

# M1-A1 Connector



## Key information

Construction cost **c. \$500 million**

Length **19 miles**

Lighting **959 street lights**

**169 structures**

## Introduction

In March 1996 Balfour Beatty Capital was awarded a \$594 million, 30-year public-private partnership (PPP) project to design, build, finance and operate the M1-A1 Connector.

Balfour Beatty's share of the investment company is 50%. As of December 31, 2005, Balfour Beatty had invested all its committed investment of \$28 million.

## Project overview

- Provides a dedicated 19-mile road that provides strategic connections between the M1 highway and the M62 highway south of Leeds and between the M1 and A1 road south of Wetherby
- Construction included improvement of the M62 highway (between Tingley and Lofthouse), of the M1 highway (between Lofthouse and Belle Isle) and of the A1 (M) highway (between Mickfield and Bramham)
- Achieved financial close in February 1996 and was officially opened in March 1999, three months ahead of the original schedule
- Construction was undertaken by a joint venture in which Balfour Beatty had a 50% interest. Construction included 11 miles of new roads, widening seven miles of existing roads, two highway interchanges, five junctions and 169 structures including two tunnels, 14 overpasses, 19 underpasses and one viaduct.
- Routine maintenance is subcontracted to a joint venture in which a Balfour Beatty Group company, Balfour Beatty Infrastructure Services, has a 50% interest.



## Operational innovation

Part of the M1-A1 Connector was constructed on land previously the site of a haphazardly-backfilled surface mine. The predicted four-foot settlement of the area created problems for bridge designers and maintenance teams.

In order to deal with the challenge, the site was excavated prior to the construction of the Newsam Green bridge. The underlying layers of earth were strengthened by dynamic compaction. Furthermore, the design of the bridge took into account future settlement, incorporating innovative ideas to monitor and address this situation.

In April 2006 work began to jack up the bridge structure and reposition the bearings. Two 550-ton hydraulic jacks were located on jacking stools permanently sited at the north abutment. Pressure was increased in the jacks until the upper and lower surfaces of both bearings separated. The lower halves of the bearings were unbolted from the two adjustable base plates and moved into their new positions. Finally the deck was lowered. All of this was accomplished without interrupting the traffic flow under the bridge.



*"The environment is constantly changing so we **continue to develop our skills** to cope with these changes."*

*Andy Beauchamp, Director of Operations, Balfour Beatty Capital*