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## Strengthening with Prestressed CFRP Strips of Box Girders on the Chofu Bridge, Japan

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**Abstract:** Reinforced concrete (RC) box girders of the Chofu Bridge had been strengthened using tensioned carbon fibre reinforced polymer (CFRP) strip method. Before and after the CFRP application, on-site load tests of the bridge were conducted using a 45 t weight vehicle.

**Keywords:** tensioned CFRP strip; prestress; bending crack; deflection; natural frequency; strengthening.

### 3.1 Introduction

The Chofu Bridge of Chuo Highway is a three-span continuous reinforced concrete (RC) box girder bridge that was constructed 28 years ago and is located in the western part of Tokyo, Japan. The general view of the bridge is indicated in *Fig. 3.1*. The bridge condition had deteriorated through 28 years of heavy traffic loading and had many cracks on the underside of the main girders.