

IPRO 315 - AISC Steel Bridge Competition
Spring 2006
Midterm Report

Advisor: Jeffrey Budiman

Members:

Alek Babel	Erum Imam	Arianna Roustan
Ivan Bajkovec	Ryan Jay	Hermenegildo Sales
Marco Galvan	Syed Kazi	Dennis Sanz
Emiliano Giana	Kyle Koning	Lucas Shorette
Naomi Heler	Vladimir Kovacevic	Timothy Winter
Matthew Helland	John Purpura	
Ross Hiner	Mira Racheva	

Revised Objectives

The global objective of the IPRO, to compete in the AISC Steel Bridge Competition, has remained the same. However, our current objectives are to buy a welding machine, get the steel from the supplier, Central Steel, by Monday (13th March 2006) and start fabricating the bridge over Spring Break so that there will be enough time left for corrections on the bridge, if needed, before the competition on April 28th 2006.

Results to Date

At the beginning there were several conceptual designs of the steel bridge. They were discussed during the IPRO meetings and only two of them were developed. They both had very similar decking supports; however, the first one had a second truss sitting on top of the decking support while the other one had an elevated superstructure. The design team divided into two groups to work on those preliminary designs.

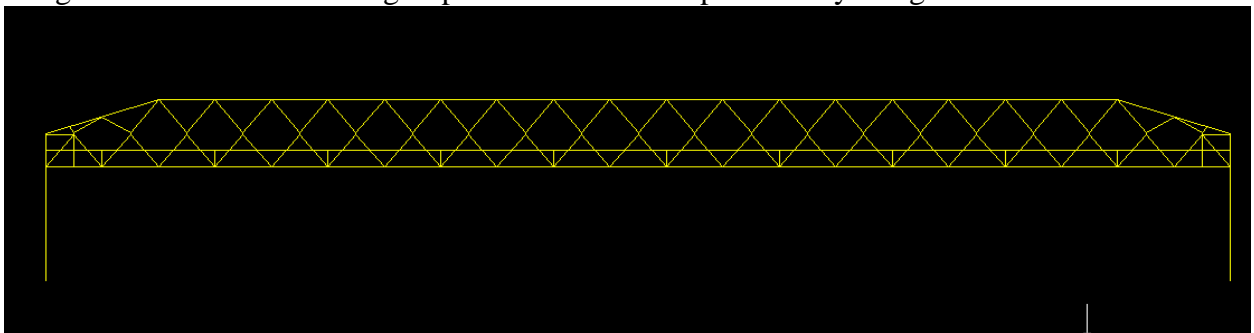


Fig 1- Side view of bridge with the truss sitting on top of the decking support.

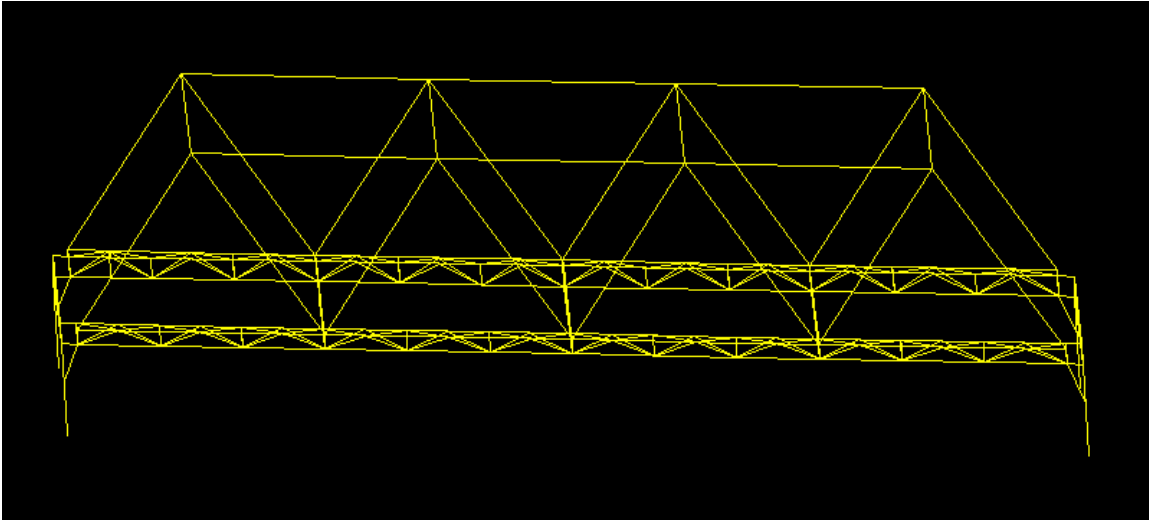


Fig 2- 3D view of bridge with elevated superstructure

After two weeks of sizing the members and calculations of the weight of the two bridges and creating schemes of putting the bridges together, it was voted on the second design as a better one. So far, that design of that bridge has been detailed and completed. Details have been drawn. Connections have been finalized. Steel was ordered on Monday (6th March 2006) from the supplier. A complete list of tools, needed for the construction of the bridge has been created. Wood for the formwork has been purchased. Money has been fund raised, which will allow the team to buy a welding machine. Hotel has been reserved in Madison.

Revised Task / Event Schedule

There have been minor changes in the timeline of the IPRO. The design of the bridge was delayed because the design team kept on improving it trying to make it better and better. However, knowing that most of the fabrication has to be done during Spring break motivated the team to finalize the design. Thus the major deadline for the complete design of the bridge was met which will allow fabrication during spring break. Here is the new timeline of the Ipro.

Timeline with Deadlines

SPRING BREAK

- Fundraising: List of contacts must be finished contacting and final letters being mailed out.
- Fabrication: Start fabrication
- T-shirts: Final design minus the sponsor logos, # needed with sizes, cost estimate
- Website: everything finished including activity reports to date

- April 7** - Last day to reserve hotel rooms
- April 17** - Fabrication: Complete!!
- Transportation & Hotel Plans complete
- T-shirts done!
- Posters done
- Website complete
- April 28** - Website URL due to IPRO
- May 1** - Project Abstract (Electronic file due)
- May 3** - Final Oral Presentation (Electronic file due)
- May 5** - Final Report Presentation/IPRO Day

Updated Assignments

Alek Babel	Bridge design
Ivan Bajkovec	Bridge design, tool search
Marco Galvan	T-shirt design, t-shirt orders, tool search
Emiliano Giana	Steel fabricator search
Naomi Heler	Team leader, fundraising
Matthew Helland	Tool rental search, steel fabricator search, transportation
Ross Hiner	Meeting minutes, website
Erum Imam	Posters, fundraising
Ryan Jay	Bridge design
Syed Kazi	Bridge fabrication, wood welding templates, posters
Kyle Koning	Wood welding templates
Vladimir Kovacevic	Bridge fabrication
John Purpura	Fundraising
Mira Racheva	Bridge fabrication, transportation organization
Valerie Roustan	IPRO liaison, fundraising
Hermen Sales	IPRO reports, steel fabricator search, bridge fabrication
Dennis Sanz	Bridge fabrication, tool search, wood welding templates
Lucas Shorette	Meeting minutes, website
Timothy Winter	Bridge design

The tasks have been changed because after the design was done, everyone needed a new task which more or less is connected to the fabrication of the bridge.

Barriers and Obstacles

There have been a few obstacles that the team has encountered so far. The biggest one was the lack of money and the time that it takes to get throughout all the offices. Project duration is also a concern because for 3 months the team should come up with an adequate design, raise money, find steel supplier, and fabricate the bridge on its own. For this competition, the Steel Bridge I-pro should be two semesters to give students ample time to get everything in order.