

# Belmont Avenue

Traffic Calming Initiative

Dublin City Council

2<sup>nd</sup> March 2021

## Quality information

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## Revision History

<u>Revision</u>	<u>Revision date</u>	<u>Details</u>	<u>Authorized</u>	<u>Name</u>	<u>Position</u>
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## 1. Introduction – Area Description

Belmont Avenue is a two-way road between Donnybrook Road and Sandford Road. It is approximately 500m long. It forms part of the Belmont Avenue / Mount Eden Road & Environs Architectural Conservation Area. The road is comprised mainly of residential properties and also serves as the access route for a number of cul-de-sacs, a local school (St. Mary's National School) and the St. Mary's Lawn Tennis Club.

Belmont Avenue is subjected to substantial traffic issues, particularly during peak hours, primarily due to the lack of adequate width for two-way traffic and parking to coexist. The width of the existing carriageway throughout the street varies between 5.5 and 8.5 meters. Parking spaces (of approximately 2.1 meters in width) are located on the southern side of the street, resulting in a remaining carriageway width of approximately 4.2 meters for lengthy periods. This is significantly narrower than the carriageway width of 4.8 meters proposed in the Design Manual for Urban Roads and Streets (DMURS) - 4.4.1 - Carriageway Widths, which allows for two-way traffic.

During peak hours, the area is invariably gridlocked, as a consequence of the volume of cars attempting to progress up and down its length. Motorists, frustrated by the lengthy delays, become stressed, aggressive and engage in dangerous manoeuvres. Vehicles often illegally mount and drive along the footpath, endangering pedestrians, cyclists and other motorists. There have been a number of near misses reported involving school children exposed to unsafe driving manoeuvres. Cars utilising the on-street parking have been damaged on a multitude of occasions.

The existing footway width varies between 1.0 and 1.7 meters on each side of the carriageway (and as narrow as 0.6 meters behind lighting columns). Both footpaths are substantially below the minimum footway width of 1.8 meters, as specified in DMURS - 4.3.1 - Footways, Verges and Strips. Consequently, pedestrians using the street are unable to walk two abreast.

A traffic survey was undertaken on 4<sup>th</sup> March 2020 (prior to the introduction of COVID-19 pandemic restrictions) aiming to collect information on traffic speeds and volume along Belmont Avenue. The key results are summarised in Table 1 below.

**Table 1: Belmont Avenue traffic counts**

Direction of Travel	AM Peak (7-10am)	PM Peak (4-7pm)	Total
Westbound (Donnybrook Road -> Sandford Road)	<b>778</b>	299	2479
Eastbound (Sandford Road -> Donnybrook Road)	112	<b>745</b>	2547

## 2. Traffic Congestion Solutions

There is not one clear traffic solution to solve the traffic congestion issue on Belmont Avenue. Options that have been considered at this initial stage are listed below:

### 1. Speed Limit Reduction

The existing speed limit for Belmont Avenue is 50km/h, which is considerably high for a residential and school area. A 30km/h speed limit is soon to be implemented in the wider area. **This measure will not have a significant impact, if introduced on its own, however it could compliment one of the other options listed below.**

### 2. Removal of Parking Bays to Create Horizontal Deflection:

Removal of spaces to create pockets in which westbound vehicles can pull in and allow oncoming traffic to pass by. Parking loss is expected to be minimal – summary provided in Table 2. Proposed design can be found in Drawing No. 60615775-ACM-BTA-SK-0105-06.

**Table 2: On-Street Parking summary**

Existing Parking Spaces	Proposed Parking Spaces
57	54

Spaces are calculated by dividing the length of each individual parking bay by the recommended space length for parallel parking (6.0m), as specified in DMURS - 4.4.9 - On-Street Parking and Loading. Existing parking bay measurements are based on available mapping and aerial photography data and will need to be confirmed against a topographical survey.

**This measure will not have a significant impact, if introduced on its own, however it could be one element of the final design alongside other options listed below.**

### 3. Removal of Parking in its Entirety

Alternatively, removal of all or most of the on-street parking would greatly increase the carriageway width made available to traffic along Belmont Avenue, lessening motorist conflict. With a minimum of 5.5 meters made available for the carriageway, the remaining of the existing width can be allocated to widening the footpath on both sides, making it safer for the more vulnerable road users.

**However, this may be met with opposition by residents, who do not have private driveways and currently use the existing parking bays.** Additional information on existing on-street parking spaces and private driveways on Belmont Avenue can be found in Drawing No. 60615775-ACM-BTA-SK-0101-04 and Table 3.

**Table 3: Existing residential parking information for Belmont Avenue**

On-Street Parking Spaces	Properties with Private Driveways	Properties without Private Driveways	Residential Parking Permits
57	34	47	67

#### 4. One-Way System

This would allow for the carriageway and footway widths to fall within the necessary minimums, as set out in DMURS. On-street parking will be retained on the southern side of the street. **However, only with-flow cyclists can be accommodated, as the available width does not allow for a contra-flow cycling facility.** The traffic volumes to and from Sandford Road are practically identical and reversed for the AM and PM peak (Table 1), which suggests that even with the one-way system, Belmont Avenue will still be busy either during the morning or evening peak. The introduction of effective physical traffic calming, such as road humps, is very important in this scenario. Proposed design can be found in Drawing No. 60615775-ACM-BTA-SK-0107-10.

#### 5. Filtered Permeability Scheme

This measure is synonymous with the implementation of a cul-de-sac. The feasibility of vehicle turning heads on either side of the filters (usually bollards and / or planters) is key for selecting the location of the road closure. **Two options were identified for the filter location, either at junction with Sandford Road or with Mount Eden Road.** The latter is considered less preferable, as it would have a negative effect on school drop-off and would also encourage turning manoeuvres close to St. Mary's National School entrance. Proposed design showing a road closure at junction with Sandford Road can be found in Drawing No. 60615775-ACM-BTA-SK-0111.

Emergency vehicles and cyclists will have access through these filters. However, Belmont Avenue will still accommodate two-way traffic and pockets for motorists to give way to each other still need to be considered.

#### 6. Restricted Access

Introduction of a no-entry system at the Sandford Road junction, to reduce traffic volumes and prevent motorists using the road as a "rat run". Belmont Avenue will continue to be a two-way road and all cyclist movements will be facilitated. The traffic survey (Table 1) suggests that a significant number of vehicles will still be moving towards Sandford Road in the morning peak and will be opposed by eastbound residential traffic. **Undoubtedly, unless effective traffic calming and horizontal deflection are carefully considered, the existing issues will persist.** Proposed design can be found in Drawing No. 60615775-ACM-BTA-SK-0112-0115.

Belmont Avenue works in a network with other streets in the Donnybrook and Ranelagh area, most notably Marlborough Road, where congestions issues are also observed. Although Marlborough Road is an arterial route designed to accommodate heavier traffic flow, the impact on this road from any interventions implemented on Belmont Avenue, will have to be carefully considered.

### 3. Supplementary Sketches

The following high-level sketches are presented in this section:

- Drawing No. 60615775-ACM-BTA-SK-0101-04 – EXISTING ARRANGEMENT
- Drawing No. 60615775-ACM-BTA-SK-0105-06 – REMOVAL OF PARKING BAYS TO CREATE HORIZONTAL DEFLECTION
- Drawing No. 60615775-ACM-BTA-SK-0107-10 – ONE-WAY SYSTEM
- Drawing No. 60615775-ACM-BTA-SK-0111 – FILTERED PERMEABILITY
- Drawing No. 60615775-ACM-BTA-SK-0112-15 – RESTRICTED ACCESS

# Existing Arrangement



**A EXISTING ARRANGEMENT**  
Scale: 1:200 @ A1

**NOTES**

1. 10% FRESH WATER, ALL IN NUMBERS WITH A CORRESPONDING TURN OR FOR FLOW.
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
3. ALL DIMENSIONS TO BE GIVEN IN METERS, TO THE NEAREST MILLIMETER, UNLESS OTHERWISE SPECIFIED.
4. ROAD MARKINGS SHOWN ON THIS DRAWING ARE TO BE CHECKED ON SITE PRIOR TO COMMENCEMENT OF WORKS.
5. THE LOCATION, BIRTH OF SERVICE TO BE CHECKED ON SITE PRIOR TO COMMENCEMENT OF WORKS.
6. ALL EXISTING AND ADJOINING SERVICES TO BE CHECKED ON SITE PRIOR TO COMMENCEMENT OF WORKS.
7. PROPOSED TO BE PROVIDED BY THE CONTRACTOR OF ANY TRENCHING OR WORKS TO BE PROVIDED BY THE CONTRACTOR.

**LEGEND**

FILE	DATE	BY	CHKD	APPD
PRELIMINARY				
FINAL				
CONSTRUCTION				

**PROJECT DATA**

PROJECT NO.	123456789
CLIENT	DUBLIN CITY COUNCIL
DATE	12/12/2023
SCALE	1:200
DATE	12/12/2023

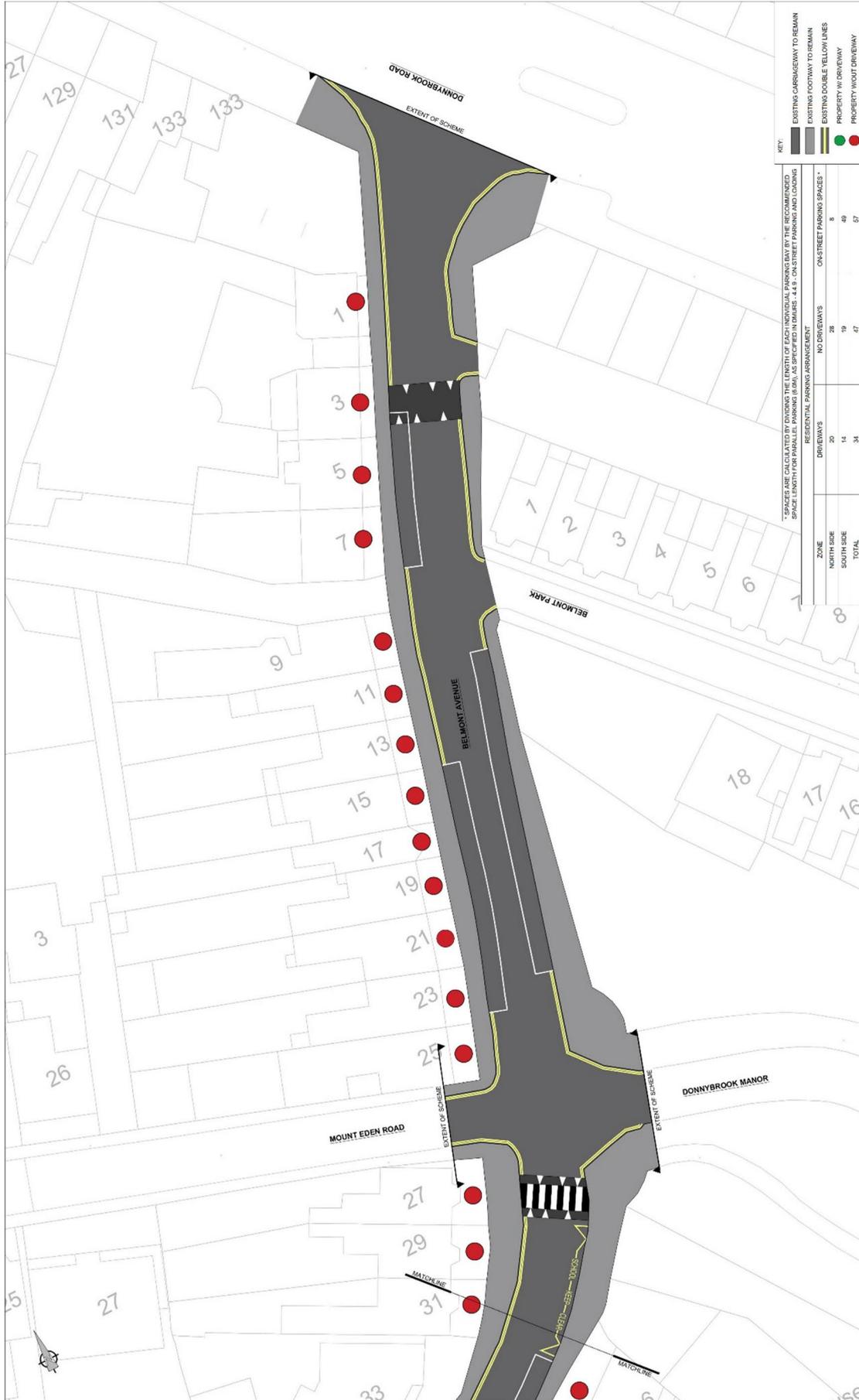
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RESIDENTIAL PARKING ARRANGEMENT

ZONE	DRIVEWAYS	NO DRIVEWAYS	ON-STREET PARKING SPACES*
NORTH SIDE	20	28	8
SOUTH SIDE	14	19	49
TOTAL	34	47	57

LEGEND:

- EXISTING CARRIAGEWAY TO REMAIN
- EXISTING FOOTWAY TO REMAIN
- EXISTING DOUBLE YELLOW LINES
- PROPERTY W/ DRIVEWAY
- PROPERTY W/O DRIVEWAY

\* SPACES ARE CALCULATED BY DIVIDING THE LENGTH OF EACH INDIVIDUAL PARKING BAY BY THE RECOMMENDED SPACE LENGTH FOR PARALLEL PARKING (8.0M), AS SPECIFIED IN FIGURE 4.4.9 - ON-STREET PARKING AND LOADING

**NOTES**

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**PROJECT DATA**

PROJECT NO: 150000001  
 CLIENT: DUBLIN CITY COUNCIL  
 DATE: 15/03/2024  
 DRAWN BY: [Name]  
 CHECKED BY: [Name]  
 APPROVED BY: [Name]

**LEGEND**

NO.	REVISION	DATE	BY	CHKD BY
1	ISSUED FOR TENDERS			

**APPROVALS**

DESIGNED BY: [Name]  
 CHECKED BY: [Name]  
 APPROVED BY: [Name]

**NOTES**

NOTES:  
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**NTA**  
 National Transport Authority

**A EXISTING ARRANGEMENT**  
 Scale: 1:200 @ A1





**A GENERAL ARRANGEMENT**  
Scale: 1:200 @ A1

**NOTES**

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**NOTES**

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**Project File:**  
PROJECT NO: 12345678  
PROJECT NAME: BELMONT AVENUE  
DRAWING NO: 12345678  
DATE: 12/01/2024  
SCALE: 1:200 @ A1  
DRAWN BY: J. SMITH  
CHECKED BY: M. JONES  
APPROVED BY: P. BROWN







**A GENERAL ARRANGEMENT**  
Scale: 1:200 @ A1

**NOTES**

1. EXISTING ROAD, KERB, MINIMUM WIDTH & COMPARISON TO BE IN ACCORDANCE WITH THE DUBLIN CITY COUNCIL.
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**NOTES**

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Project No: 18000000000000000000  
Project Name: BELMONT AVENUE  
Client: DUBLIN CITY COUNCIL  
Scale: 1:200 @ A1  
Date: 20/05/2018

Drawn: [Name]  
Checked: [Name]  
Approved: [Name]

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**Project Title:** BELMONT AVENUE WIDENING AND IMPROVEMENTS  
**Client:** DUBLIN CITY COUNCIL

**Notes:**

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**Scale:** 1:200 @ A1

**GENERAL ARRANGEMENT**

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 Environment & Transportation Dept.  
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KEY:

- EXISTING CARBANKWAY TO REMAIN
- EXISTING FOOTWAY TO REMAIN
- PROPOSED FOOTWAY
- EXISTING KERB
- EXISTING DOUBLE YELLOW LINES
- REINSTATE DOUBLE YELLOW LINES

SECTION OF BELMONT AVENUE EAST OF MOUNT EDEN ROAD TO REMAIN TWO WAY. NO FURTHER CHANGES PROPOSED

**A GENERAL ARRANGEMENT**  
Scale: 1:200 @ A1

**NOTES**

1. DOTTED AREA IS TO BE REMOVED BY THE CONTRACTOR.
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR OR SITE.
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6. ALL UTILITIES AND ADJOINING ROADS TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL ADJACENT PROPERTIES.

**REVISIONS**

No.	Revision	Date	By	Checked
1	Issue for Approval			

**PROJECT DATA**

Project No.	12345678
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**APPROVALS**

Author	John Doe
Check	Jane Smith
Issue	10/2023

**LOGO: AECOM WORK IN PROGRESS**

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