



Conference Report and Viewpoint

Teaching transport geography: American Association of Geographers, Los Angeles, California, March 18–23, 2002

1. The conference

The issue of teaching transport geography at the undergraduate level has rarely been the focus of much discussion, although geographical education itself has received a lot of attention.¹ Over the last 40 years, transport geography has been part of the curriculum of many geography programs, providing a significant contribution, both conceptually and methodologically. Indeed, many spatial theories are relying on the concepts of distance, mobility and accessibility, perspectives on which transport geography offers a solid background. More recently, transportation networks and spatial organization issues have been notable contributions by the discipline to understand contemporary economic and social processes.

With these issues in mind a panel on teaching transport geography was jointly organized by Frederick Stutz (San Diego State University) and Jean-Paul Rodrigue (Hofstra University) for the 2002 conference of the American Association of Geographers (AAG) in Los Angeles. The panel was sponsored by the AAG Transport Geography Specialty Group and held in honor of Edward Taaffe, a leading transport geographer who passed away in 2001. In addition to the presentations of the co-organizers, five panelists discussed various issues: Morton O'Kelly (Ohio State University), Richard Knowles (University of Salford), Claude Comtois (Universite de Montreal), James Wang (University of Hong Kong) and Bruce Ralston (University of Tennessee).

O'Kelly recalled the pioneers of the modern transport geography curriculum that began in the 1960s with Ned Taaffe and Howard Gauthier among the most significant contributors in the United States. This curriculum development, virtually from scratch, led to one seminal textbook, *Geography of Transportation* (1973), which brought rigor in the description and optimization of transport systems. Many of today's American transport geographers were trained through this program. The

second edition of the book (Taaffe et al., 1996), to which O'Kelly contributed as the third author, is one of the most widely used textbook in transport geography. O'Kelly emphasized the importance of analytical and methodological perspectives requirements for curriculums in transport geography, both at the undergraduate and graduate levels.

Knowles underlined that the European perspective tends to be more policy oriented (as exemplified by Tolley and Turton, 1995), which reflects in the transport geography curriculum offered in many European universities. European governments tend to have a more direct involvement over their transport systems through public and semi-public agencies. Transport geographers can thus be involved in the decision-making process in the public and private sectors through policy evaluation and formulation. The European emphasis is fairly different from the more privately owned system in North America where deregulation has been a dominant paradigm since the last 20 years. Knowles also stated that economic integration and sustainability issues are receiving growing attention in the transport geography curriculum. He co-edits a widely used textbook (Hoyle and Knowles, 1998).

Comtois stressed that transportation geography is not a science, but a field of application. The importance of supply chain management and logistics is a reality of contemporary world economics. This leads to provision of education in technical expertise related to information technology, inventory management and transport management. The objective is to provide knowledge and skills across business areas and industrial sectors within a supply chain context. This situation is conducive to programs in transport management shifting towards logistics management. Comtois also stated that there is no single model for effective teaching in transport geography. But if transport geographers are to exercise a greater role in transport planning and management, then there must be a clear orientation towards using both a cartographic and transport culture to develop efficient and quality networks at all scales with a view to reduce the degree of fragmentation. More importantly, transport geographers must be able to anticipate rather than follow policy needs.

¹ For instance, the National Council for Geographic Education publishes the *Journal of Geography*, a journal devoted to geographical education.

Wang underlined that the geographical setting changes the modal focus of teaching transport geography. Under such circumstances, the curriculum offered must reflect the realities of the regional transport system. Wang pointed out that in the case of Hong Kong, rail transportation has little importance and that students are mainly interested by public transit and international transportation issues. The department's curriculum is consequently influenced by the economic function of Hong Kong as a regional transportation hub at the heart of one of the most important industrial regions of the world. Most of graduating students find employment in local planning and transit agencies or in the private sector focused upon trade and distribution. This obviously presents unique opportunities in the analysis of the role of transportation in development, which must be serviced by the curriculum.

Ralston viewed transportation geography as a specialized part of spatial analysis and focused on the importance of integrating analytical tools in the curriculum. He underlined the growing importance of GIS in the transport geography curriculum, endeavor to which his department's program is highly committed. Many of the tools and methods traditionally used in transport geography, such as spatial interaction, accessibility and network modeling, are now part of many GIS packages and readily available to investigate real world problems. As such, Ralston showed a few GIS-T (transportation GIS) tools that have been developed and used in the classroom. He expects that as transportation analysis tools get successfully integrated with GIS, GIS-T will become a fundamental part of transport geography curriculums.

Stutz demonstrated the usage of personal travel questionnaires to identify the mobility profile of students. Students are responsible of monitoring their commuting habits, including the number of trips, the duration, the mode, the purpose and the time of the day. This information, once compiled, offers empirical evidence to investigate core concepts in urban transportation geography, such as personal mobility and accessibility. Students can thus derive an understanding based upon information they have contributed to produce and become aware of the geographical settings in which it was created. This is a reminder that field work and empirical evidence must remain part of the educational process in transport geography.

Rodrigue stressed that many transport geographers became interested in the discipline after being introduced to its concepts and methods at the undergraduate level. This form of "recruitment" is very important as it insures the creation of the following generation of transport geographers. Undergraduate classes must consequently been challenging and should offer incentives for students to continue to advanced classes and programs. Rodrigue also introduced an initiative to provide online support for transport geography courses,

which is becoming increasingly used. "Transport Geography on the Web" offers a series of concepts, methods and applications supported by PowerPoint slides, Excel worksheets and GIS datasets. It is hoped that by providing online information, faculty and students will have access to a transport geography curriculum that is being continuously updated and expanded. He also underlined the collaborative needs to develop an online transport geography curriculum.

2. Viewpoint

The last 50 years have seen the creation of a solid curriculum in transport geography, as a sub-discipline to human and economic geography. This achievement is much to the credit of the previous generation of transport geographers, among which scholars such as Edward Taaffe paved the way. Expanding the transport geography curriculum into the 21st century will require a continuation of this tradition with new conceptual and methodological initiatives since new problems will arise and new perspectives will be developed. To tackle with these issues, a new generation of transportation geographers will obviously have to be trained. Today's research is in good part the outcrop of yesterday's education, so what we offer today in our curriculums, is an indication of what our discipline will achieve in the future. The core issue in transport geography education, like any discipline, is related to relevancy and coherence. How relevant are the concepts and methods we are teaching and how coherent we are in explaining them? Substantiating this question requires a critical overview of our concepts, theories and methodologies and how they fulfill the requirements of our curriculums and also the needs of our society.

The quantitative revolution that spurred in the 1970s has led to a variety of methodological and technical dimensions in geographical education. Many of these have led to the mathematical abstraction and quantification of transport geography, but may have substituted for relevance. Students being introduced to a discipline are particularly sensitive to new concepts, ideas and fields of application that will challenge and even change their vision of the world. This does not exclude a strong emphasis, with demonstrations and case studies, that concepts and methodologies are mutually imbedded in any scientific investigation. Then, it is for the student to make the strategic decision, so important to our discipline, to pursue this investigation in upper level classes and at the graduate level. This decision may rarely take place if we do not do justice to our discipline by providing relevancy and coherence to those who are just starting to grasp its intricacies.

While relevance is the responsibility of the whole scientific community, coherence is assumed by individ-

ual transport geographers. The development of concepts, theories and methods is a collective undertaking which is seeking a consensus about what is relevant, but also what has lost of its relevance. From this large pool of knowledge, the transport geographer brings coherence in a curriculum by making choices concerning what should be introduced in accordance to the requirements of a curriculum. This mainly involves three challenges:

- *Theoretical and conceptual.* The core challenge of transport geography education is that it must underline how relevant are its theoretical and conceptual foundations in explaining contemporary events and processes. Prospects over this issue are very positive as empirical evidence underlines the growing mobility of people, freight and information at all geographical scales. This is a good indication of the relevancy of transport geography and it is thus important to insure that it clearly gets conveyed to undergraduate audiences.
- *Methodological.* Another important aspect of transport geography education obviously relies on how information is analyzed, which includes a wide array of methods ranging from qualitative policy analysis to quantitative operation research. Methodologies previously tended to be taught more from a technical perspective and often in a very abstract manner. As methodologies are merging with information technologies we have opportunities to go beyond abstraction. The main issue involves applying a procedure to analyze the parameters of a problem and to offer paths towards a solution.
- *Technical and technological.* This involves using technology to replicate techniques and their procedures, but also using technology for educational purposes. It is quite clear that GIS-T remains a promising educational tool in transport geography, especially when

it is used to demonstrate methodologies within simulations (Miller and Shaw, 2001; Thill, 2000). Surprisingly and despite the emphasis educational technologies have recently received, their level of integration to transport geography education, even in its simplest form, remains fairly low.

Another challenge resides within the institutional structure, as transport geography remains what departments and programs commit to the discipline in terms of human and physical resources. This challenge is however linked to educational issues as a successful curriculum, however modest, promotes its own continuation and growth. The question remains how transport geographers, through their contribution to geographical education, will make sure the discipline receives a role proportional to its relevancy.

References

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J.-P. Rodrigue
Department of Economics and Geography
Hofstra University
Hempstead
NY 11550-1090, USA
E-mail address: ecojpr@hofstra.edu