



## The Forth Bridges

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**AFTER** our visit to the Falkirk Wheel in the morning, we decided to travel to South Queensferry, about 13km to the northwest of Edinburgh, in the late afternoon to admire the Forth Bridges at their best. By late afternoon, I meant about 15:00 hrs as the winter sun set at about 16:00 hrs and darkness would engulf the area by 17:00 hrs.

The short bus ride from Edinburgh to South Queensferry cost each of us £1.50, and the bus driver dropped us at a stop close to the sea, about midway between the two bridges. It was not a particularly beautiful day for photography.

The sun was nowhere to be seen and it was cold. But when we reached the seaside, we were rewarded for our effort by a full moon hanging over the near end of the majestic Forth Rail Bridge. An early moon had replaced the tired sun as the sentry over the Firth of Forth.

The all-steel Forth Rail Bridge consists of two main spans linked to the land by two multi-span approaches made up of steel lattice girders supported by reinforced concrete piers.

Each main span consists of a pair of giant steel truss cantilevers supporting a drop-in lattice girder in the centre, and each of the three main piers is made up of two opposite-facing cantilevers that are joined together back to back.

Built between 1883 and 1890 with some 50,000 tonnes of steel, the Forth Rail Bridge expresses grace as well as might,



and ranks among the supreme engineering achievements of the Victorian period.

On the other hand, the Forth Road Bridge which crosses the Firth about 1km further inland from the sea, is an expression of pure grace and elegance. Built between 1958 and 1964, the suspension bridge crosses the bay in a single main span and two side spans.

When the bridge was opened to traffic in 1964, the ferry service that had been plying between South Queensferry and North Queensferry for 900 years finally entered the history book.

When darkness descended and the lights came on, the two magnificent Forth bridges started to glow; a glow that made me, once again, proud to be known as a civil engineer and a bridge engineer in particular. ■

