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Opening the Cage

Footbridge over the Mystic River

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- Themes:**
- Footbridges as an important part of a system: the context as an experience.
 - User experience on the bridge: staying, marketing, feeling vibrations, dynamics, etc.

American cities can tend to lag behind Europe both in their continued reliance on the car as a primary means of urban transportation, and in the realisation that civic structures such as footbridges can successfully create new urban landmarks. In a political environment which tends to favour utilitarian caged bridges for pedestrians over elegant and expressive structures, this paper will describe the solutions adopted by an integrated international design team to eschew mundane standard bridging solutions to design a visually exciting structure that is entirely expressive of its unique urban context.

Weaving below an adjacent rail viaduct and above the Mystic River in northern Boston MA, this footbridge will provide a link between the communities of Everett and Somerville as part of an evolving commuter cycle network. The bridge will also provide a direct connection between the new Encore Boston Harbor Gaming Resort and local amenities including a city park and Metro station.

With a main span of 225ft, the bridge deck is supported from a slender steel arch which springs from V-piers in the river channel. Approach spans are also supported from V-piers to minimise construction operations in the ecologically sensitive riverbed and to reduce spans at deck level. The deck section is asymmetrical, conceived with an upstand beam to one edge which acts as a partial shield to an adjacent Commuter Rail viaduct. This arrangement enables a very slender deck profile underfoot to minimise ramp lengths. The whole crossing has been conceived as an open and inviting environment - an evolving pedestrian experience with ever-changing vistas. Construction is slated to commence by 2024.



Fig. 1. Elevation of Proposed Footbridge.



Fig. 2. Panoramic View of Footbridge in context of adjacent rail bridge and Downtown Boston MA.