

Moolchand extradosed bridge for Delhi metro

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Summary

The Moolchand bridge is located on the Delhi metro line 3 extension. It crosses a highway and a roadway with a high traffic.

No intermediate pier could be placed on the highway, so a long span was required. The clearance was limited, so SYSTRA proposed an extradosed bridge, with the following spans: 51 - 65.5 - 51m. About half of the bridge is curved in plane view.

The deck is nearly the same box-girder prestressed deck as for the typical spans, in order to use the same precast segments formwork for construction optimization, and also for a better architectural continuity. The pylons and the deck are embedded with the main piers. The main span was built by cantilever.

Keywords: extradosed; metro; precasting.

1. General concept

The Moolchand bridge is located on the Delhi metro line 3 extension.

It crosses a highway and a roadway with a high traffic. Considering the traffic and the existing underpass, no pier could be placed above the median of the highway (fig. 1). The minimum required span was then 65m (fig. 2). The typical viaduct of this metro line is a prestressed concrete trapezoidal box-girder.

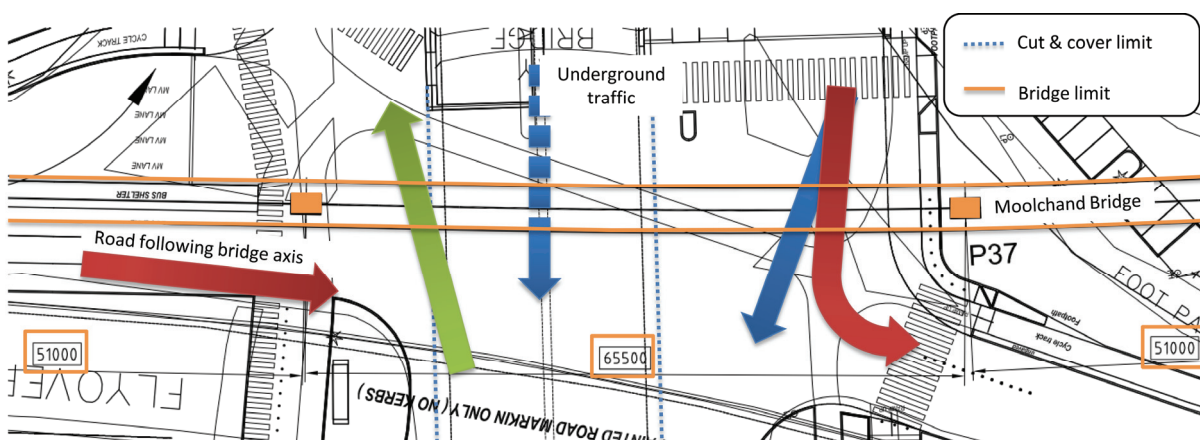


Figure 1: Plan view with the main car flows around the bridge