The Humber Bridge

A Necessary Masterpiece?

Background Information

- Completed June 24, 1981
- Located in Hull, England
- Connects Kingston Upon Hull to Barton upon Humber
- Longest suspension bridge when opened, now fourth longest

Image of Humber Bridge

More Images of Humber Bridge

Motivations

- There was a demand for an efficient route for trade across the Humber River since the late 1800’s
- Ferry services existed, but they went in and out of business often
  - Merchants and businesses needed a better connection
- The economy of Hull was declining and there was little development

Technical Information

- Clearance above high water 30m (~100 ft)
- Total length of wire 71,000km (~44,000 mi)
- Load in each cable 19,400 tons (~38mil lbs)
- Weight of Steel 27,500 tons (~55mil lbs)
- Bridge designed for a lifespan of 120 years
Motivations, continued

- Humber River more central than London for trade with rest of Europe
- "A Humber Bridge is a national interest because balanced regional development is a national interest."
  - Barbara Castle, Minister of Transport

Options for Project

- Tunnel proposed in 1872
- Multi-span truss bridge proposed in 1928
  - Project went nowhere because of Great Depression in USA
- Other possibilities:
  - Improve ferry service
  - Other type of bridge

Options for Project, continued

- Suspension bridge chosen for two reasons
  - The river bed shifts because of the boats that travel on the Humber.
  - A suspension bridge would avoid the complications of changing conditions in the river and only minimally block the pathway of boats.
  - Because of the geology and topography of the area, the construction of tunnel would be more expensive

Costs

- Estimated to cost £28m (~$45m)
- Construction cost £98m (~$160m)
- By 1981, when bridge opened, bridge debt with loan charges was already £151m (~$241m)
- Government paid more than £300m (~$480m) to pay off Humber Bridge

Opposition

- Citizens oppose tolls
  - £1.9 (~$3.00): 3rd highest toll in Britain
  - Political issues: Why should drivers have to continue to pay for a bridge that taxpayers paid for?
- Many citizens of the southeast area feel there is too much focus on Hull, not enough focus on surrounding areas
  - Many sub-regional shopping centers lose trade to Hull
  - Residents feel existing service facilities are run down and spread out while those in Hull are concentrated and in better condition

Problems with Project

- High price inflation during the construction period
  - Margaret Thatcher, Prime Minister
- Delays caused by ground conditions
- Labor relations difficulties
  - Some workers claimed "down-time" of up to 90% during the winter months
- Adverse weather conditions
- Vehicle utilization was unchanged for 23% of firms because the bridge was marginal to their operations
- Only nine firms responded to the bridge by reorganizing internally
Benefits

- Bridge connected two very distinct parts of England
- £250m (~$400m) in economic growth
  - County Council's Planning Department
- Barton upon Hull more developed than before

Benefits, continued

- Study of Market Penetration in 1986
  - Increase of average cross-estuary commercial activity:
    - from 8.1% to 13.9% of journeys across Humber
    - From 13.6% to 20.7% in business transactions across Humber

Benefits, continued

- Vehicle utilization was unchanged for 23% of firms because the bridge was marginal to their operations
- Only 9 of the 52 firms interviewed responded to the bridge by reorganizing internally

-> Benefits studied in 1986 were mixed

Ongoing Problems

- Bridge hasn't yet paid for itself.
- Humberside is now a rural area and economic growth is still needed
- Much of the initial traffic on the bridge was provided by tourists and others out of curiosity

Ongoing Problems, continued

- No more than 6% of average weekday traffic was commercial traffic
  "If the bridge is to become commercially viable, commercial traffic will have to comprise 50% of average weekday traffic"
  - Malcolm Stockwell, Bridgemaster
- Traffic from southeast is particularly sensitive

References

- A Review of Yorkshire and Humberside
- Do Road Projects Benefit Industry?: A Case Study of the Humber Bridge
- Humberside: A Feasibility Study
- http://johnlowe.net/Teaching/Projects/Project5.htm
- http://www.humberbridge.co.uk/