Economic, waste impacts, loss of community infrastructure.	Visual, Socio-Economic, water, waste impacts. Potential archaeological impacts. Development impacts.	Noise, air quality impacts. Public realm/ high density development opportunities.
Construction Costs	€139.9M cut & cover excluding risk	€142.3M cut & cover excluding risk, but including additional phasing and TM for Tara and Poolbeg Street	€161.7M excluding risk but including ground issues allowance. Increased risks compared to Option 0
Construction Health and Safety Risk			Mining is inherently more dangerous than other typical forms of construction
Property Costs	To be confirmed	To be confirmed	To be confirmed
Recommendation			

Figure 22 – Multi-Criteria Analysis Stage 2

The second stage of analysis indicates that all three options require the demolition of buildings.

Option 2, which moves the station box northwards, would have a major impact on city traffic because Tara Street and Poolbeg Street would need to be closed for long periods during construction. There are major utility diversions needed for its construction.

Option 4 involves the mining of a cavern below the existing College Gate buildings, which carries more safety risks during its construction and it is more expensive. While Option 4 would retain the College Gate building there would still be significant disturbance to residents because of the shaft construction directly adjacent to the building.

Option 0 was the solution proposed for the EPR and it is estimated to cost less than the other two options. It delivers the required benefits of good interchange with the DART station, it is safer to build and is less disruptive to city traffic and existing utilities. There is also an opportunity for Over-Station Development as part of an urban integration plan.

We conclude that Option 2 and Option 4 have more constraints and risk for their construction when compared to Option 0, without compensating benefits, and therefore Option 0 is the better option to be progressed.

5. Recommendation

Jacobs/Idom has assessed the EPR design proposals for the MetroLink Tara Station and taken account of the relevant submissions from the EPR Public Consultation process. The alternative options have been considered through a process of Multi Criteria Analysis which concludes that **Option 0: Base scheme with Station Box and Building Demolition** remains the preferred Option.

The main reasons for this preference are that:

- This location retains a good interchange facility with Tara Dart station;
- It provides for a safer construction methodology than the mined tunnel option considered;
- It has more limited impact on city traffic and utilities during construction;
- It offers a cheaper overall cost; and
- It provides opportunity for future oversight development by others.

Given the assessment Option 0 is to be progressed through the design stages as part of the Preferred Route for MetroLink.