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**Hanger Replacement of
Fatih Sultan Mehmet Bridge**

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ABSTRACT

Fatih Sultan Mehmet Bridge is a suspension bridge located in Istanbul. Since its opening in 1988 it has been the main route of heavy vehicle traffic between Asian and Europe side of Turkey. During recent inspections severe corrosion has been found on its hangers. As a result of further inspections and structural evaluations it is decided to replace the whole hangers with a new system that will not cause similar damage in the future. This paper introduces the cause and extent of the current hanger damage, the new system that will replace it and the method of replacement.

Keywords: Long-span suspension bridge, Hanger Replacement, Inspection and Maintenance.

1 INTRODUCTION

Fatih Sultan Mehmet Bridge is a Suspension Bridge in Istanbul completed in 1988. It has a main span of 1090m. There is no side span on the bridge. The overall width of the bridge is 39.4m and it carries four (4) lanes of traffic in each direction (See Figure-1 for general view). The average daily traffic of bridge is 200,000 vehicle/day. It was the only route for heavy vehicle passage until 2016 when 3rd Bosphorus Bridge was opened.

Recent site investigations revealed that the hanger ropes had severe corrosion on the lower socket area. Therefore, an urgent replacement program for the whole hangers was announced by the Bridge owner KGM (General Directorate of Highways) in June 2021.