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## MOODY PEDESTRIAN BRIDGE

### University of Texas in Austin, TX, US

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#### Summary

This Paper will cover the design and construction of the Moody Pedestrian Bridge in Austin, Texas, US. The recently completed bridge, in 2016, is a one of a kind inversed Fink Truss Pedestrian Bridge which connects two existing buildings as part of the Moody College of Communication at the University of Texas. The bridge is characterized by a series of slender steel towers that vary in height and scale creating an elegant statement along one of the major avenues surrounding the university campus. This type of bridge is the first of its kind built in the United States and the only worldwide with a single tower support as the main loading member.

**Keywords:** aesthetics; structural concepts; planning; innovation; context; visual integration; construction method

#### Introduction

The Moody Pedestrian Bridge is an Inversed Fink Truss bridge in Austin, Texas. The bridge connects two buildings as part of the Moody College of Communication at the University of Texas. The pedestrian bridge crosses over West Dean Keeton Street, a busy thoroughfare that traverses the campus. See Figure 1. The bridge structure consists of a series of slender steel towers and rods that vary in height and scale conforming an inversed Fink Truss structure. The architecture of the bridge creates an elegant statement along one of the major avenues surrounding the campus. This type of truss bridge is the first of its kind built in the United States, and the only one worldwide with a single support tower as the main loading member. The pedestrian bridge compliments the architecture of the Bello Center, one of the recently completed buildings of the College of Communication. The bridge has integrated aesthetic lighting into its stainless steel railings and has become a gateway structure to the main campus. It was completed in 2016.

#### Bridge Design Concept

The elegant bridge with an overall length of 91.4 meters and a high tower of 19.8 meters connects buildings that were never designed to support the heavy load of a long span bridge, the designers developed a single tower inversed Fink Truss approach to avoid overloading the buildings and reduce the overall cost of the bridge with a single major foundation. The towers and rods reduced in diameter as they get closer to the entrances to the building. The size of all the steel members are a direct reflection of the load paths towards the center median when the main single tower and foundation are placed.

The Moody Bridge reminds us that outstanding bridge design can address the challenges of living infrastructure. All buildings, particularly on a college campus, change over time in purpose, function and relation to their surroundings. This bridge takes advantage of Austin's outdoor culture, green inclinations and aversion to the ordinary to secure the connection between the old and new college buildings. This project adhered to a very tight construction schedule of 10 months and was completed on time and within a maximum budget of \$2.7 million. The bridge exemplifies that outstanding bridge design can be achieved with a reasonable budget combining beauty, efficiency and state of art technology. See Figure 2.

Designing and constructing the Moody Bridge posed the challenge of suspending a bridge between two existing buildings and coordinating construction on and above a busy street. The inversed truss design with a single central tower was an elegant solution to the issue of reducing downward forces on the existing buildings, which otherwise would have required substantial modification. The single tower design also eliminated the potential of having to permanently reroute student traffic around additional support piers closer to the buildings' entrances. The single tower foundation had to be located on a narrow median of only 1.6 meters in width to avoid impact to adjacent vehicular traffic.

The aesthetic quality of the Moody Bridge derives from its simplicity and the life infused by its users. For those who see the bridge from the ground in daylight, it offers clean lines, an elegant composition of towers and rods and a gateway to the large campus. In the evening, the bridge offers a glowing silhouette. See Figure 3. And for students, faculty and staff who cross between the buildings, it offers a defining view, a smooth path over a busy street and a pause. It is a place for them to take a breath – to look up and out – before proceeding to their destinations. A synthesis of beauty, functionality and efficient use of materials.



Fig. 1 Moody Pedestrian Bridge in Austin, TX, US, photo by Alan Karchmer

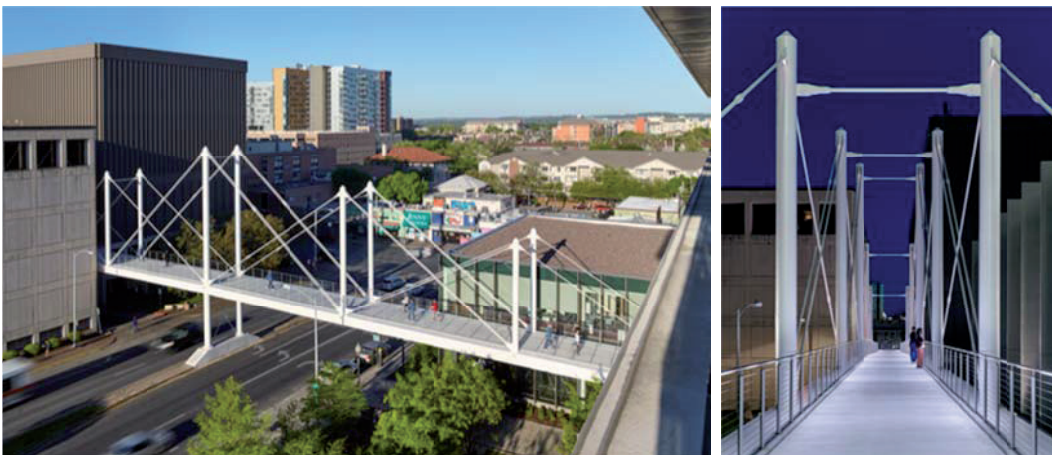


Fig.2 and Fig. 3 Bridge Aerial and Night Views, photos by Justin Wallace and Alan Karchmer