The Evolving Metropolis
2019 IABSE Congress
New York City

IABSE 90 YEARS

Successful Moveable Bridges
A description of 5 Successful Moveable Danish Bridges

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1. ABSTRACT:

The present paper describes developments in the design of the most common types of movable bridges – Bascule bridges and Swing Bridges. The selection of design concepts is influenced by span, foundation conditions as well as environmental issues. Application of modern hydraulic systems and innovative bearing types for swing bridges facilitate the creation of outstanding designs. Recently built moveable bridges in Denmark exemplifies the trend and how application of modern technology and creativity can lead to outstanding solutions. There are many governing parameters such as the span, free opening height and loading conditions. Equally important issues such as surroundings, landscape, foundation conditions, requirement to low weight, achievable tolerances and from a mechanical point of view, the operation time. Risk assessment, mechanical- and electrical systems and the requirement to operation time and maintenance cost, will have influence on the selection of machinery and the architectural and structural design. For each of the moveable bridges described, it is shown how innovative application of modern bearing concepts and hydraulic systems can lead to elegant and cost-effective solutions.

Keywords: swing bridge, bascule bridge, hydraulic bridge,

https://doi.org/10.2749/newyork.2019.2274
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