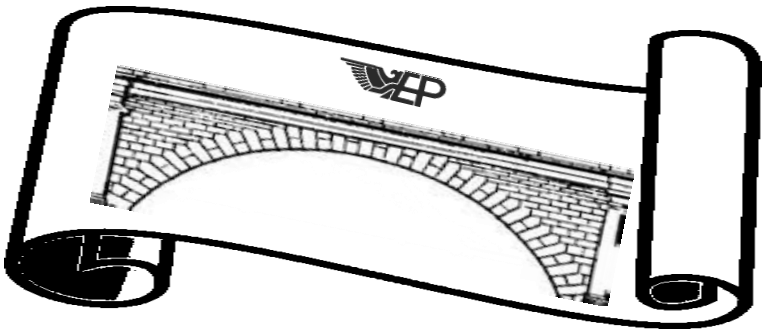
Bridge Design Project



Problem Statement:

The city of Eagle Pass, Texas is home to an international bridge that spans the Rio Grande River and allows people, and trade, to travel between the United States and Mexico. The bridge is in poor repair and the city is considering replacing it with a new design. Your group will form an engineering/architecture firm which will design and build a model bridge out of popsicle sticks and hot glue to propose to the city council of Eagle Pass.

Objectives:

For your bid to be accepted you must present the following items to the city council.

1) A blueprint that shows your firm's bridge from the side view that has accurate and clearly labeled measurements.
2) A sketch of a cross section of the bridge, focusing on the trusses of the bridge.
    - This sketch must have details about the angles involved in the construction of the truss to show that your design is mathematically sound.
3) A scale model of your bridge that matches your blueprint and sketch for stress testing and to present to the city council.
4) A report that explains your bridge and its design to convince the council that your popsicle and glue bridge could and should be turned into stone and steel.

Things that are Nice to Know:

- As the bridge is an international bridge, it allows only 1 lane of traffic to flow in each direction and has a sidewalk on either side of the road.
- Your bridge will need to be constructed in a ratio of 1:70. For example, if the real bridge is 70 feet long (its not…) then your model will need to be 1 foot long.
- Your bridge must be able to support the weight of traffic that flows across it.
- It is possible to convince the city council to simply repair the current bridge design, but you will need to show that the current bridge design is up to the task and still an efficient design.