MISSION, ACTIVITIES AND EXPECTATIONS
OF THE EURO WORKING GROUP ON TRANSPORTATION

Maurizio BIELLI∗

Abstract. In this presentation the EURO Association is outlined with its goals and instruments. Then, the Operations Research and Transportation Systems methodologies are recalled with the indication of some trends in the development of innovative methods able to deal with more complex problems and new topics. Moreover, the profile of the EURO Working Group on Transportation is presented with possible improvements in the organisation and activities.

1. International Organisations

Well known are the scientific organisations established at worldwide level with the aim to promote specific disciplines and application fields, such as IFAC, the International Federation for Automatic Control, IFIP for Information Processing, IFORS for Operations Research, and in particular those operating in the field of Transportation, such as WCTRS, the World Conference on Transport Research Society, and TRISTAN, the Triennial Symposium on Transportation Analysis.

EURO is the Association of European Operational Research Societies within IFORS, it was founded 30 years ago and its aim is to promote OR throughout Europe with the following instruments: conferences and summer school organisation, supporting of EURO Working Groups, editing the European Journal of Operational Research, publishing an EURO Bulletin, supporting educational programs, information diffusion of news and events, implementation of a database on OR people and scientific institutions on the web site: www.euro-online.org.

In particular, EURO provides an organisational framework in the form of working groups, with the aim of realising a forum for promoting OR on specific topics, both methodologies and applications.

∗ Institute of Systems Analysis and Informatics “Antonio Ruberti” – National Research Council – Viale Manzoni 30, 00185 Rome, Italy. E-mail: bielli@iasi.cnr.it
2. Operations Research applications in Transportation

Several OR methods have been initially developed to deal with basic traffic and transportation problems, as shortest paths on graphs, network design, traffic flows assignment on networks. Then, simulation and optimisation models (deterministic and stochastic) as well as heuristics have been widely improved and became effective tools for strategic decision-making, management and control of traffic, transportation and logistic systems.

Therefore, OR methodologies are currently applied in many typical transportation problems such as facility location, combined modelling of land-use and transportation planning, multi-criteria evaluation of alternative projects, algorithm design for vehicles routing and crew scheduling and so on.

Moreover, the large-scale introduction of information and communication technologies and the development of internet with new business opportunity are creating a new scenario particularly interesting for transport researchers.

Therefore, new topics must be tackled such as modelling driver behaviour, dynamic traffic assignment, incident detection and management, road pricing policy evaluation, intelligent transport systems, e-logistics.

Additionally, new methods coming from computer science are proposed and they are successfully applied in traffic engineering and transport management, such as Artificial Intelligence techniques, neural networks, fuzzy logic, multi-agents methods etc.

3. EURO Working Group on Transportation

The EURO Working Group on Transportation was founded in July, 1991 in Cetraro (Italy) during the 7th Euro Summer Institute on Urban Traffic Management. The name was changed during the Meeting in Glasgow in July, 1994 to TRANSPORTATION, in order to enlarge the topics to be addressed and to involve more people in the participation.

Main targets concern providing a forum to share information and experiences of research activities, encouraging joint research and the development both of theoretical methods and applications, promoting the cooperation among different institutions and organisations, leaders at national level in the field of traffic and transportation systems.

Primary field of interest concerns OR methods, mathematical models and computation algorithms to solve and support the solution of problems faced by public administrations, city authorities, public transport companies, service providers and so on.

Related areas of interest are: land-use and transportation planning, traffic control and simulation models, traffic network equilibrium models, public transport planning and management, applications of combinatorial optimisation, vehicle routing and scheduling, intelligent transportation systems, logistics and freight transportation, environment problems and impact evaluation methods.

In particular, in order to diffuse information to the members (currently about 450), the EWGT web site (www.iasi.cnr.it/ewgt/home.html) collects pages with the indication of the most relevant EU projects, the next and past events, the main web links to university departments on transportation, researcher centres and portals dealing with transport, logistics and ITS.
Moreover, it contains the members list and the main publications, both books edited by EWGT members, special issues of the European Journal of Operational Research and proceedings of the annual meetings.

As regards the future activities, the first target is to continue in the organization of Meetings (next 11th EWGT Meeting will be held in Bari, Italy) especially in cooperation with the most relevant events on transportation (e.g. Tristan, Odysseus, Mini-Euro), the organisation of invited sessions for the Euro Conference (e.g. next year 21st Euro Conference to be held in Iceland).

With reference to the structure and the membership of the EWGT it is necessary to attract more people and to improve the coordination of the Working Group, e.g. by establishing a team of three coordinators, able to cover with their expertise different relevant topics and to promote new policies, ideas and specific activities.

In fact, the EWGT must be present in the current process of innovations introduced in the transportation systems (ITS, e-logistics, supply chain management, etc.)

Thus, the road map for next activities must consider:

- improving the editing of scientific publications, especially feature issues of EJOR,
- enlarging the cooperation with other scientific groups and institutions in Europe and in the world (e.g. new countries in EU, USA, Canada, South America, China, Japan, Mediterranean countries, Australia);
- monitoring the opportunity of joint research projects funded by the European Commission;
- establishing strong cooperation with organisers of international conferences on transportation (e.g. IFAC, TRISTAN, WCTRS, IEEE, ODYSSEUS);
- organising summer schools for young researchers.

Therefore, there is a need to arrange a planning of the work for the next years with the involvement of several generous people with the direct responsibility on some of the aforementioned activities.