



Transportation Science

Publication details, including instructions for authors and subscription information:
<http://pubsonline.informs.org>

Foreword to the Focused Issue on Maritime Transportation

To cite this article:

(1999) Foreword to the Focused Issue on Maritime Transportation. *Transportation Science* 33(1):1-2. <https://doi.org/10.1287/trsc.33.1.1>

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Foreword to the Focused Issue on Maritime Transportation

Because approximately 90% of the volume and 70% of the value of all goods transported worldwide is carried by sea, the importance of maritime transportation cannot be overemphasized. Ships and ports play a critical role in the development, cohesion, and economy of many countries. They are important factors in the international competitiveness of many others. The mobility of the citizens of several other countries depends on the availability of ferry services. Global logistics chains universally include at least one maritime leg. Most nodes and links of the world intermodal network involve maritime components, be that a tanker, a containership, a passenger ship, a container terminal, or a general cargo port. Last but not least, maritime transportation is generally a safe, cost-effective, and environment-friendly mode.

The world of maritime transportation is full of challenging issues and problems. These may range from the optimal routing of bulk vessels to the seamless design of an intermodal interface; from the making of decisions in the charter market to the profit rate setting in the liner market; from the problem of ship track planning under uncertain weather to the analysis of risks of maritime accidents; from the problem of port pricing to the cost-benefit analysis of automatic identification systems in container transport; from the analysis of queueing policies at ports to the design of coastal ferry networks; from the analysis of demand for passenger services to the repositioning of empty containers; and so on.

In spite of this rich variety, I must say that when Gilbert Laporte assigned me the responsibility of this focused issue, I felt that the outcome of such a task was far from certain. I knew that for all its importance in overall world trade and global logistics, maritime transportation has been under-represented within the transportation science and OR/MS literature. One of the reasons is that it has lagged behind other modes in terms of R&D. This is more prevalent in North America than in Europe, but I feel it is universally true. There is also often a mismatch between supply of research by academic and

research institutions and demand for it by the shipping and other maritime communities. Moreover, traditional papers in this area are closer to disciplines such as engineering and economics and, as such, often find other publication outlets.

Still, eleven papers were submitted for this focused issue and underwent the refereeing process. Four met the publication criteria of *Transportation Science* and were finally accepted. Three other papers were also submitted but were returned to the authors for various reasons without undergoing review. As the reader will have an opportunity to see, the four papers that were accepted cover a diverse spectrum of methodology and applications in the maritime transportation area. The first paper, "Decomposition of a Combined Inventory and Time Constrained Ship Routing Problem," by Christiansen, looks at the problem of a fleet of ships carrying ammonia between various production and consumption points. The problem is solved by Dantzig-Wolfe decomposition. The second paper, "An Optimal Routing Algorithm for a Transfer Crane in Port Container Terminals," by Kim and Kim, examines one of the problems faced by marine container terminal managers in optimizing the performance of container handling equipment. An integer programming formulation is presented. In the third paper, "A Maritime Global Route Planning Model for Hazardous Materials Transportation," by Iakovou, Douligeris, Li, Ip, and Yudhbir, the planning of ship routes carrying hazardous materials over a multiple origin-destination multicommodity network is considered. The application refers to the shipping of oil products in the Gulf of Mexico. Finally, the fourth paper, "Ship Routing Through Altimetry-Derived Ocean Currents," by McCord, Lee, and Lo, investigates the potential of fuel savings via strategic ship routing in a dynamic Gulf Stream region by taking advantage of current patterns.

Now that this task is over, I do hope that this focused issue will help increase the visibility of the maritime mode within the transportation science literature and will encourage the publication of

more papers in this area in the future. I am most indebted to all the people I asked to referee the papers submitted for this focused issue. Last but not least, my thanks go to Gilbert Laporte for asking me to be the Guest Editor of this issue and for his assistance during the entire process.

Focused Issue Editor

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First IATBR Eric Pas Dissertation Prize in Travel Behavior Research

The International Association for Travel Behavior Research has instituted a new dissertation prize, named in memory of the late Eric Pas, to recognize the best doctoral dissertation accepted in a given year in the area of travel behavior research.

Eric Pas (1948–1997) had made travel behavior research his main field of research interest since his doctoral work at Northwestern University. He remained very active in the field through his ongoing research at Duke University, but also through his involvement with the Association, of which he was a board member for many years.

The competition is being held for the first time for the year 1998. Supervisors are invited to submit theses accepted between January 1 and December 31, 1998 for consideration of the panel chaired by Prof. Hani Mahmassani (University of Texas). They should provide the Secretary of the Association, at the address below, with the following by February 15, 1999:

- six copies of the dissertation,
- six copies of an extended abstract (3 to 5 pages), not bound with the rest of the thesis (in English), and
- a nomination letter supporting the submission and stating their own assessment of why the thesis is worthy of the award (in English)

The prize will be awarded at the next European Transport Conference (September 1999 in the UK). The winner will also be invited to present the prize-winning work at the next IATBR Conference in Australia in the year 2000 with the Association covering the conference fees.

In case of further questions, please contact Prof. Mahmassani (masmah@mail.utexas.edu) or the secretary (k.w.axhausen@uibk.ac.at).

Please send the submissions to Prof. KW Axhausen, Secretary of IATBR, % IVT, ETH Hoenggerberg, CH-8093 Zurich, Switzerland.