THE SCOPE OF TRANS-ATLANTIC TRANSPORT RESEARCH

– Introduction to the STELLA Network –

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1. INTRODUCTION

Transport, communication and mobility are key features of a modern society. Their role and appearance are a source of much academic debate and policy concern, and they are surrounded by much uncertainty and divergent viewpoints. Transport, in particular, is also one of the most dynamic sectors in a modern economy, and high-quality transport is often seen as reflecting the transition from a fragmented and protected social and pre-industrial system to one with the attributes of a modern society. At the same time, the access to and benefits of transport networks are unequally distributed between different socioeconomic groups and among different regions, so that serious equity problems may emerge. Further, the enhanced mobility resulting from free markets, higher incomes and demographic changes, produces wide-ranging environmental externalities that are usually negative and increase the number of fatalities and injuries and congestion levels. In response to this situation many nations have begun to consider whether transport can be sustainable, or at least more sustainable than it currently is.

Over the past decade in various countries (inter alia the U.K., Canada, the Netherlands, and Israel) strategies have been developed to deal with the sustainability aspects of transport policy. These sustainability policies have varied across countries in terms of their nature, intensity, acceptance and enforcement. A particular ongoing motivation for addressing sustainability issues from a transportation perspective stems not only from the wide range of externalities associated with this sector, but also from the fact that, in contrast to most other sectors such as manufacturing or agriculture, transport has not managed in either relative or absolute terms to reduce its fossil fuel consumption, so that greenhouse gas emissions, many forms of air pollution, and the production of particulate matter remain high. The cumbersome research and policy issues in the transportation sector are certainly not unique to the nations of either Europe or North America, but also exist in many other countries, regions and cities of the world. However, comparative and combined policy research on common themes involving North American and European perspectives and expertise, promised to offer in this context a fascinating and varied spectrum of new developments in the area of transportation, land use, and communication systems. There are many common elements, but also various contrasting characteristics to the emerging situations on either side of the Atlantic.

Transportation research in both Europe and North America is widely recognized as a high-quality knowledge activity, with many spin-offs for both the public and private sectors. However, research on transportation issues in both regions was mainly undertaken in isolation and with fragmentation, with the inevitable consequence of a lack of synergy and of mutual learning mechanisms, not only in the transportation sector, but also in areas related to this sector.

In order to facilitate the interchange of ideas, debate emergent themes, and pull together research initiatives, the “STELLA” initiative was built around expert groups on both sides of the Atlantic. These groupings consisted of researchers from economics, geography, planning, psychology, sociology, engineering, and related fields. The problem areas of interest ranged from mobility problems of the elderly to international freight transport. The explicit aim was, in many respects, similar to that of the pioneering Round Tables that IATSS organized in Europe from 1989 to 1991 on Safety, the Environment, and the Future of Mobility, as part of the International Scientific Initiatives on Road Traffic (ISIRT).
Like ISIRT, STELLA promoted the interaction of established researchers, emergent students of transportation, policymakers, and practitioners from the private sector, in order to foment discussion between these individuals on problems in the field of transport. The whole idea revolves around the idea of having a wide mixture of disciplines and embracing those actively involved in the supply and regulation of transport as well as those who just think about it. This background shaped the emergence of STELLA as a trans-Atlantic thematic network.

2. THE STELLA NETWORK

From 2002 to 2005, The European Commission, the National Science Foundation of the United States, and Transport Canada (the Canadian federal Department of Transport) jointly sponsored STELLA (Sustainable Transport and Links and Liaisons with America). STELLA addressed sustainable transportation issues from the perspective of creating a trans-Atlantic policy research agenda. A thematic network serves to facilitate the communication and collaboration between existing and new research organizations, appropriately organized working groups, and leading researchers, as well as to exchange and disseminate the knowledge acquired in this network constellation. Through such networks, research efforts can be optimized, a critical mass of interested experts can be reached and a sufficient impact on policymaking bodies or the private sector can be achieved.

STELLA started with a substantial ambition, but has managed to realize its goals thanks to the dedicated efforts of its scientific members on both sides of the Atlantic. It has not only created a high level of enthusiasm among its members, but it has also created a unique platform for joint cooperation between researchers from both North America and Europe. It has shown its viability and vitality in many ways, through a large series of workshops on both sides of the Atlantic, through numerous joint publications, through the involvement of public and private bodies, and through the increasingly broad acceptance that the effort required to identify a process of sustainable transport would be both necessary and difficult. It has gained many new insights which will turn out to have a significant impact on both the research agenda and on policymaking in this field. Even though the initial funding for STELLA came to an end at the beginning of 2005, its fruits will remain and follow-up initiatives are under discussion.

The STELLA Network has an interesting history of cooperation: it was formed from two linked networks in Europe and North America:

- NECTAR – Network on European Communications and Transport Activity Research (Europe)
- STAR – Sustainable Transportation Analysis & Research (North America)

The NECTAR thematic network was formed in the early 1990s with initial support from the European Science Foundation. The STAR network was created in the late 1990s with assistance from the National Science Foundation in the U.S.. These networks include numerous participants from across Europe, the United States and Canada. The STELLA Thematic Network members and experts are drawn from these networks and include additional specialists as well. As noted above, support for most of STELLA’s recent activities has come from the European Commission, the National Science Foundation, and Transport Canada.

The objective of the STELLA Thematic Network is the pursuit of common issues in trans-Atlantic transport research. It sought to:

- create an institutionalized platform for exchange of scientific information (in particular, research in progress), for the pooling of (partly common, partly contrasting) experience and for facilitating research cooperation among European and North American transportation researchers and experts;
- foster a better understanding of the common and different causes and backgrounds of mobility behavior in both Europe and North America, particularly with a view to the impacts of policy in the areas of transportation, land-use, environment, and the economy, and,
- establish conditions for applied comparative research in both Europe and North America with a view to the achievement of sustainable transport.

It was clear from the outset that priorities would have to be established and working relationships developed. The aim of the exercise was not merely to engage in “talk shops” but to foster and create conditions for applied cooperative research in Europe and North America regarding such things as the underlying motives for travel behavior, innovative strategies and the integration of transport within a broader framework of sustainable development. Pruning the subject matter to manageable proportions was a key initial exercise.

STELLA has operated along a decentralized system with five rather independent focus groups which were nevertheless coordinated through a central management system. The focus groups addressed the themes of (1) globalization, e-commerce and trade; (2) ICT and innova-
tion in the transport system; (3) society, behavior and public/private transport; (4) environment, safety, health, land use and congestion; and (5) institutions, regulation, and markets in transport. The focus groups took responsibility for addressing their respective themes via workshops, electronic exchange, publications and so forth. By organizing all activities around the focus groups, it was possible to cover the salient aspects of modern transportation systems and their evolution systematically.

Over a period of more than three years, eighteen research seminars, a Policy Forum and a Research Users’ Forum were extremely useful and led to the emergence of various strategic common propositions, in particular:

• the need to develop new conceptual and methodological frameworks;
• the need to deepen the sustainability concept, by offering more operational frameworks;
• the need to reach practical science-based support for the implementation of policies aiming at sustainable development, and
• the urgency of engaging the “next generation” of transport researchers and policymakers in analyzing the consequences of transport growth and design solutions.

3. FINDINGS FROM STELLA

As a result of the various meetings attended by North American and European transportation experts, various research questions were formulated that were common to both sides of the Atlantic. These centered around the following issues:

• the relevance of and need for clarification of transport sustainability: its scope, concepts and measurement methods;
• impact effects and feedback in space and time resulting from the growth of e-commerce and information and communication technology (ICT), and from changes in travel behavior, policy interventions and implementation methods.

In addition, various common policy issues also emerged, notably:

• the spatial-temporal scale of transport policy implementation, including the land use context;
• equity, efficiency and environmental issues arising from the implementation of transport policies, and
• barriers to the implementation of sustainable, safe transport policy at various scales, and emerging from different background factors.

Much of what was accomplished by STELLA was the product of the individual focus groups mentioned earlier and it would be negligent not to acknowledge the very real contributions of those groups. Numerous publications have already appeared or are forthcoming from the focus groups. Some of these are listed below:

♦ Focus Group 1. Globalization, e-economy and trade. Aside from a special issue of the publication Growth and Change, the group is also in the process of creating a book on the content of the focus group entitled Globalized Freight Transport.

♦ Focus Group 2. ICT, and Innovation in the Transport System has as major output a volume of sixteen papers focussing on transport and communications.

♦ Focus Group 3. Society, Behavior and Public/Private Transport has produced a volume on the social dimensions of sustainable transport.

♦ Focus Group 4. Environment, Safety, Health, Land Use and Congestion produced two special issues of journals with a portion of the output from their meetings.

♦ Focus Group 5. Institutions, Regulations and Markets produced a volume on the title topic that focuses on barriers to sustainable transport (as well as the papers of this special issue).

Although the publications related to the activities of these groups bear witness to their contributions, this is only a small part of the value added by the focus groups. It is probably fair to say that the groups have significantly raised the level of research taking place on sustainable transport globally.

The various scientific ambitions of the STELLA network emerged not only from the wish to generate new pathways for innovative policy research, but also from the desire to disseminate the findings on the intricate relationships between institutions, regulations and markets in transportation to a wider international audience comprising both the research community and policymaking bodies.

STELLA has taken as its point of departure the need for sustainable transport as a major reorientation for transport policy in a modern and open society. In recent years the orientation of transport policy towards sustainability has gained much support in planning and research circles, but questions remain as to how it should be integrated into planning and policy. At the same time this policy direction has in the course of the years of the network’s existence been questioned by several STELLA participants; in the past decade neither trends in public behaviour,
nor policy directions have given a real impetus to measurable progress towards this objective. A key point of debate is the extent to which more (or most) emphasis should be placed on innovative transport technology. A new paradigm is sought for an ecologically sustainable, economically efficient and technologically sophisticated transport system. The question is of course: does such a new paradigm make scientific sense and would it lead to different policy frameworks? What is gained by such a change in focus and what is lost? Are technological solutions equally relevant to the North American and European situations, and could a common worldwide view be developed for such a paradigm change?

To put such questions in perspective, also it should be recalled that transportation is normally not a goal in itself. Transport takes place in a broader context of reaching socioeconomic goals, respecting safety and security, protecting the environment, taking into consideration land use changes, enjoying free life styles, and so forth. Usually, transport derives its meaning from the wish to achieve other goals (such as going shopping, travelling to a work place, visiting a theatre, and so forth). Does sustainable transport or sustainable mobility still have meaning in such a broad setting? Is it possible to focus on measurable criteria that would be able to demonstrate which country or region has a better performance in terms of sustainable mobility, either over time or in comparison to others? Are researchers, let alone policymakers, prepared to face up to assessing whether growth travel or goods movement is always beneficial to society, to placing a higher value on some uses of transportation than others, or to rewarding “eco-efficient” transport demand? Would it be possible to identify such a set of indicators for both Europe and North America, or would such a framework be country-specific? Should different indices be developed for different scales (e.g., urban, provincial, or national scales)? The policy and research questions are numerous. Clearly, sustainability may be emerging as a commonly accepted objective, but its appearance and policy priority would differ over time and space. Consequently, the policy research agenda would be multifaceted in nature.

4. RETROSPECT

Is the striving for a sustainable transport system something new in our history? It ought to be recognized that our world has in the past several years become an open world. Globalization is a concept that is very much ‘en vogue’ nowadays. If globalization (including network formation, free trade, and ICT developments) is a rather autonomous mega trend, should a sustainable transport policy take this for granted? Is there sufficient manoeuvring space in such a globalizing world for sustainable transport? And is there a need to discriminate between passengers and goods, between local and international movements, and between behavioral and technological drivers? How should we shape a policy agenda, if there are equity issues involved (socioeconomic, gender, demographic, inter-generational, international), how should these be addressed? Has the idea of sustainable transport clear policy implications? What would be an appealing and viable research agenda? Are there meaningful differences between Europe and North America and the rest of the world? Are these differences so great that a common approach to sustainable transport is neither workable nor desirable?

Three years of STELLA operations brought sustainable transport into sharper focus for the trans-Atlantic community, and it has brought together new research findings in ways that promise to shape a fascinating policy research agenda. It thus complements the earlier efforts of ISIRT and other initiatives to build the evidence from many disciplines on the consequences of transport growth. In the future, it is hoped that the STELLA Network will reach beyond its borders and work with other research communities around the world to move the transport system on to a safer and more sustainable track.

REFERENCES