

Appendix 3.2

**Parnell Square Cultural
Quarter: New Dublin City
Library and Public Realm
Works**

Construction Traffic Management Plan

October 2018

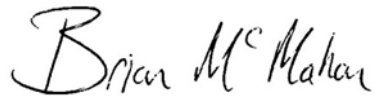
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Prepared by



Fearghal Malone
Graduate Consultant

Checked by



Brian Mc Mahon
Principal Engineer

Approved by



Dimitri Karakaxas
Associate Director

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Prepared for:

Dublin City Council and PSQ Developments Ltd (Joint Applicants)

Prepared by:

Fearghal Malone

Graduate Consultant

T: 01-238 3100

E: fearghal.malone@aecom.com

AECOM Ireland Limited

4th Floor

Adelphi Plaza

Georges Street Upper

Co. Dublin

Ireland

T: +353 1 238 3100

aecom.com

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1. Introduction

1.1 Background

AECOM has been commissioned to prepare a Construction Stage Traffic Management Plan (CTMP) to assess the transportation implications for all stages of construction activity pursuant to a planning application to Dublin City Council for proposed development Parnell Square Cultural Quarter: New Dublin City Library and Public Realm Works, located at Parnell Square, Dublin 1, Co. Dublin.

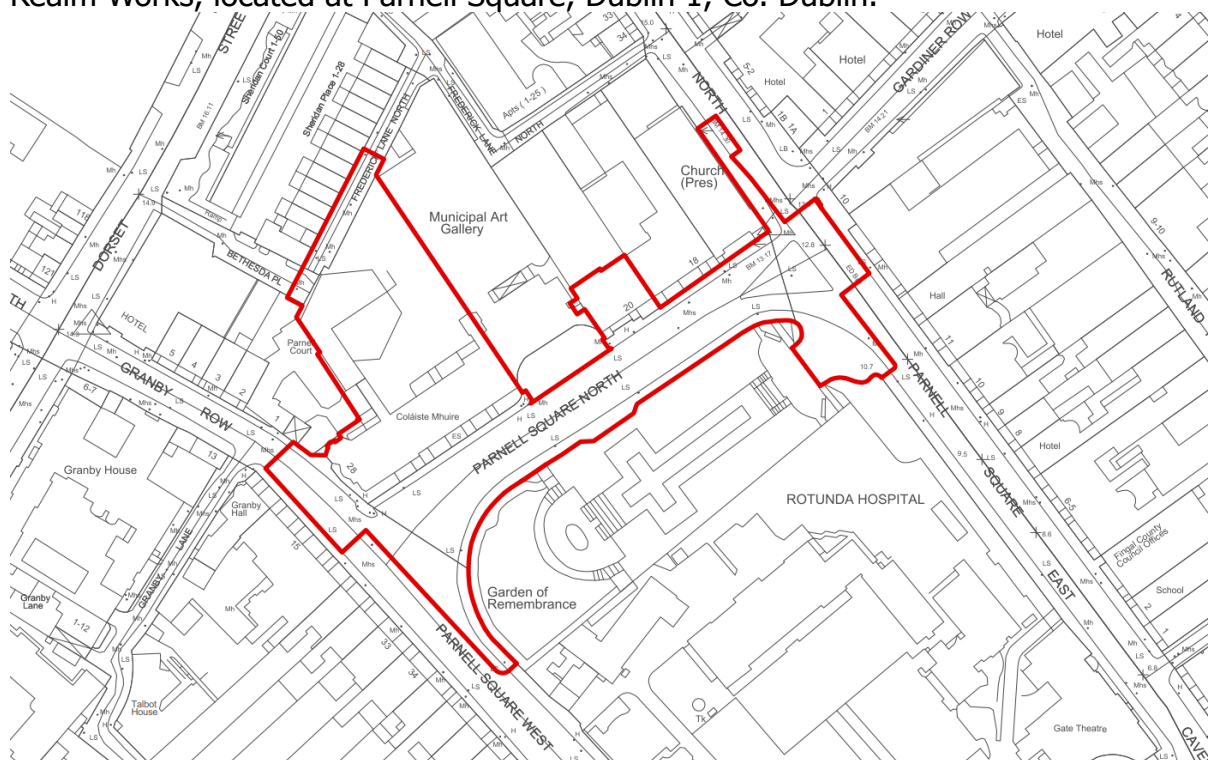


Figure 1.1: Red Line Boundary Drawing

This Construction Traffic Management Plan (CTMP) has been prepared to ensure coordinated and effective traffic management practices and arrangements are in place throughout the construction period. All construction contractors’ programs and proposed Heavy Goods Vehicle (HGV) haulage routes are subject to approval by DCC and the TMC. Contractors will be requested to provide details regarding the predicted construction traffic generated during each different phase of their programs.

As part of any construction project, the contractor will be obliged to prepare a comprehensive Construction Traffic Management Plan for the specific construction phase of the development. This Construction Traffic Management Plan identifies measures that aim to minimise the effect of construction traffic on the surrounding road network with respect to potential temporary changes to vehicular traffic and pedestrian movements. However, this needs to be balanced with maintaining a construction programme that also delivers the project in a reasonable timeframe.

2. Construction Traffic Management Plan

2.1 Introduction

Given the scale of construction activity proposed there will be additional traffic on the surrounding road network. This chapter provides an overview of how various aspects of the construction will be carried out to minimise these impacts upon the surrounding area.

Mitigation measures will be adopted as part of a Traffic Management Plan to ensure the impact of the construction works are minimised where possible upon the general operation of the surrounding road network. Figure 2.1 shows the location of the proposed library.

Once appointed, the construction contractor will be required to prepare a detailed Construction Management Plan on foot of these proposals, for agreement with Dublin City Council (DCC) prior to any construction works commencing, to ensure safe access and egress procedures are implemented at all times during the works, and to also ensure that disruptions to traffic in the area are minimised.

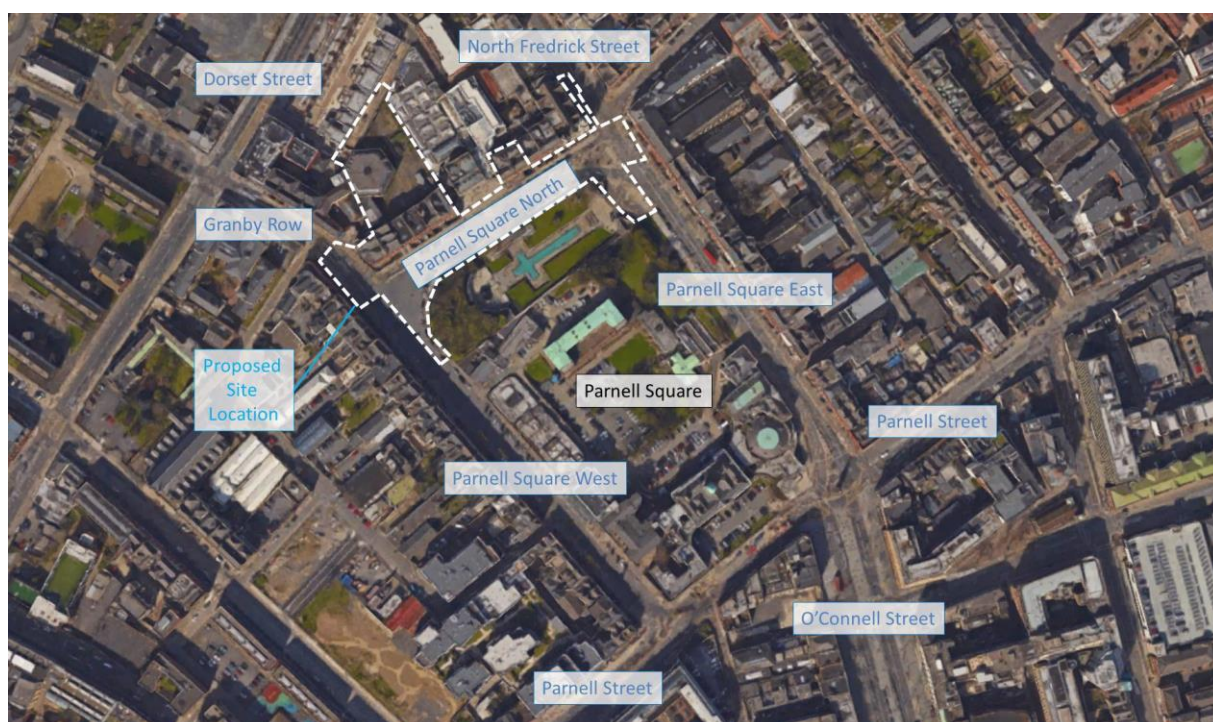


Figure 2.1: Site Location (Source: www.googlemaps.ie, 2018) (Indicative Area)

2.2 Policy Guidance

Guidance for the temporary control of traffic at road works to facilitate the safety of the public during the works is provided below:

- Traffic Signs Manual 2010, Chapter 8 Temporary Traffic Measures and Sign Roadworks (2008);
- Addendum Transport Chapter 8, Temporary Traffic Measures and Sign Roadworks (2008);
- Traffic Management Guidelines, Department of Transport (2012)
- Requirements of Dublin City Council, Road and Traffic Department.

2.3 Site Compound/Site Hoarding

2.3.1 Site Compound

A securely hoarded site compound space, where there will be site offices, material storage areas and a through route for construction related deliveries to the site, is proposed on Parnell Square North, as shown in Figure 2.2.

In order to provide for a site compound at this location, local reductions in the width of the Parnell Square North road will be required to the front of Houses 23 to 28 for the duration of the construction phase of the project, with appropriate traffic and pedestrian diversions in place. This localised reduction in road width is to the front of Houses 23–28 during the construction phase only and is to be agreed in full with all relevant authorities. Bus drop-off in front of Hugh Lane is to be preserved. A secondary entrance will be utilised to the rear at Bethesda Place, as shown in Figure 2.14. This rear entrance will provide an alternative means of delivering and unloading materials to site.

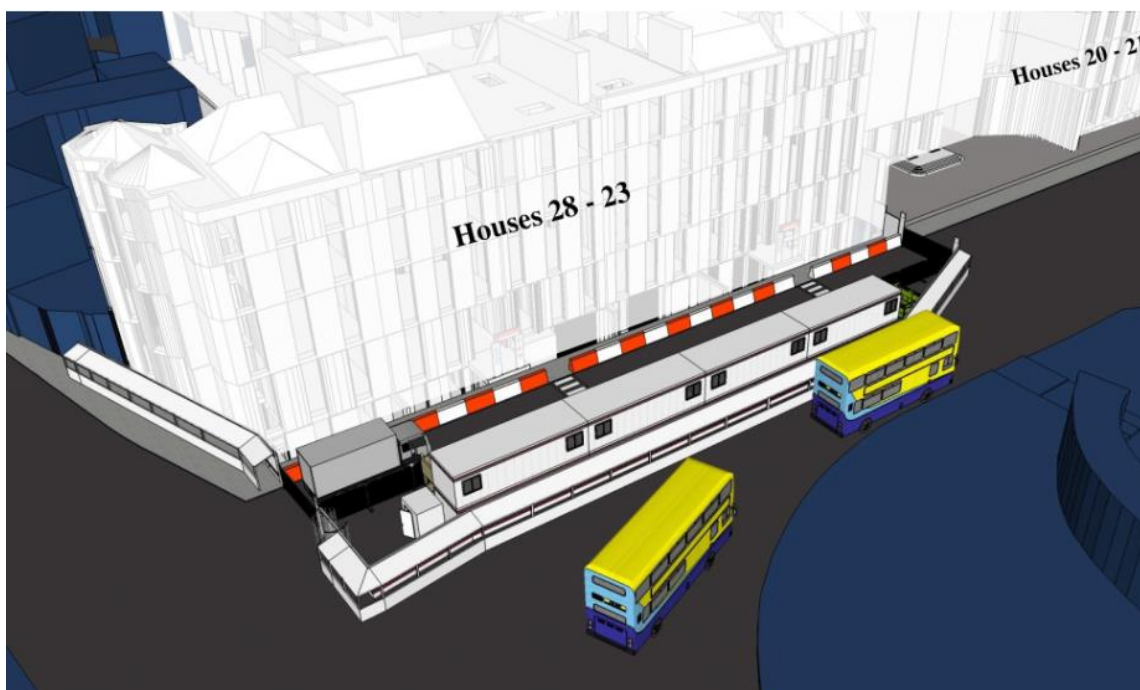


Figure 2.2: Potential Site Compound

2.3.2 Hoarding

The site will be fenced off from the public at all times. A 2.4m-high plywood painted timber hoarding, or similar material, will be provided along the site frontage.

2.3.3 Operatives Parking

The site has very limited capacity to facilitate staff parking, and driving to the site should not be encouraged. The car parking on the surrounding streets and in the nearby city centre areas is generally subject to high charges, therefore there will be only a very limited number of staff that will drive to the wider area. The majority of these movements will occur before 7:00, hence not impacting on the peak traffic conditions.

2.4 Hours of Operation

2.4.1 Hours of Works

The hours of construction work are to be agreed with DCC. It is envisaged that the hours of construction will be as follows:

- Mondays – Fridays, 07:00AM – 19:00 PM,
- Saturdays, 07:00AM – 14:00 PM,
- No working on Sundays and Bank Holidays.

Exact construction working hours are to be agreed with DCC prior to commencement on site. Deviation from the planning permission hours will generally only be allowed in exceptional circumstances, where prior written approval has been received from Dublin City Council.

2.5 Construction Traffic

2.5.1 Construction Vehicular Access

Works associated with the new development will generate temporary additional traffic on the surrounding road network. Traffic will be generated by the removal of excavated material, waste and the delivery of new materials and concrete trucks.

It is recommended that the most suitable access for construction vehicles into the site is via Parnell Street North. Vehicular access into the site will be managed by the contractor. Flagmen / marshals will be situated at the site entrances to manage the arrival and departure of construction vehicles arriving and departing the site, ensuring the safe passage of pedestrians is maintained. The contractor will coordinate closely with neighbouring businesses and residents to ensure an acceptable level of accessibility will be maintained during the works. Safe and secure pedestrian facilities are to be provided should any construction works obscure any existing pedestrian footways. Pedestrian facilities will cater for vulnerable users, including mobility impaired persons.

2.5.2 Existing Routes

The road network surrounding the site provides a variety of movement functions. The R132 Dorset Street offers a strategic movement function by providing connectivity from Dublin City Centre to the Greater Dublin Area. A general commentary of the surrounding road network is given below:

Bethesda Place



Figure 2.3: Bethesda Place viewed from Dorset Street (Source: www.googlemaps.ie, 2018)



Figure 2.4: Southern side of Bethesda Place (Source: www.googlemaps.ie, 2018)

Bethesda Place is a narrow single carriageway street with access from Dorset Street, as shown in Figure 2.3, whilst the southern end is currently impassable due to a wall, as shown in Figure 2.4. It is proposed to remove this wall as part of the development works, to allow access between Bethesda Place and Frank Lane North, which will be suitable for small deliveries and fire tender access. Bethesda Place is currently used for parking and rear entry access by residents to the adjacent Sheridan Place.

Frederick Lane North



Figure 2.5: Frederick Lane North viewed from Dorset Street (Source: www.googlemaps.ie, 2018)

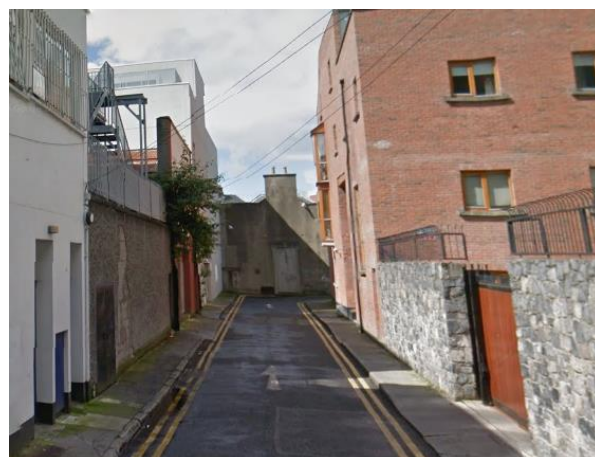


Figure 2.6: Frederick Lane North looking West (Source: www.googlemaps.ie, 2018)

Frederick Lane North is a one-way street which runs in a south-westerly direction, from Frederick Street North before turning in a north-easterly direction towards Dorset Street and providing access to residences along the route. Frederick Lane North is a narrow laneway, with an approximately 4.0m-wide road carriageway. Parking is restricted for the majority of the lane with double yellow lines but there is some informal parking on the approach to Dorset Street, as shown in Figure 2.5. Footpaths (ranging in width from approximately 1.0m to 1.8m) are provided along

the majority of the route although some are in poor condition as shown on Figure 2.6.

Frederick Street North/ Parnell Square East/ Cavendish Row



Figure 2.7: Frederick Street North looking North (Source: www.googlemaps.ie, 2018)



Figure 2.8: Parnell Square West looking South (Source: www.googlemaps.ie, 2018)

Frederick Street North is a high-quality single carriageway, approximately 11 metres in width, which provides access to both residential and commercial properties on both sides of the road, The Garden of Remembrance and The Gate and The Ambassador theatres. Traffic travels in both directions along Frederick Street North until the signalised junction where Gardiner Row, Parnell Square North and Parnell Square East meet. Along Parnell Square East, Cavendish Row and onto O’Connell Street a one-way system is currently in operation. A bus layby and bus lane are provided on Parnell Square East. There is some formal parking outside the Abbey Presbyterian church, residential and commercial properties at the northern end of Frederick Street North and at the Garden of Remembrance. There are good quality footpaths (ranging in width from 2.5m to 4m) on both sides of the road for the entirety of this route.

Parnell Square West/Granby Road



Figure 2.9: Parnell Square West looking North (Source: www.googlemaps.ie, 2018)

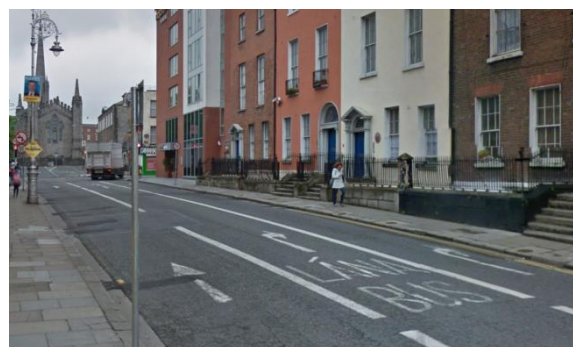


Figure 2.10: Granby Road looking North (Source: www.googlemaps.ie, 2018)

Parnell Square West is a one-way street with a carriageway of approximately 15 metres in width, which runs from Parnell Street in the south to Granby Road in the north. Parnell Square West currently provides access to a number of residences, commercial offices and also the Rotunda Hospital. Good quality footpaths, ranging in width from approximately 2 metres to 4 metres, are provided on both sides of the road for the entirety of this route.

Traffic flows in a northern direction for the entirety of this route, which links Dublin City Centre and the suburbs of North Dublin via the R132. A number of bus stops are located on the south-western carriageway of Parnell Square West. A designated bus lane is provided in the central median of Granby Road, as shown on Figure 2.10 above. Granby Road is currently assigned a 50km/h speed limit. Formal car parking is provided outside the Rotunda Hospital, as shown on Figure 2.9. An e-car charging point is also provided on Parnell Square West.

Parnell Square North



Figure 2.11: Looking east along Parnell Square North (Source: www.googlemaps.ie, 2018)

Parnell Square North is a one-way street with a wide road carriageway. The road provides access to Dublin City Gallery, The Hugh Lane, the Dublin Writers' Museum, Irish Writers' Centre, The Garden of Remembrance and the Abbey Presbyterian Church. Formal car parking is provided on both sides of the road along with a Dublin Bikes station terminal at the eastern end of the street, as shown on Figure 2.12. Good quality 2.5 metre wide footpaths are provided on both sides of the street.



Figure 2.12: Dublin Bikes terminal station (Source: www.googlemaps.ie, 2018)

R132 Dorset Street



Figure 2.13: Dorset Street (R132) looking North (Source: www.googlemaps.ie, 2018)

Dorset Street is a high-quality single carriageway road, approximately 11m wide, in the vicinity of the site, which runs in a general south-west to north-east direction. It is envisaged that the R132 may form a key access route to the proposed Parnell Square development. Traffic travels in both directions along the route, while a dedicated bus lane is provided for buses travelling south to north continuing from the Granby Road junction to the Whitworth Road junction. 2.5 metre wide footpaths are provided on both sides of the road. An on-road cycle facility is also provided for cyclists travelling north to south. Dorset Street is currently assigned a 50 km/h speed limit in the vicinity of the site.

2.5.3 Construction Route

For the construction phase of the project, it is envisaged that construction traffic routing will take two different routes. One route will be to the front of the existing buildings, along Parnell Square North. A second route will be provided to the rear of the site along Fredrick Lane, as shown in Figure 2.14 below.

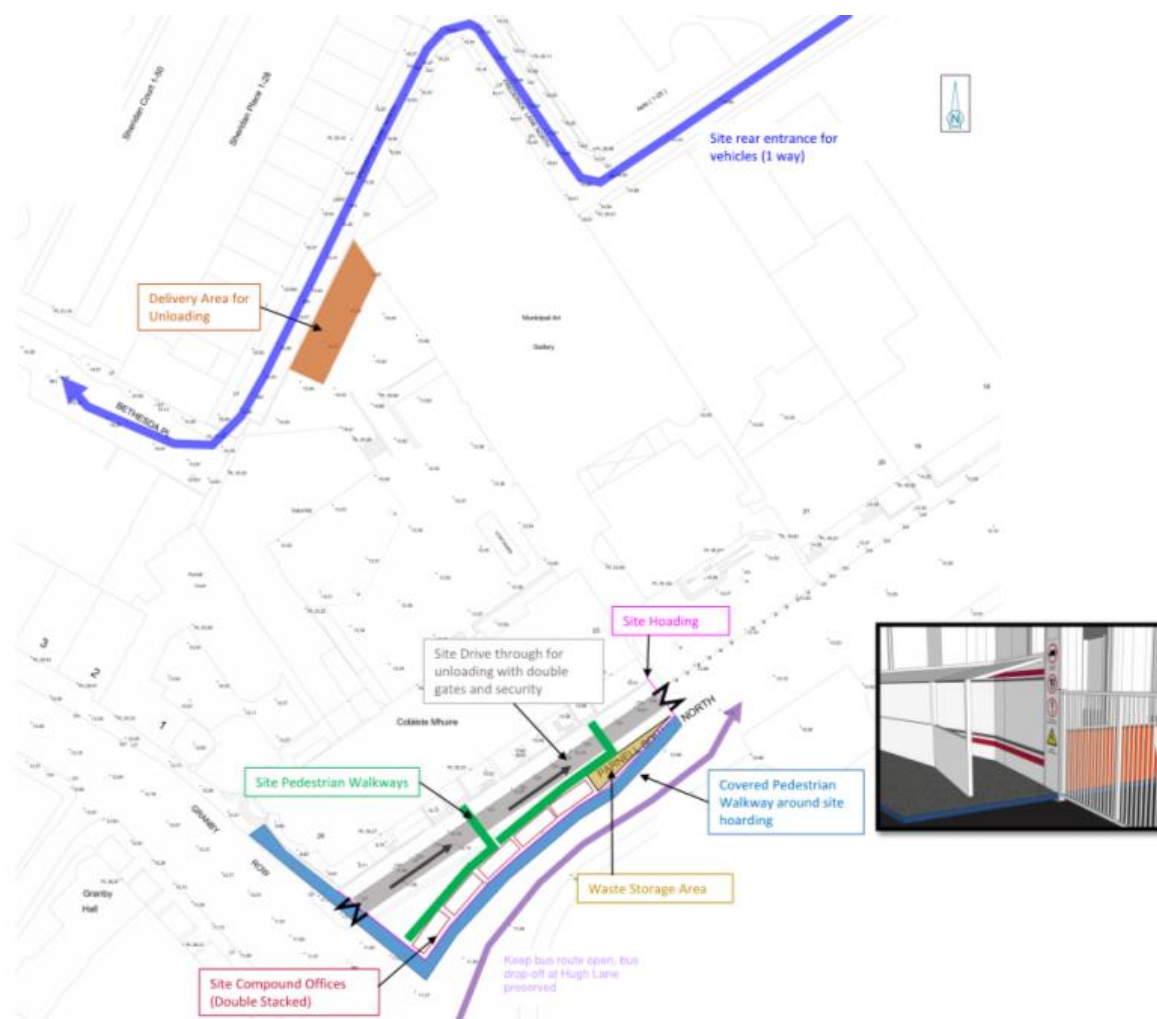


Figure 2.14: Proposed Construction Routes to the Site

Route 1 – Construction vehicles will travel to and from the site through an access/egress point on Parnell Square North. Local reductions in the width of the Parnell Square North road will be required to the front of Houses 28 to 23 for the duration of the construction phase. This will be required in order to create a securely hoarded site compound space, in which site offices, material storage areas, as well as a through route for construction-related deliveries, will all take place. Figure 2.14 above demonstrates a 3D representation of the site setup and traffic route.

Route 2 – A second delivery route to the rear of the site will also facilitate deliveries along Fredrick Lane. The busiest period with regards to traffic generation is expected to be the enabling works stage, which will include the removal of demolition waste and excavated material away from the site. This work will be undertaken early in the construction process. It is envisaged that the route to the rear of the site along Frederick Lane will be the primary route during these works.

The above locations will be identified at a later stage and appropriate routes will be agreed with DCC as part of the contractor’s more detailed construction management plan. Heavy goods vehicles are restricted in and around Dublin City as shown in Figure 2.15 below.

Heavy Goods Vehicles - Cordon Restrictions - Dublin City from 19th February 2007

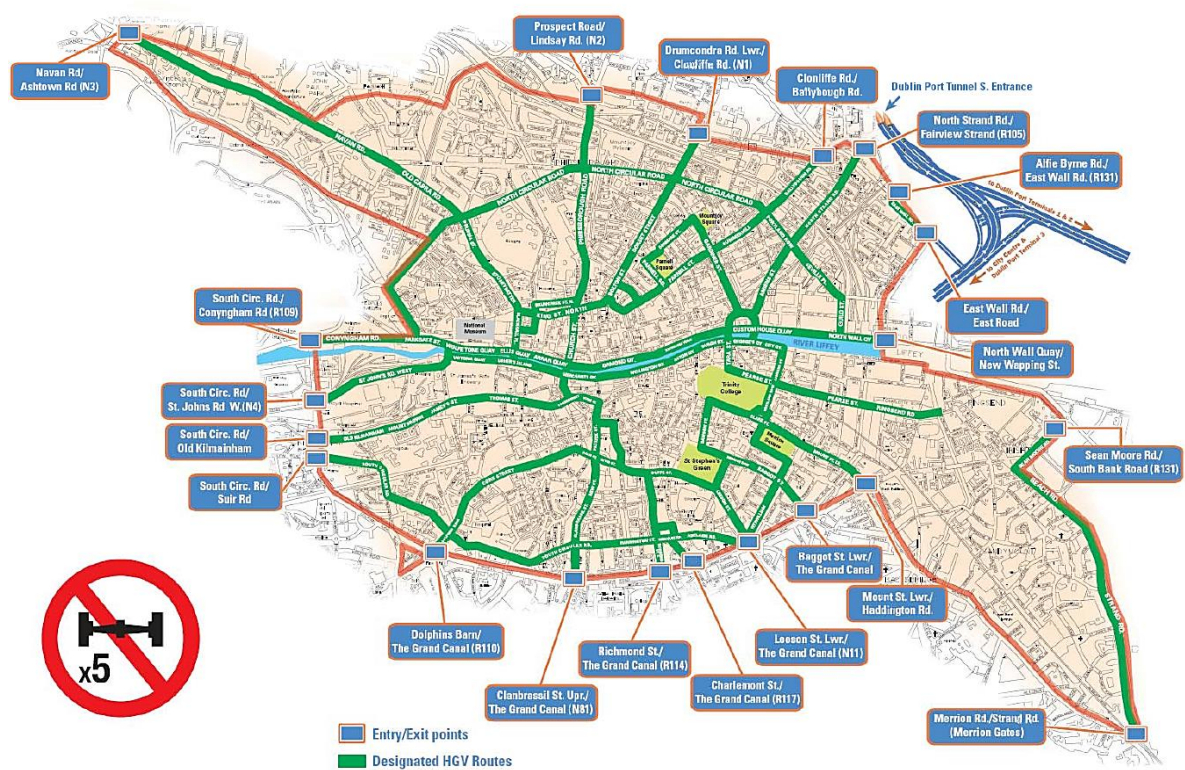


Figure 2.15: HGV Exclusion Zone and Designated Entry Points / Haulage Routes in DCC (Source: www.dublincity.ie, 2018)

2.5.4 Predicted Construction HGV Trip Generation

The different construction phases involved in the implementation of the proposed development will generate different volumes and types of traffic. Typically construction traffic will peak during the start of a construction project, given the large numbers of HGVs required during the excavation stage.

The HGV traffic generated would tend to be spread throughout the day, while trips generated by workers would tend to peak in the early morning and late afternoon, depending on work and shift hours. The peak in traffic on the surrounding road system occurs between 08:15 and 09:15 in the AM and between 16:45 and 17:45 in the PM peak, thus the peak generation of construction operatives is unlikely to coincide with the background peak conditions, as the construction operatives should enter and leave the site between 07:00–08:00 and 18:00–19:00 respectively.

The site will exhibit distinct characteristics during each stage of the construction programme, with varying demands for site deliveries.

For the purposes of this report, and in the absence of detailed programme or timescales from a contractor, we have set out below an approximate scenario for total HGV trips in Table 2.1. This is to provide an initial overview of indicative construction traffic volumes on the road network and likely peak periods of HGV traffic.

Table 2.1: Predicted Construction HGV Trip Generation

Activity	Duration	Expected Loads off site / day	Comments
Demolition	3 months	3-4 per day over 12 weeks	Average – Some days will peak at 8-10 loads per day
Excavation	6 weeks	20-30 per day	Peak of 40/day for 1 week approx.
Concrete Frame Works	12 months	3-4 per day (30 for slab pours)	Average (peak on slab pours)
General Building Materials*	12 months	4-5 deliveries per day (average)	Early morning, delivery where possible. Off road unloading to be established.
General Waste	24 months	2-3 skips per week (including recycling)	Early morning, drop off and pick up. No standing on site.
*General building materials would include façade/ roofing/ secondary steel/ fit out/ landscaping materials etc. and will be spread across the project duration following the concrete frame works			

As can be seen in Table 2.1 above, the maximum worst case scenario is for a peak of 40 HGVs per day during the excavation works for one week only.

2.5.5 Construction Sequence of Public Realm

Improvements to the public realm to facilitate a new public plaza include: reconfiguration of vehicular roadway (2-lane), parking and set down areas; street furniture, street art and public lighting; widening of footpaths; and relocation of the Dublin Bikes Station, at Parnell Square North, in the area between Parnell Square West and East and the Garden of Remembrance.

As the Parnell Square Cultural Quarter Building nears completion, external finishes to the public realm will commence. This will require adjustment to the site perimeter conditions and interaction with the local authorities in relation to paving finishes.

- At an appropriate time, welfare facilities will be established within the newly constructed building space and the external setup will initially be reduced in size and eventually decanted to allow the public realm works to progress.
- The sequence and timing of any changes will be such that necessary facilities will always be available and that appropriate unloading/storage facilities will be in place to allow for a safe working environment in accordance with the agreed programme.
- A traffic lane will always be available as requested, with any necessary closures to be arranged for 'out of hours' time.

Figure 2.16 below shows an example of a proposed traffic management phasing in the vicinity of Parnell Square North, which could be used to manage the works. The contractor is required to provide a detailed Traffic Management Plan prior to works commencing.



Figure 2.16: Construction Sequence of Public Realm (Indicative Areas)

Phase 1 - Would involve the construction of the south-east side of Parnell Square North.

Phase 2 - The construction of Phase 1 will allow the build out on Parnell Square East to be finished with the signal controlled crossing.

Phase 3 - Would involve the construction of the two new paved traffic lanes, while traffic uses the existing road carriageway to the north.

Phase 4 - The construction of Phase 3 will allow traffic use the new paved traffic lanes while the north-east of Parnell Square North is completed.

Phase 5 – The signal controlled crossing and build outs can be completed on Parnell Square West.

The full decanting of the site compound would facilitate the construction of the remainder of the public realm works on Parnell Square North. Any deliveries could be facilitated via the laybys on Parnell Square West.

Phase 6 - Would involve the construction of the south-west side of Parnell Square North.

Phase 7 - Would involve the construction of the two new paved traffic lanes, while traffic uses the existing road carriageway to the north.

Phase 8 - The construction of Phase 7 will allow traffic use the new paved traffic lanes while the north-west of Parnell Square North is completed.

It is envisaged that the maximum HGV deliveries to the site for the public realm works will be ten per day.

2.6 Construction Stage Traffic Management Plan

A Construction Stage Traffic Management Plan will be prepared by the Contractor and agreed with the Roads & Traffic Department, DCC, to provide detailed mitigation of construction traffic associated with the proposed development. This section outlines the principles that will be adopted within the contractor's management plan.

2.6.1 Traffic Management Measures

Below is a list of the proposed traffic management measures to be adopted during the construction works (please note that this list is not exhaustive):

- Warning signs will be installed at appropriate locations in advance of the construction access locations;
- Construction and delivery vehicles will be instructed to use only the approved and agreed means of access; movement of construction vehicles will be restricted to these designated routes;
- Vehicle intensive operations will be time-managed to occur outside peak traffic periods where reasonably possible;
- Appropriate vehicles will be used to minimise environmental impacts from transporting construction material; for example, the use of dust covers on trucks carrying dust-producing material;
- Speed limits of construction vehicles to be managed by appropriate signage, to promote low-vehicular speeds;
- Parking of site vehicles will be managed and will not be permitted on public roads, unless proposed within a designated area that is subject to traffic management measures and agreed with DCC;
- A road sweeper will be employed to clean the public roads of any residual debris that may be deposited on the public roads leading away from the construction works;
- On-site wheel washing will be undertaken for construction trucks and vehicles to remove any debris prior to leaving the site, to reduce any potential debris on the local roads;
- All vehicles will be suitably serviced and maintained to avoid any leaks or spillage of oil, petrol or diesel. All scheduled maintenance will not be carried out on the public highway;
- Safe and secure pedestrian facilities are to be provided where construction works obscure any existing pedestrian footways. Alternative pedestrian facilities will be provided in these instances, supported by physical barriers to segregate traffic and pedestrian movements, and to be identified by appropriate signage. Pedestrian facilities will cater for vulnerable users including mobility-impaired persons;
- Use of 'just-in-time' approach for removal of materials from site and delivery of materials to site;

- Ensuring vehicle intensive operations occur outside of peak traffic periods;
- Providing adequate storage space on site, or alternatively off-site;
- Use of prefabricated elements (where possible);
- Developing a strategy to minimise construction material quantities as much as possible;
- Promoting use of public transport and offering staff incentives for using them, e.g. Travel to Work Scheme benefits.

2.6.2 Noise

Some impact on noise levels is likely to occur as a result of the construction activity. It is important to note that construction works are temporary in nature and that the resulting higher noise levels are generally acceptable, subject to typical hours of works, which are common to most urban-based projects. The area is commercial and residential in nature, meaning there are receptors in the vicinity that would be significantly affected by the increased noise levels.

It is acknowledged that in the interests of minimising noise and to ensure a satisfactory standard of development, construction works associated with the proposed development will be in compliance with British Standard 5228 'Noise Control on Construction and Open Sites Part 1, Code of Practice for basic information and procedures for noise control'.

2.6.3 Dust and Debris

During the construction phase, measures will be adopted to ensure the adjoining roads, Dorset Street, Granby Road, Frederick Street North, Frederick Lane North, Parnell Square North and Bethesda Place, are kept in a clean and safe condition during works. The following initial measures have been identified:

- On-site wheel washing will be undertaken for construction vehicles to remove any debris prior to leaving the site, to take away any debris before vehicles travel onto the adjoining roads;
- A road sweeper will be employed to clean the public roads should any residual debris be deposited; and
- All vehicles will be suitably serviced and maintained to avoid any leaks or spillage of oil, petrol or diesel.

2.7 Reinstatement/ Road Cleaning

2.7.1 Demolition and Construction Stage

Prior to the works a detailed photographic survey of any adjoining walls, roads, footpaths and grass verges etc. is to be prepared. Copies of the relevant parts are to be made available to adjoining owners and DCC. This record will form the basis of assessing repairs to adjoining areas in the future, if required.

Roadways are to be kept clean of muck and other debris. A road sweeping truck is to be provided if necessary. A wheel wash will be provided for the duration of the construction works. Water supplies will be recycled for the use in the wheel wash. All water will be drained through appropriate filter material prior to discharge from the site.

2.7.2 On Completion

Following the reinstatement at completion the works will involve:

- The cleaning of the existing sewers in the vicinity of the development as required;
- Prior to connection to the public water main, all water mains in the development will be tested and cleaned to the requirements of DCC;
- Any damage to any adjacent public roadways, kerbs, grass verges etc. will be fully repaired in accordance with DCC requirements;
- Leaving the area in a clean condition, removing all materials that may have been deposited during construction works.

2.7.3 Site Security

The contractor will be responsible for the security of the site and will be required to:

- Operate a site induction process for all site staff;
- Install adequate site hoarding to the site boundary;
- Maintain the site security staff at all times;
- Separate pedestrian access from vehicular access; and
- Ensure restricted access is maintained to the works.

3. Travel Plan

The contractor will be encouraged as part of the contract to introduce a Travel Plan for its workforce to encourage access to the site by another means other than private car. The following section identifies some of the measures the contractor will provide as part of the Travel Plan. The Travel Plan will form part of the Construction Management Plan and will be agreed with DCC prior to works beginning on site.

There is good connectivity between the site and public transport links which serve the area. This includes a vast number of bus services, as well the Luas Cross City and Red Line, the DART and Dublin Bike Stations, all of which are within walking distance from the site.

The contractor will issue an information leaflet to all staff as part of their induction on site, highlighting the location of the various public transport services in the vicinity of the construction site.

Where possible, site operatives will be encouraged to utilise public transport facilities, such as the adjacent Luas stops on O'Connell Street Upper, Parnell Street

and Dominick Street. The Parnell and Abbey Street Luas stops are approximately 500 and 900 meters from the site respectively. The DART line is also a viable means of transport, as the site is approximately 15 minutes' walking distance to both the Tara Street and Connolly DART stations. In addition, the proposed site is located near to the numerous bus routes and numerous Dublin Bus services which are shown in Table 3.1 below:

Table 3.1: Dublin Bus Services in Vicinity of Parnell Square

Location	Stop Number	Services Provided
Coláiste Mhuire	264	140, 46A
Garden of Remembrance	262	16,16C
Garden of Remembrance	263	120,122,9
Gate Theatre	265	1,38,38A,38B,38D,44
Granby Place	3	120,122
Hugh Lane Gallery	47	46E, 747
Parnell Square North	261	11,13,40
Parnell Street	2	38,38A,38B,38D,46A,46E
Rotunda Hospital	10	1,11,44
Rotunda Hospital	4	7,7A,7B,7D,9
Rotunda Hospital	7	13,140,40,40B,40D
Rotunda Hospital	8	16
Martin's Chapel	6	4

Where driving to site is required, car sharing among the construction staff should be encouraged, especially from areas where construction staff may be clustered. Such a measure offers an opportunity to reduce the proportion of construction staff driving to the wider site area and will minimise the potential traffic impact on the road network surrounding this facility.

