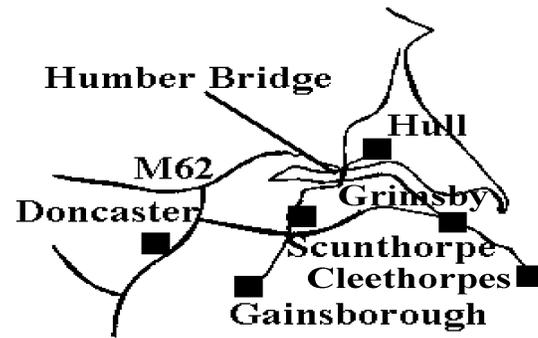


ANNEX C

CASE STUDY: HUMBER BRIDGE



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1 INTRODUCTION

1.1 The project

1:01 The Humber Bridge is a road bridge over the Humber Estuary on the east coast of Northern England. When it opened in June 1981, it was the world's longest single span suspension bridge.

1.2 Relationship to other projects

1:02 Unlike the Severn Bridge, the road carried by the Humber Bridge is not a motorway and forms part of no long-distance transport axis. The motorway network in the immediate vicinity follows the banks of the Humber, linked by a north-south route some 30Km inland.

1.3 Available studies

1:03 The available studies of the Bridge's impact are derived from a study of its effect on commercial (goods) vehicle operation and hence on industry. This was sponsored by the Economic and Social Research Council and carried out at the University of Leeds Institute for Transport Studies.

2 PURPOSE, CONTEXT, FUNDING AND TIMING

2.1 History and purpose

2.01 The north and south bank of the Humber have traditionally been highly independent of each other. The north bank, dominated by the port and industrial city of Hull, was part of Yorkshire, whilst the south bank, with significant ports and related industries at Grimsby and Immingham and a major industrial centre (based on steel-making) at Scunthorpe, was part of Lincolnshire. On both banks, and indeed upon the water, the main lines of communication were east-west from the ports to the major industrial and service centres of West and South Yorkshire. The areas immediately to the north and south are predominantly agricultural with some tourism on the coast.

2.02 A new administrative county, Humberside, covering both banks of the estuary, was created during the reorganization of local government in 1974. It is indicative of the traditional independence of the north and south that during the latest local government reorganization, in 1996-97, Humberside was abolished, and the reformed authorities within its former area adopted names pointedly declaring their allegiance either to Yorkshire or to Lincolnshire.

2.03 Proposals for a bridge across the Humber were first put forward in the middle of the nineteenth century, mainly by business interests in Hull wishing to expand into the agricultural markets of Lincolnshire and the port of Grimsby. South bank

interests were generally less enthusiastic or positively hostile (Simon, 1984, p26).

- 2.04 Legislation establishing a Humber Bridge Board with powers to raise finance, to build the bridge and to charge tolls was passed in 1959. Nothing happened until 1969, when the then Ministry of Transport agreed to lend the Board 75% of the cost of construction, which began in 1972 and was completed, after substantial delays and cost overruns, in 1981.
- 2.05 The sequence of government decision making leading to the building of the Bridge and of the motorways serving Humberside has been the subject of several other studies (see references in Simon, 1987). In essence, the major regional transport planning decisions seem to have been to develop east-west motorways on both the north and the south banks of the Humber (the M62 and M180 respectively), connected by a north-south motorway (the M18) as well as by the A1 and M1 further inland. The Humber Bridge was seen not as part of this network but as enabling large-scale development on both sides of the Humber Estuary and fulfilling the resulting local transport requirements. In the event, very little such development has taken place.

2.2 Cost and funding

- 2:04 The bridge was originally projected to cost £20M. The outturn price was £97.2M. The 75% contribution to finance made by the Ministry of Transport was to be paid back by the Humber Bridge Board over 60 years after a 13-year grace period; the balance was financed through commercial loans.
- 2:05 Tolls were from the outset set at levels intended to maximize revenue. The resulting income has covered operating costs but has never been sufficient to cover interest charges, let alone to repay the capital borrowed.

3 TRANSPORT AND ACCESSIBILITY EFFECTS

3.1 Travel time and costs

- 3.01 The Humber Bridge offers substantial savings in travel distance and time for movement between the opposite banks of the Humber Estuary, particularly between Hull and Grimsby or Immingham. From Hull to Immingham, the distance is 114Km avoiding the Bridge but only 41Km using it.
- 3.02 Such significant savings are however only achieved for local journeys within Humberside or to the coastal areas immediately to the north and south, and these destinations are of limited importance. The major destinations in the region or beyond are generally further west, on or close to the A1 (the historic Great North Road). Moreover, the motorway network and the A1 generally offer higher speeds than the rural roads to the north and south of the Humber Bridge, and they are (to date) toll-free. The Bridge is therefore an attractive route only for the

relatively small amount of traffic between the two banks of the estuary or closely adjoining areas.

- 3.03 This is reflected in the low volume of traffic which uses the Bridge. After an initial period in which many people crossed the Bridge for its novelty value, daily traffic flows fell to about 4000 vehicles per day, then rose gradually to 8000-10000 vehicles per day by 1984. This compares with forecasts of 24000 vehicles per day when the bridge was being planned (which would still be barely enough to cover interest payments on the outturn cost). We have not attempted to go back to the original analyses upon which those forecasts were based, but it would appear from the summary (in Simon WP 181 p 17) that the bridge was intended to be in place in advance of large-scale economic and demographic expansion of Humberside which was expected to take place after 1981 and to involve large-scale in-migration from other areas of the UK. This was not taking place at the time of Simon's 1984 study, and indeed it has not taken place since.

3.2 Accessibility

- 3.04 The time and distance savings quoted above imply that the bridge potentially offers very substantial time savings but only for local journeys across the estuary. There are therefore marked possible improvements in accessibility for residents and for activities operating on a local scale, but little gain for firms operating on a regional or larger basis. Moreover, the revenue-maximising basis of the tolls ensures that cost and time savings are, as far as possible, captured by the Bridge Board rather than remaining with the user. The accessibility benefits are therefore very modest.

4 ECONOMIC AND EMPLOYMENT IMPACTS

4.1 Changes in commercial vehicle operation

- 4.01 The various papers by Simon provide a detailed picture of changes in commercial vehicle operation among firms which were regular users of the Bridge in 1982 and 1983. As such, they cover similar issues to the work by Cleary and Thomas on the distribution industry impacts of the Severn Bridge.
- 4.02 The surveys confirmed that the catchment area of the Humber Bridge was limited, with firms from the north bank using it only to reach South Humberside, Lincolnshire and (in a few cases) East Anglia, and firms from the south bank using it only to reach North Humberside and the coast of Yorkshire as far north as Scarborough. This use was associated with
- increased market penetration, ie increased sales to the opposite bank
 - changes to market areas (although in some cases these were constrained by institutional factors, such as fixed depot service areas which (up to 1984) had not been adjusted to the with-Bridge situation)

- internal rationalization, eg closure of depots, or production being consolidated in one location in a way which would not previously have been possible.
- 4.03 The net impact on employment amongst commercial vehicle operators appeared modest. The firms considered in Simon's survey had reduced their fleets from 1303 in 1981 to 1275 in 1984. They had created 146 new jobs and lost 58, making a net gain of 88. Some of these changes were directly attributable to the Bridge; some were attributed to reorganisation of other firms (ie the vehicle operators' customers) as a result of the Bridge; others were attributed to other factors such as the decline of the fishing industry.

4.2 Overall impacts

- 4.04 There are no quantified results available. The discussion of travel and accessibility suggests that the east-west motorway connections are likely to have been more beneficial to Humberside than the bridge. The Bridge may have had some local effects (ie on the distribution of activity between the north and south banks) and may have contributed to some economies of scale in local activities. In this last case, the effect may have been to maintain output while allowing employment to be reduced.

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