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### Yehudit Bridge, Rokach Ashkenazi Engineers & NCA – Nir Chen Architects

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The Ayalon Highway is Israel's busiest thoroughfare servicing almost 850,000 vehicles every day. The highway runs through the Tel Aviv Metropolitan, bisecting the city and creating a void between the city's eastern and western neighborhoods. Pedestrians and cyclists may cross the highway using one of the 13 bridges currently in use. Of the current bridges, all but one are road bridges with narrow pavements.

In 2010 the Tel Aviv Municipality invited eight leading architects to their present vision for the "gateway to Tel Aviv", a bridge that hundreds of thousands would pass under and over each day and would welcome visitors the city. Other than the obvious long span over the highway, stream, and railway tracks, challenges facing the design teams would be the geometry of the bridge connecting two points at a skewed angle, as well as constructability - with limited access from the abutments, and the large, busy road below.

The winning proposal was that of NCArchitects and Rokach Ashkenazi Engineers. prizewinner would be a tied arch design with a width 13m of and a span of 105m This design incorporates a central torsion pipe with varying cantilevers and a slender system of arches increasing the vertical stiffness. Instead of crossing the obstacles with a skewed axis, the designers chose to have the primary structure perpendicular to the road, with the cantilever cross beams varying in length and changing sides along the bridges span. This creates an intriguing space where the pedestrians weave through the arch's hangers - which have an unusual configuration allowing maximal deck width passing between them.

Construction of the bridge would be no easy task - the designers planned a six stage process with minimal road closures for the primary structure.

