

The background is a vibrant red color. It features several abstract geometric shapes: a large white circle with a blue border in the upper right; a smaller white circle with a blue border in the lower left; a large teal shape with a white border in the lower right; and various other shapes in blue, green, and white scattered throughout the corners and edges.

Appendix F

Existing Structures Impact Assessment Report

BUSCONNECTS INFRASTRUCTURE DELIVERY – PROJECT D**KIMMAGE TO CITY CENTRE CORE BUS CORRIDOR STRUCTURAL
SURVEY REPORT****TABLE OF CONTENTS**

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2 METHODOLOGY

The methodology followed in this report is mainly based on data collection and information in the field visit. The information collected is checked against and then complemented with the information available to be able to classify the structures as accurately as possible.

The expected or intended works to be carried out in the existing structures is not the scope of this report. Nevertheless, it is discussed briefly in Section 3 with the current information available at the time this report is written.

2.1 Available information

The existing information used to prepare this Structural Survey is as follows:

2.1.1 Topography information

A topographic survey has been carried out of the Ballymun & Finglas Corridors as part of the project scope. The survey was used to obtain information and overall dimensions of the bridges and structures.

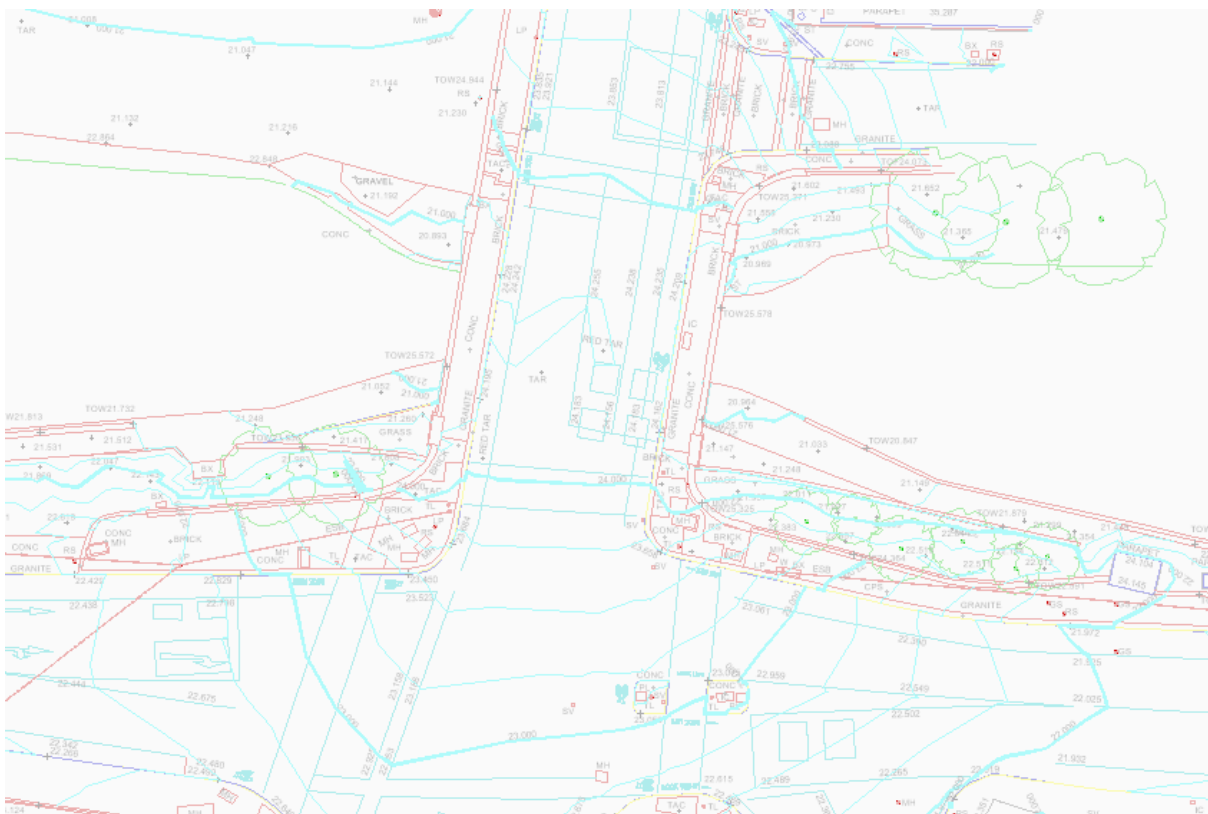


Figure 2: Detail of the topography information in the area of Harold Cross bridge / Robert Emmet bridge

2.1.2 Web of the National Inventory of Architectural Heritage


There is a national organization that collects information of buildings and unique and old structures that deserve to be protected. According to the description of his work that is collected on the web (<http://webgis.buildingsofireland.ie/HistoricEnvironment/>):

“The National Inventory of Architectural Heritage (NIAH) is a state initiative under the administration of the Department of Culture, Heritage and the Gaeltacht and established on a statutory basis under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999.

The purpose of the NIAH is to identify, record, and evaluate the post-1700 architectural heritage of Ireland, uniformly and consistently as an aid in the protection and conservation of the built heritage. NIAH surveys provide the basis for the recommendations of the Minister for Culture, Heritage and the Gaeltacht to the planning authorities for the inclusion of particular structures in their Record of Protected Structures (RPS).

The published surveys are a source of information on the selected structures for relevant planning authorities. They are also a research and educational resource. It is hoped that the work of the NIAH will increase public awareness and appreciation of Ireland’s architectural heritage.”

Cross Guns Bridge, Cabragh (ba. W By.), Dublin City



View on map

Survey Data

Reg No	50060185
Date	1860 - 1865
Townland	CABRAGH (BA. W BY.)
County	Dublin City
Coordinates	315097, 236272
Previous Name	Westmoreland Bridge

Description

Single-span canal bridge, likely rebuild of c.1864 at same time as construction of railway bridge to north, carrying Phibsborough Road over Royal Canal. Older canal bridge apparently removed. Ashlar limestone abutments and terminating piers, latter with dressed limestone caps supporting cast-iron lamp standards with acanthus-leaf ornament to bases. Drainage spouts to outer faces of piers. Rubble limestone wing walls. Cast-iron parapets with rounded tops, round-ended vertical perforations and curving buttress-like elements to outer sides. West side of bridge has pipe attached. Canal lock to same side.

Figure 3: Example of the register of the structures in the web

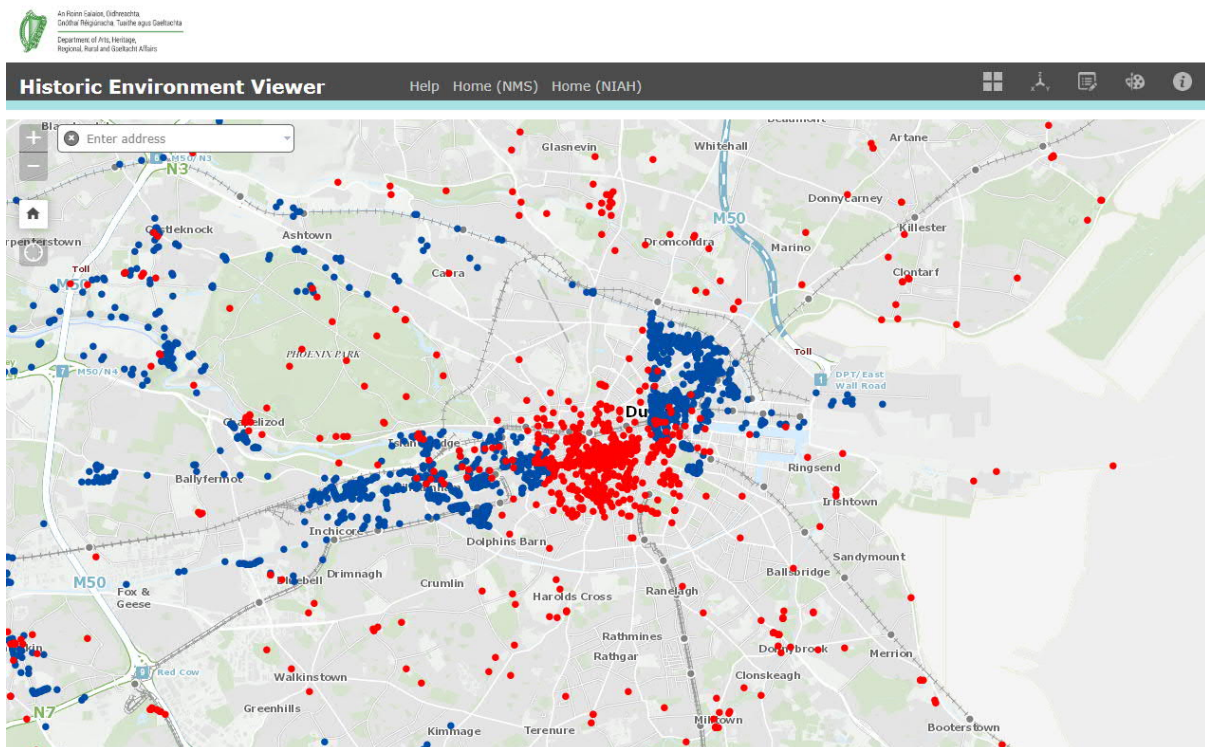


Figure 4: Database with buildings, bridges and other architectural elements in Dublin

2.1.3 Field visit

A field visit to the bridges was carried out by the structures specialist to know better the condition and typologies of the bridges within these corridors. The information collected during the visit can be seen in more detail in the Bridge Data Sheets, included in Appendix A.

During the visit, a visual inspection of the structures was carried out, analysing the typology of the superstructure and of the substructure, the surrounding infrastructure, specific site details, etc. It was also observed if there was any type of pathology or any functional problem in the bridges, and condition of supports and expansion joints, if applicable depending on the structural type. The presence of barriers was identified and recorded its type.

Representative measurements of the bridges were taken in order to study potential widening or the need of new structures instead in the area.

The existing structures surrounding, and its environs, were also inspected to record its condition and to determine the physical space available just in case there was needed to build new bridges to replace existing ones or to increase the road platform by new structures adjacent to the existing.

Broadly speaking, the modern bridges have sufficient space and clearances to incorporate the proposed road layout with extra lanes in the scheme. Some of the older bridges cannot accommodate the proposed road layout, therefore it is proposed widening them or building new structures adjacent to them. In those bridges where there is no work expected, the site visit and data collection has been done in a more cursory way, because in the absence of any structural work it would not be necessary to take more detailed information.



Figure 5: Soffit of Harold Cross Bridge / Robert Emmet Bridge



Figure 6: West Elevation of Harold Cross Bridge / Robert Emmet Bridge



Figure 7: Bridge foundation and clearances

2.2 Required information

This document details the current information available to aid the design in the subsequent stages of the project and to find the best possible solution at constrained points such as existing bridges and structures.

The relevant information required in subsequent design stages are, not exhaustive list, as follows:

- As-built of existing bridges (Drawings and reports)
- Year of construction and maintenance or refurbishment works carried out in the bridges (widening, reinforcements, replacements)
- Rehabilitation projects (if any) of the bridges
- Bridge structural inspection reports (Principal & General Inspections)

Geotechnical information is also critical to undertake the design of new structures and bridge widenings, to design the foundations adequately.

3 STRUCTURAL SURVEY

In the Kimmage corridor, there is only one bridge within the corridor. It is a singular bridge, a reinforced concrete arch bridge. The proposed road layout with extra lanes does not fit within the current bridge section, thus it will be required to build adjacent new footbridges on both sides to accommodate the proposed cycle and footpath lanes.

Based on the field visits, the overall condition of this bridge is good, with good conservation condition and without obvious structural pathologies that may represent a H&S risk, from the visual inspection. No intrusive tests were undertaken.

3.1 List of structures

The list of existing structures to be analysed is shown below. For more details, refer to Annex A for the complete site information of the bridges.

ID	Name	Inventory Code	Typology	Obstacle	Station	Expected structural Works?
CBC11-01	Harold Cross / Robert Emmet Bridge	-	Concrete arch	Grand Canal		YES

Table 1: List of structures Kimmage

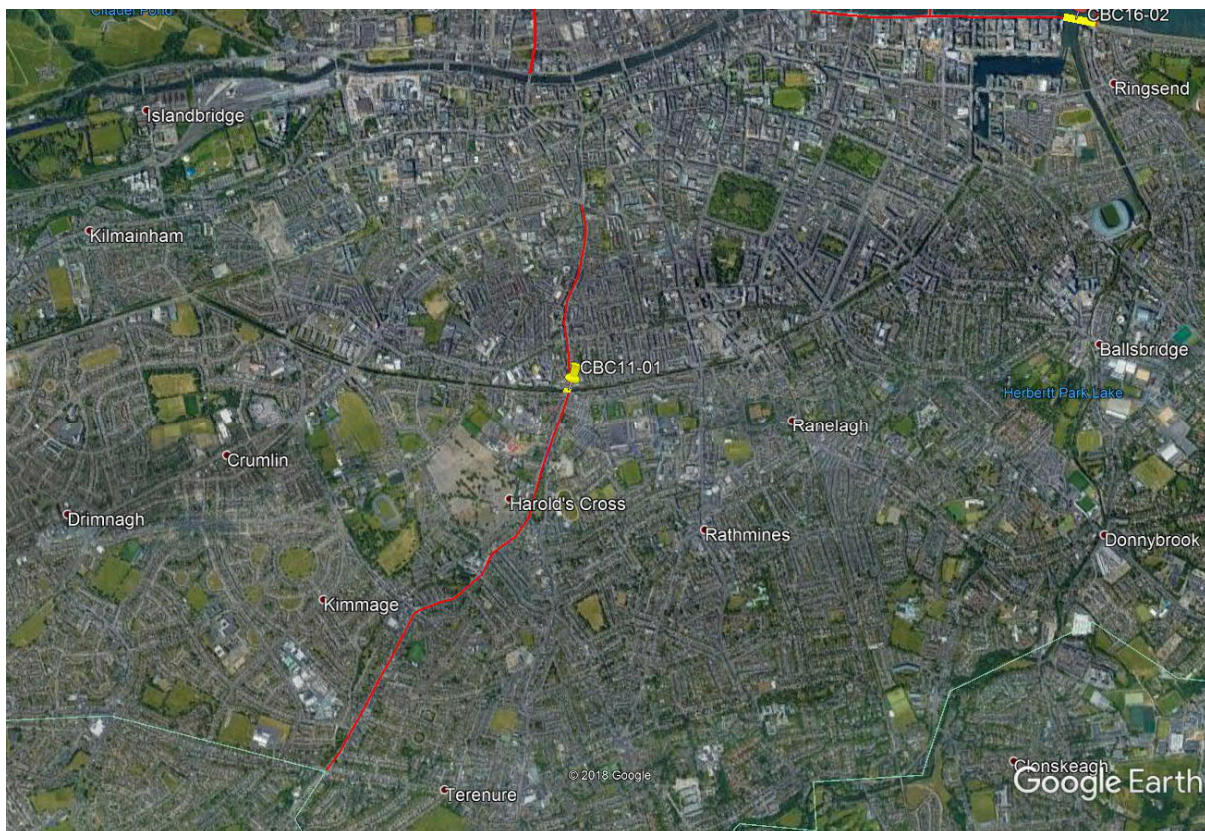


Figure 8: Location of the structures in Kimmage Corridor

3.2 Expected Structural Works

At the moment this report is written, it is envisaged to carry out structural works in the area/adjacent to the Harold Cross/Robert Emmet Bridge. This includes the construction of two new footbridges at either side of the aforementioned bridge, to carry the proposed cycle and footpath lanes.

APPENDIX A – BRIDGE DATA SHEETS

STRUCTURAL SURVEY - BUSCONNECTS CORE BUS CORRIDOR - DUBLIN

Scheme = **CBC11-Kimmage to City Centre**
Structure ID = **CBC11-01**
Name = **Harold Cross Bridge / Robert Emmet Bridge**



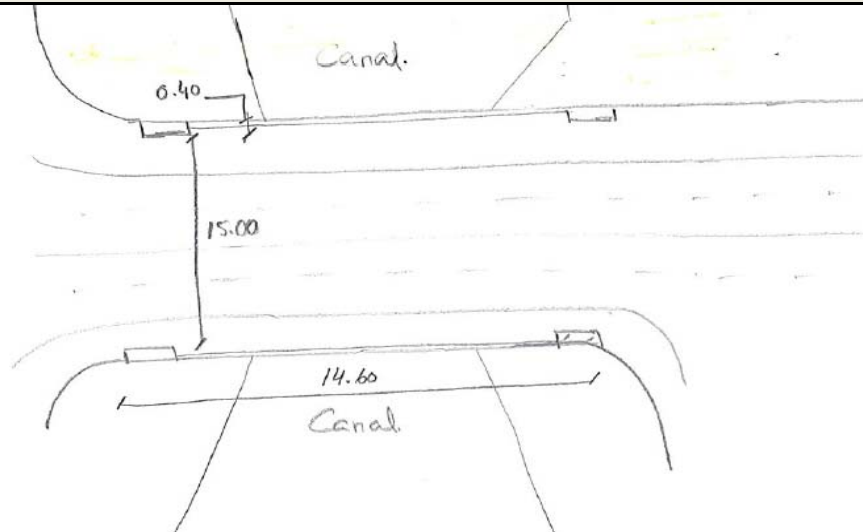
Station = 2.63
Coordinates (DD) = 53.3297021733609,-6.27517847021382
Typology = Concrete Arch
Total Length [m] = 14.60
Clear length [m] = 9.70
Width [m] = 15.00
Depth [m] = 0.50 to 3.45

Structure Description

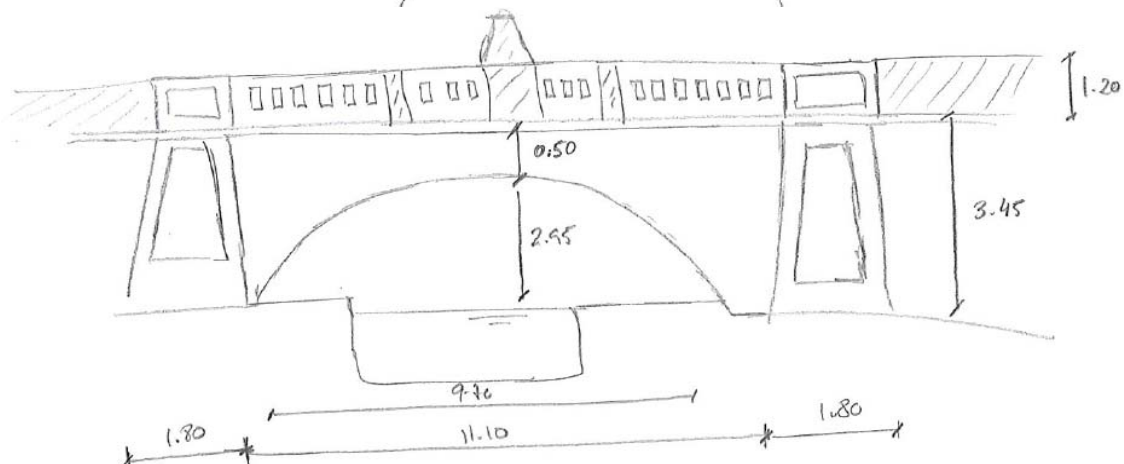
Single-arch bridge, built 1935-6, carrying road over the Grand Canal. Elliptical arch with rendered spandrels and string course. Balustrade comprising balusters and rendered handrail, terminating in rendered piers with inset panels surmounted by lamp standards. Rendered wing walls with rendered string courses, cut limestone and rendered copings. Carved limestone plaque with bust of Robert Emmet to eastern balustrade.

Sketch

Plan view



Elevation



Photos

Location



View from south abutment



Railing



Inside the arch



North access. Zone to be widened



View from the west



View from the east

