

Summary of Proceedings

*NACEC Workshop on Trade and Transportation Corridors
Fort Garry Hotel, Winnipeg, Manitoba, 15 March 2001*

The workshop was attended by more than one hundred participants from the three North American countries, in addition to the members of the Joint Public Advisory Committee of the North American Commission for Environmental Cooperation (NACEC).

The event brought together industry stakeholders, governments, academics and nongovernmental organizations from across the continent on 15 March in Winnipeg. Speakers and panel participants discussed how environmental considerations can be incorporated at the earliest planning stages as trade and transportation corridors develop.

A feature of the workshop was the release of a discussion draft of an innovative new report on air quality prepared for NACEC by ICF Consulting. The event agenda included consideration of best environmental practices and examples of initiatives in trade corridors across the continent.

The workshop was intended to be part of NACEC's work towards the evolution of seamless air quality management for North America. It was to identify and promote opportunities for collaboration on air quality issues in the context of trade and transportation corridors.

Participants were welcomed by **Greg Block**, Director of Programs for NACEC. He explained that the workshop grew out of NACEC's interest in the environmental effects of expanding trade across the continent. JPAC had identified air quality aspects of corridors as possibly being significant indicators of those effects. NACEC's sponsorship of the discussion paper prepared by ICF Consulting was intended to generate public comment on the draft and lead to JPAC's consideration of possible advice for NACEC and guidance for the three national governments. The public will have six weeks to review the draft. He explained that the workshop was intended to look at corridor environmental issues beyond the discussion paper and that the presenters for the day would provide information and views on matters such as best practices, recent studies, and policy directions in corridor development.

The workshop co-chair **Terry Duguid** previewed the day's activity. He pointed to NACEC's leadership in environmental issues, particularly its catalytic role in the consideration of trade corridors. He asked participants to think, for the day, as citizens of North America rather than from national perspectives. He cited the importance of a North American Community viewpoint that looks beyond current perceptions. He introduced the keynote speaker, Lloyd Axworthy, pointing out his involvement in corridor and environmental issues as Canada's foreign affairs minister.

Lloyd Axworthy used the analogy for North American trade and transportation systems as the plumbing of North America, enabling the flows of goods and services and consisting of an assembly of various conditions and connections. The system needs redesigning and new frameworks to enable it to work properly and to benefit everyone, to incorporate elements of security and labour, and environmental goals. The system now is too reactive and inconsistent to serve the needs of North Americans as well as it should, and requires new institutions and political will to build a community across the national boundaries. This includes dispute resolution and cross-border management to deal with trilateral interests and achieve shared goals.

Mr. Axworthy pointed to the importance of corridors in their combination of trade and transportation viewpoints, presenting a different perspective and set of propositions that can enable problems to be addressed in ways that are not otherwise apparent. Continental corridors are the “tipping agent” that presents a new paradigm for governments and researchers to address issues that might otherwise defy solutions. Ideas count in politics, and the notion of green corridors is a fresh basis for cooperation across the North American community.

Green corridors are already in effect to some extent, with the recent changes involving Mexican trucking and innovative pilot projects in Canada. He added that current directions towards establishing a continental energy policy should make use of the green corridors experience in building environmental components into plans at the initial stage.

Mr. Axworthy cited North American integration as a concept needing innovative and novel elements, not just a replica of the European examples. He mentioned the proposals for a Monterrey-to-Murmansk trade and transportation link and the Alaska rail connections as notions that might seem far-fetched to some, but have a long-term dimension of community-building and advancement of the environmental agenda for corridors.

The first panel session entitled “NACEC Trade and Transportation Corridor Study” was chaired by **Paul Miller**, Program Manager, Air Quality for NACEC. He explained that NACEC was seeking comments on the paper and amendments to it during the comment period. The paper was to look primarily at air quality, but not be limited strictly in terms of the impact of NAFTA. It was also to consider the domestic movement of goods in the corridors and the effects beyond NAFTA and cross-border traffic.

The findings of the discussion paper entitled *North American Trade and Transportation Corridors: Environmental Impacts and Mitigation Strategies* were presented by **Bill Cowart** and **Jeffrey Ang-Olson** of ICF Consulting. The environmental impacts, in addition to air quality, were to be related to distributional and labour issues. The study concentrated on three corridors and a total of five segments within the corridors.

The paper set out data and analysis on freight traffic volumes and flows, commodities being transported, and the array of emissions being produced. Among the findings, the study noted that:

- trucking accounts for most of the corridor freight movement and the bulk of trade-related emissions;
- truck idling at borders contributes significant carbon monoxide emissions;
- air pollution problems in corridors are largely in terms of nitrogen oxides and particulate emissions.

The study projected trends to the year 2020, and nitrogen oxides and particulate emissions will remain near or below current levels, in spite of a doubling or quadrupling of trade volumes, due to rising regulatory standards and the expected availability of low sulfur diesel in Canada and the United States. The lack of availability of low sulfur fuel in Mexico will result in slower progress in Mexico.

The environmental benefits of intermodal shifts from truck to rail are expected to lessen in coming years, as trucking emissions decline more quickly than locomotive emissions. This surprising finding may affect the extent to which intermodal shifts can be justified in terms of environmental benefits. For both truck and rail, both carbon monoxide and the greenhouse gas carbon dioxide are projected to rise substantially as NAFTA trade grows.

The five strategies suggested from the report's findings include more use of natural gas for heavy-duty trucks, reductions in border delays and idling, rapid Mexican conversion to lower-sulfur diesel fuel, lessening of empty backhauls, and use of larger freight vehicles.

The first commentator on the paper was **Barry Prentice**, Director of the Transport Institute at the University of Manitoba. He complimented the authors and suggested that the paper was an innovative first look at the relevant data and mitigation issues. He took exception to some of the analysis and suggested that the projection of the lessening environmental advantage of rail was probably inaccurate. He pointed out that the data contained in the report and the suggested areas for further study would be taken up by the Transport Knowledge Network of mid-continent institutions as a field for further investigation and analysis.

The second commentator, **Gerardo Mejia Velasquez** from Monterrey Technical University, suggested that the modeling that underpinned the study might contain some questionable assumptions regarding conditions of fleets, age and actual emission levels. He also cited the problems of quality of data on which studies of this kind must rely. He suggested that a complete scenario, including risk assessments, be built onto the base that this paper provided. He pointed to the need for an evaluation of whole corridors, not just segments, and an understanding of factors such as measurements of pollutant intensity at particular times of the day. He called for more information to be available for public understanding and decision-making on highway construction and investment decisions.

The questions and comments that followed the panel included reference to the related study done for the Western Governors' Association and the March 15 New York Times article that showed how the growth of trade is affecting everyone in visible and understandable ways. It was suggested that data should be developed to compare the sources of emissions across regions and types of emissions to identify relative impacts, as

well as show local effects. More explanation of the data and assumptions behind the paper would be useful, as would estimates of the costs of pollution and remedial measures.

Following a break, the workshop resumed in mid-morning with a panel on “Transportation Technologies and Corridor Infrastructure,” chaired by **Ron Diduch**, President of Kraus Group, a manufacturer and exporter of refueling systems and alternative energy systems.

The first presentation was by **Elizabeth Munger**, Director of Gladstein & Associates’ Austin Texas office and the ISTC-3 International Clean Corridor Project. She explained that the problems of air quality non-attainment in the large southern mid-continent cities led to their effort to adopt new environmental approaches. This has involved initiatives in both efficient fuels and vehicle technologies. The strategy has been to build connections of concentric circles in which vehicles can rely on fuels and vehicle service, especially along the Monterrey-Dallas corridor, ensuring that infrastructure is installed and available.

Auxiliary power devices that eliminate idling at truck stops and borders are also being adopted with the encouragement of ISTC-3. The challenge is to build contacts and trust with truck fleets, showing the value to them and the environmental benefits. Strategies such as combining liquified and compressed natural gas availability at one site for greater convenience. For the Monterrey-Laredo corridor segment, there needs to be greater shift to alternative fuels and, as technology is developed, more fuel cell applications for heavy duty trucks.

Programs such as ISTC-3 can work in corridors, and they require a strategy that involves fleet managers as well as communities to establish practical, cost-effective measures that have environmental benefits.

The second panel presenter was **Coralie Cooper** from the Northeast States for Coordinated Air Use Management (NESCAUM). She explained that her organization has a focus on heavy-duty equipment, and its programs deal with truck and locomotive emissions. Their view is that existing technologies have the potential for valuable applications for durable equipment that was built when less stringent emission requirements were in place. Retrofitting enables that equipment to continue to be productive as well as operating with lower emission levels.

NESCAUM deals with the regional approach to highly mobile interstate travel and large truck emissions, in ways similar to possible applications for corridors. Their programs of adaptation of equipment have involved voluntary pilot projects and the adoption of technologies such as catalysts. They have in-use testing in some instances, and have initiated projects involving improved maintenance, retrofitting, and reduced idling. NESCAUM has been pursuing best practices that have implications for corridors, especially where retrofitting is the most practical and cost-effective option for improving air quality. The programs that focus on smoke, for instance, are able to reduce the harmful but largely invisible emissions at the same time as the lessening of smoke that is a visible consequence that people notice.

The third presentation involved a return of **Gerardo Mejia Velasquez** to talk this time about pollution control in border areas. The expansion of pollutants is evident but there is uncertainty about the measurement of the situation and identification of the fundamental problem that needs to be solved. It is not immediately clear in the Mexico-US border area how to proceed to reduce the risks associated with poor air quality or how to prevent the continuation or emergence of problems.

Dr. Mejia suggested that risk analysis and the design of effective mitigation measures were the essence of the required response. He cited the Monterrey metropolitan study that showed, among other results, that the concentration of pollution at certain times of the day was lethal for short periods but less of a concern if viewed only on daily average levels. In many cases, the health and mortality risk associated with poor air quality is an essential criterion for measurement. He suggested that the balance among trade, environment and health must be pursued. He pointed out that there are no technical solutions to environmental problems that do not involve restrictions of some sort. It must also be a crucial objective that air pollution levels do not exceed air quality standards. He proposed that integrated studies, monitoring and risk assessments are essential.

The questions and discussion after the panel presentations dealt with the importance of reducing nitrogen oxides, but the technology to achieve it is limited, as is the practical use of dual fuel sources for heavy trucks. The use of electrical and hybrid fuels is not advancing quickly for large trucks. Rising natural gas prices, particularly in Mexico, might make the use of natural gas for vehicles less attractive relative to diesel. Risk assessment is a crucial management tool to apply on a regional basis. The links of emissions and pollution to human health are too often unstated or overlooked, but are crucial for public understanding of the impact of air quality deterioration.

Following a lunch sponsored by JPAC, the afternoon session was convened by workshop co-chair **Paul Miller** who explained the planned procedures for the remainder of the day.

The panel entitled “Corridor Issues and Community Initiatives” was chaired by **Senator Mira Spivak**, chair of the Canadian Senate’s Energy, Environment and Natural Resources committee. In her introductory remarks she highlighted the importance of safety in conjunction with environmental values in the development of North America’s corridors.

The first presenter, **Sheila Holbrook-White** of Texas Citizen Action, explained the need to strike a balance across interests and issues in combined corridor and environmental initiatives. She pointed to the experience of organizations she surveyed for a NACEC study last year to identify best practices and sustainable development in corridors. She cited Seattle’s freight mobility study as one that encompassed all the participants, including the freight industry and environmental NGOs, so that the effort is proactive, holistic and reflects responsible fiscal investment. Targeted outreach and broad partnerships are essential to ensure that planning and design of transportation initiatives are environmentally sustainable. These initiatives include land use, selection of modal investments and expansion of transportation infrastructure.

She explained the importance of corridor initiatives that must be on two levels: regional and bi-national. This recognizes the reality of different kinds of decisions and levels of partnership development. She also cited the dilemma of corridors in the need to accommodate expanded traffic without inducing more transportation activity or generating more environmental problems. The resolution of this dilemma requires public involvement and accommodation of interests. She pointed out the success of the FAST project in the Pacific region, Cascadia Gateway, Kelly USA and Kansas City intermodal facility as best-practice examples.

Carlos Rincon from Environmental Defense explained the growth of population and communities in the Paso del Norte border region. The consequence has been air pollution, much of which is related to transportation. He pointed to the need to address the problem from three perspectives: governance framework, capacity and infrastructure building, and bottom-up approach. He suggested that institutions have to work together across the border to reinforce one another's efforts where they will do the most good. One way would be a cross-border emissions trading arrangement. The infrastructure requirements could include investment in bridges and other border facilities and high-volume lanes at borders. The involvement of communities and interests is encouraged by the advisory committee on the international air basin which includes an essential outreach and educational component. He suggested that an addition be made to the ICF Consulting report looking at air quality scenarios in the Paso del Norte basin, to take an in-depth look at the health aspects of the transportation-related environmental issues in the border area.

Javier Caceres of AgriTrade and Transport in Ottawa explained the farmer-led initiative to take over and operate a segment of the Canadian rail system that serves agricultural producers. Farmers are proposing this arrangement in response to the new realities in transportation that require more efficient and environmentally-beneficial activity. He suggested that the shift towards trucking grain longer distances has a negative environmental effect, and that communities are being decimated by the withdrawal of local rail service. He added that the corridor concept for grain transportation would be enhanced by this change that could be extended across the borders.

The comments and questions following this panel dealt with how best practices could be extended. The Canada-US Partnership forum was mentioned as a way for information to be exchanged effectively. The involvement of NGOs and joint cross-border coordination and planning can help to offset the limits that require governments to operate strictly within their legislated authority, and not beyond. A partnership attitude is necessary and a degree of integration of effort, rather than a balancing of interests, should be an objective.

In response to a student's question, it was suggested that outreach, education and environmental awareness in schools are needed to give young people a sense of what they can do about corridor environmental matters.

The involvement of aboriginal peoples in corridor development should be encouraged, to widen the scope of the issues beyond simply dealing with highways and air quality. The loss of winter roads due to climate change and environmental impacts from the use of

winter roads, such as oil and gasoline spills, were examples of serious effects. It was suggested that corridor organizations need to reach out to indigenous groups to ensure inclusiveness and accessibility in environmental considerations.

The final panel of the day on “Environmental Futures for Corridors” was chaired by **John Wirth**, President of the North American Institute in Santa Fe, New Mexico. He reiterated the importance of a balance between truck and rail traffic in corridors and a holistic approach to environmental issues.

The first presentation was by **Kathleen Nadeau** of Environment Canada who reviewed the evolution of trade corridors in terms of the trends and government activities related to environmentally sustainable transportation. She pointed out that corridors are about people and societies, as well as economics, and that the environmental issues in corridors are about safety, health and cultural impacts, in addition to physical traffic and consequent effects. She explained the Environmentally Sustainable Transport (EST) approach being taken in Europe by the OECD and in the southern Ontario region by the Canadian government. In essence, the exercise has required as a first step the identification of environmental criteria for sustainable transportation and extensive data analysis to gain a comprehensive view of conditions, trends and likely futures. Based on this essential framework of concepts and facts, the development of strategies and application of best practices is possible.

In a joint presentation, **Matthew Payne** and **Jennifer Dolin** of the US Environmental Protection Agency explained the EPA strategy of building public awareness of environmental initiatives and encouraging voluntary involvement by manufacturers and other businesses. They pointed to the Energy Star program as a label and brand development that provided incentives and raised public awareness of the participation of firms in environmental programs. The extension of that strategy to the transportation sector that is now underway is seen as a way to build on the strength of voluntary efforts, and encourage the use of better logistics and other measures with environmental benefits. The effectiveness of incentives in many cases could be replicated across the borders to Canada and Mexico where consistency and coordination would be valuable to the increasing numbers of cross-border transport operators. In essence, the harmonizing of incentives of this sort across the three NAFTA countries might prove to be as effective as building consistency of regulations and mandatory compliance.

Adrian Fernandez of INE in Mexico explained the attention being given to integrating environmental policies across the new government to build a common agenda among them. He pointed to the problems of environmental enforcement and challenges of poor fuel quality, specifically high sulfur levels. He said there was not a lack of will to act, but huge financial and technical impediments to reaching the objectives of acceptable emissions and transportation performance levels. At the same time, there is a need for better measurement of personal exposure levels of individuals, instead of averaging and area estimates of effects. He suggested the use of natural gas should be encouraged for the next 10-15 years until fuel cells and other technologies become realistic and affordable. He

reiterated the suggestion that air emissions should be given a thorough analysis in the Paso del Norte region and that emissions trading initiatives should be pursued.

The subsequent comments and questions suggested the importance of continuing to retrofit trucks in Mexico as a cost-effective and environmentally necessary strategy. Market-based incentives for the improvement of diesel technology were emphasized as a productive approach. The entry of Mexican trucks into the US was mentioned in terms of the environmental standards that would likely limit access to the newest and most fuel-efficient models.

It was suggested that the future role for NACEC in corridor issues could be in encouraging harmonization of standards. It should continue to play a catalytic role in providing exchanges of information and best practices, and in enabling the dialogue that is essential for groups and interested parties to deal with corridor environmental issues.

It was mentioned that the problems of high sulfur in gasoline might be analogous to leaded gas more than twenty years ago. The issues of human health, not just vague environmental conditions, could be used to spur action to deal with the problem.

In wrapping up the day, co-chair **Paul Miller** reiterated NACEC's objective of receiving public comment during the coming six weeks on all aspects of the draft discussion paper produced by ICF Consulting. This workshop would serve as the start of a process for looking at the information and issues generated by the paper, and give the JPAC and NACEC a reference point for the consideration of next steps.

Please note:

On the following day, 16 March, JPAC members were briefed by **Walter Vergara** of the World Bank. He had been scheduled to make a presentation at the workshop but was delayed in his arrival. He explained the World Bank's alternative fuels in transit program in Mexico City, as well as the air quality analysis work that was an underpinning of that project. His comments reinforced much of the previous day's discussion, in relation to the air quality mitigation strategies in non-attainment areas. The extensive data collection and emission measurement work sponsored by the World Bank and others showed the highest-risk regional and neighborhood impacts and illustrated why a shift to compressed natural gas in some instances provided the best available option, with the highest returns in terms of air quality mitigation.

Also on the Friday, JPAC members reviewed their impressions of the workshop, heard further public comment, and deliberated on possible recommendations to NACEC.