



Project design and construction of the main Bus-HOV lane viaduct, on the C-58 Motorway (Barcelona)

José Antonio LLOMBART
M. Sc. Structural Engineering
EIPSA
Madrid - Spain
jallombart@eipsa.net

José Antonio Llobart received his Civil Engineering degree from the UPM, Madrid (1964)

Jordi REVOLTÓS
M. Sc. Structural Engineering
EIPSA
Madrid - Spain
jrevoltos@eipsa.net

Jordi Revoltós received his Civil Engineering degree from the UPC, Barcelona (1989)

Javier CARRERO
M. Sc. Structural Engineering
EIPSA
Madrid - Spain
jcarrero@eipsa.net

Javier Carrero received his Civil Engineering degree from the UPM, Madrid (2006)

Abstract

The main Viaduct for the Bus-HOV lane is formed by an elevated structure, the piers of which are located in the space between the two decks of an existing viaduct, belonging to the C-58 Motorway.

The deck is formed by a spatial metal tube structure supporting a concrete platform on which the carriageway runs (Figure 1).

Unknown for this type of structure, the construction system developed consisted in erecting 100% of the deck and piers without the support of the existing viaduct's decks which were only occasionally used for auxiliary aid jobs, control and inspection whilst traffic did not have to be cut off at any time.

Keywords: tubular structure, latticework, stiffeners, prefabricated slabs, launching gantry

1. Introduction

The viaduct built forms a unique construction because of its location with the piers arising in the space between the existing viaduct's decks (Figure 2).



Fig.1: View of the deck



Fig. 2: Pier of the Bus-Hov viaduct