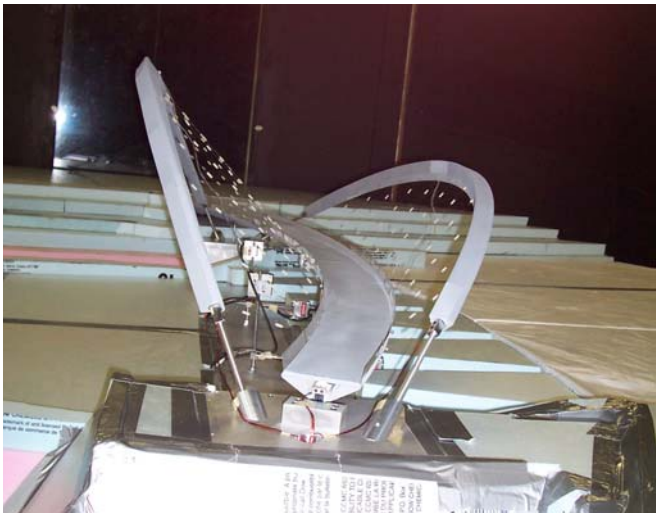
Putra Jaya Footbridge, Kuala Lumpur, Malaysia

Wind Engineering Study



Owner	Engineers	Year Tested
Government of Malaysia	PJS International Consultants Sdn Bhd.	Fall 2003
Length	**Arched Truss Height**	**Deck Width**
135 m	20 m above deck	5 – 10 m

The Project

The Putra Jaya Footbridge spans a man-made river and spillway in Putra Jaya, Malaysia. It is near the Putra Jaya Convention Center and the Seri Gemilang Bridge. It is intended for pedestrian and cyclist crossing and to provide views of the man-made lake.

The bridge deck follows a curve while varying in width from 5 to 10 m and in depth from 1.5 to 2 m along its 135 m span. It is supported by stay cables connected to double, asymmetric arched trusses, the higher of which rises about 20 m above the deck. The arches are clad in non-structural aluminium.

Due to the curved deck and the continuously varying width and depth, conventional section model testing was inappropriate.

The Wind Tunnel Studies

• A primary objective of this investigation was to identify the critical wind speeds for flutter instability and vortex shedding. The investigation also defined the dynamic response characteristics of the bridge to turbulent wind, pedestrian comfort over a full range of wind speeds and provided information for the design of the structure against wind effects.

The study consisted of:

- A straight 1 to 25 scale section model tested in the high speed side of BLWT2 to provide early estimates of the static force coefficients;
- A meteorological study;
- A 1 to 50 full aeroelastic model study performed in the low speed side of BLWT2 to determine the aeroelastic response and stability

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