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## Editorial

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### Sveinn Vidar Gudmundsson

Toulouse Business School,  
Boulevard Lascrosses – BP 7010,  
31068 Toulouse Cedex 7, France  
E-mail: s.gudmundsson@esc-toulouse.fr

**Biographical notes:** Sveinn Vidar Gudmundsson is Professor of strategy at Toulouse Business School, France. He received his MBA and MSc from Florida Institute of Technology and PhD from Cranfield University, UK. His research focuses on public transport logistics, alliances, interfirm networks, business performance and marketplaces.

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In this WRITR Special Issue we focus on passenger air transportation and intermodalism. Intermodalism is a rising field in transportation practice and encompassing many combination possibilities for air transportation such as: air-rail, air-metro, air-ferry, air-bus and air-taxi (i.e., Dutch Trein-Taxi). Not only is intermodalism an issue of facilities integration, but also of distributions systems, baggage handling, security systems, immigration and customs, information systems, etc. The key driving force for improved intermodal (public) links to airports in the future are likely to rest on environmental concerns stemming from congestion within and around airport infrastructure and feeding into congested and constrained hub airports. So far as passengers gain in time and lower fares by using intermodal public transportation over other modes, such as the private car, there will be intermodal demand as many airports around the world have recognised.

Jones et al. (2004, p.8) suggested the following definition for intermodalism: “... *the movement of people involving more than one mode of transportation during a single, seamless journey*”. The word ‘seamless’ distinguishes between uncoordinated modal switch and coordinated transition of passengers between modes. Thus the key objective of passenger intermodalism can be visualised as the ‘coordination’ of transportation modes to minimise time, costs and physical effort during modal switching. The ultimate aim of an intermodal system would consequently be a system not requiring any movement on behalf of the passenger on modal interchanges, as we observe with containerisation of freight. Given the technical difficulties and lack of standards to achieve a fully seamless intermodal system for passengers the field will concentrate on, for decades to come, infrastructure and organisational integration of transportation modes. Hence the long-term concern for intermodalism must be considered the creation of standards. In 1997 the International Air Rail Organisation (IARO) was formed marking the first world-wide effort in creating common understanding in air-rail integration at airports. The IARO has listed over 70 airports having air-rail links and further 230 being developed. Some rail-links to airports have already achieved up to 51% market-share (i.e., Hong Kong’s Chek Lap Kok). IATA (2003) has published a major

study on air-rail intermodality unravelling many practical issues that can be addressed by the various stakeholders to facilitate air-rail use. What is however clear from this study and other studies is that intermodal transportation poses a competition problem. In other words, coordination is necessary between stakeholders that have normally a competition relationship, at least on short-haul routes. Thus, as Grimme mentions in his paper in this Special Issue, there are not only 'hard' issues to deal with but also 'soft' issues to consider in order for intermodalism to work.

In this Special Issue on air transportation intermodalism we have selected five excellent papers that have gone through a reviewing process. Some of these papers have been presented in the Air Transportation Research Society (ATRS) Conference that is held annually and most recently at Berkeley California. Three of the papers focus on air-rail, one on air-maritime and one paper deals with intermodal networks including air from a broader perspective.

In the first paper Givoni argues that air-rail integration is beneficial to airlines and should be supported at airports. The author points out that building runways is not necessarily the only way to address capacity bottlenecks, but airports need to also consider additional rail links that functions just like any other spoke at airports. The paper highlights the large role of High Speed Train (HST) in the comeback of the railways and the importance of such links at major European airports. The author argues that it is necessary to integrate properly air and rail terminals to make switching comfortable for passengers. Finally, the paper discusses barriers to change and the difficulties in getting various agents to integrate modal infrastructures.

Roman, Martin and Espino use a discrete choice model to analyse air-sea modal competition in the Canary Islands. They examine the key inter-island route between Gran Canaria and Tenerife. They use revealed preference data to isolate factors that influence travel decisions as well as willingness to pay for service improvements. The authors showed, and importantly so, that travel time had more disutility when travelling for work related reasons and that willingness-to-pay was associated with access and waiting time reduction in airports rather than vehicle time, which is highly influenced by security screening requirements in airports. Consequently, the airport operator should consider splitting facilities between inter-Island and other air traffic to gain time for customers. The authors also point out that ferry service passenger are more willing to pay for reduced vehicle travel time, meaning that the faster the ferries the greater the potential demand.

In two related papers, Grimme on one hand and Eichinger on the other hand, discuss the air-rail integration in Germany. Grimme points out that both firm level alliance and infrastructure integration have been a success in Germany. Yet such services are far from having been an effective substitute for short-haul air services as set out by European Commission in the Transportation White Paper. Eichinger, in his paper, looks more towards 'seamlessness' issues, in other words, the passenger experience of using air-rail intermodal services. Using this perspective he unravels several unattractive links in terms of travel time and other issues such as baggage delivery, frequent-flyer miles, competition, code-sharing (air-rail), impact of low-cost airlines, and joint pricing. Grimme underlines the importance of political support for air-rail intermodal systems given the complexity and expenses involved. He also emphasises in line with Givoni in this Special Issue, that the HST plays a key role in the success of an air-rail intermodal system. Grimme and Eichinger provide jointly excellent insights into the German air-rail system, which must be considered well developed and an example in many regards.

Yet, both authors conclude that there is a significant scope for improvement of air-rail intermodalism.

In the final paper presented in this Special Issue, Merrina, Sparavigna and Wolf, present a survey of intermodalism from a network perspective using complex systems science. The authors explain the strengths and limitations of different approaches to the intermodal problem and lay some building blocks on which network analysis of intermodal systems can depart from. They use extensive examples to underline how network principles can be applied to intermodal systems: shortest-path models, small worlds, social networks, random networks and inhomogeneous networks. The authors conclude by stressing the importance of cross-fertilisation between scientific fields and end-users in order to bring about effective intermodal systems.

We hope that the readers will enjoy the excellent papers presented in this Special Issue and, what is uppermost in our minds, use the papers to generate more research in this fascinating yet recently evolving field of so much importance for the future of our transportation systems.

## References

- IATA (2003) *Air/Rail Intermodality Study*, Final Report, Hounslow, UK, February.
- Jones, W.B., Cassady, C.R. and Bowden, R.O. (2004) *Developing a Standard Definition of Intermodal Transportation*, Working Paper, Mississippi State University, [Available: [http://www.ise.msstate.edu/ncit/tech\\_trans](http://www.ise.msstate.edu/ncit/tech_trans)].