

STATIC & ROTATIONAL EQUILIBRIUM

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Fatal Collapse: A Look at How the Florida Bridge Was Built

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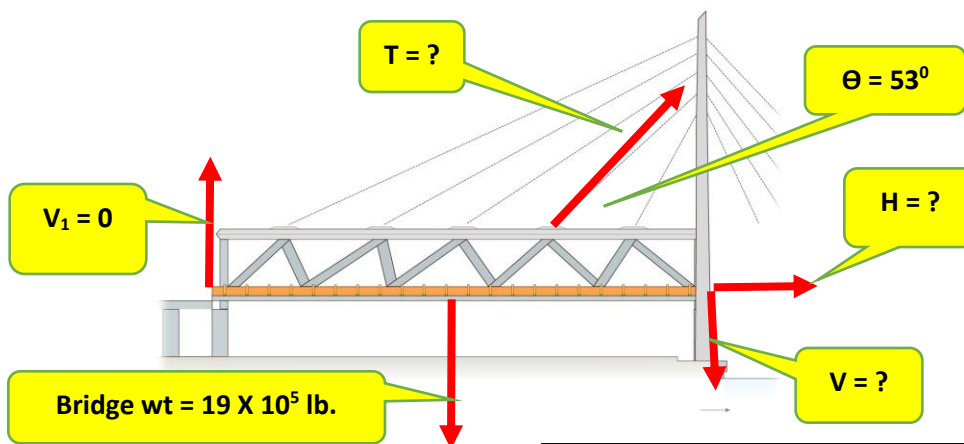
The [pedestrian bridge that collapsed](#) at Florida International University in Miami on Thursday had been put into place five days earlier and was being built using a method called accelerated bridge construction. Here's how the bridge was assembled, according to videos and images of the construction.

1. The bridge walkway was built nearby.

The main, 200-foot walkway of the bridge was assembled next to Southwest Eighth Street, a major thoroughfare that separates the university campus from the city of Sweetwater.

The bridge plans included cable stays.

The final bridge, which was [expected to open](#) in 2019, would have added a tower and cable stays as the main support for the structure.



The collapse crushed cars and killed at least six people.



DroneBase, via Associated Press

Question: (a) Find $T, V,$ & H by use of conditions for static and rotational equilibrium?, (b) Set up(show) the three equations needed to solve for solutions for $T, V,$ & H ?

HINTS: $\Sigma F_x = 0,$ $\Sigma F_y = 0,$ $\Sigma T = 0$

ANSWERS: $T = 29.7 \times 10^5 \text{ lb.},$ $V = 4.75 \times 10^5 \text{ lb.}$
 $H = 17.8 \times 10^5 \text{ lb.}$

The bridge was being put in place as a way of connecting the campus of Florida International University to the city of Sweetwater.