

The Costs and Benefits of Maritime Traffic Management

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Thomas Degré's paper¹ rightly claims that maritime risks have increased, so that there is a greater need for traffic management in shipping. There is also a higher public perception of this need because of increased objections to the pollution likely to be associated with marine casualties. Since most of this traffic management involves public expenditure it also becomes increasingly important to justify such measures as vessel traffic management systems (VTMS) by showing that their aggregate benefits are greater than the costs. It is preferable that such justifications should be formal and quantified.

Cost-benefit analysis has not been widely used in maritime contexts but Giziakis² and, more recently, King³ have surveyed the general area, made some assessments and have provided helpful bibliographies. The Rochdale Report⁴ advocated this in 1970 and so, more recently, did the Donaldson Report.⁵ An early theoretical contribution comes from Vanags⁶ and a specific reference on VTMS from Goss and Halliday⁷ through work for the EU and the Department of Transport, London.

Some of these (Giziakis and King are good examples) show, on the one hand, that it is possible to make substantial progress and, on the other, that a great deal of research remains and on a wide variety of topics. For example, there are little reliable data on deaths and injuries to seafarers (for some estimates far greater than the figures usually employed, see reference 8), on losses of cargo, on the values (as distinct from the tonnages) of ships lost or damaged and on environmental effects. A considerable research effort is therefore needed and, given the recommendations of successive committees going back some 25 years, one may wonder why so little has been done by comparison with, for example, the considerable volume of work done in respect of road safety.

For example, the case-study upon which reference 7 concentrated was the Dover Straits. In this it was found that the ratio of social benefits to social costs lay somewhere between 9 and 27; and the authors believed that, whilst most of the costs had been included, some of the benefits had not. The wide range indicated the considerable uncertainties within their data and the assumptions that they had to make: but both figures were, therefore, probably too low. This study was primarily an exercise in methodology and it does not, of course, follow that any such results would be obtained for other sites. It is, however, a pity that it has not been followed up.

Given the results of such research, it would be possible to take decisions that were much more scientifically based and, therefore, justifiable in terms of the continuing allocation of public funds. For, as with air traffic control, the costs do not consist merely of investments in radars and towers of the kind illustrated in Degré's paper: they consist largely of the costs of employing substantial numbers of expert watchkeepers to operate the system.

Degré is, therefore, right in all that he says: but there is much more that could be done in considering the case for the kinds of measures he advocates. It involves, essentially, an interdisciplinary approach with experts on navigation, statistics, the environment and economics getting together and making their own contributions in an appropriately scientific manner.

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KEY WORDS

1. Vessel traffic services. 2. Cost-benefit analysis. 3. Economics. 4. Safety.