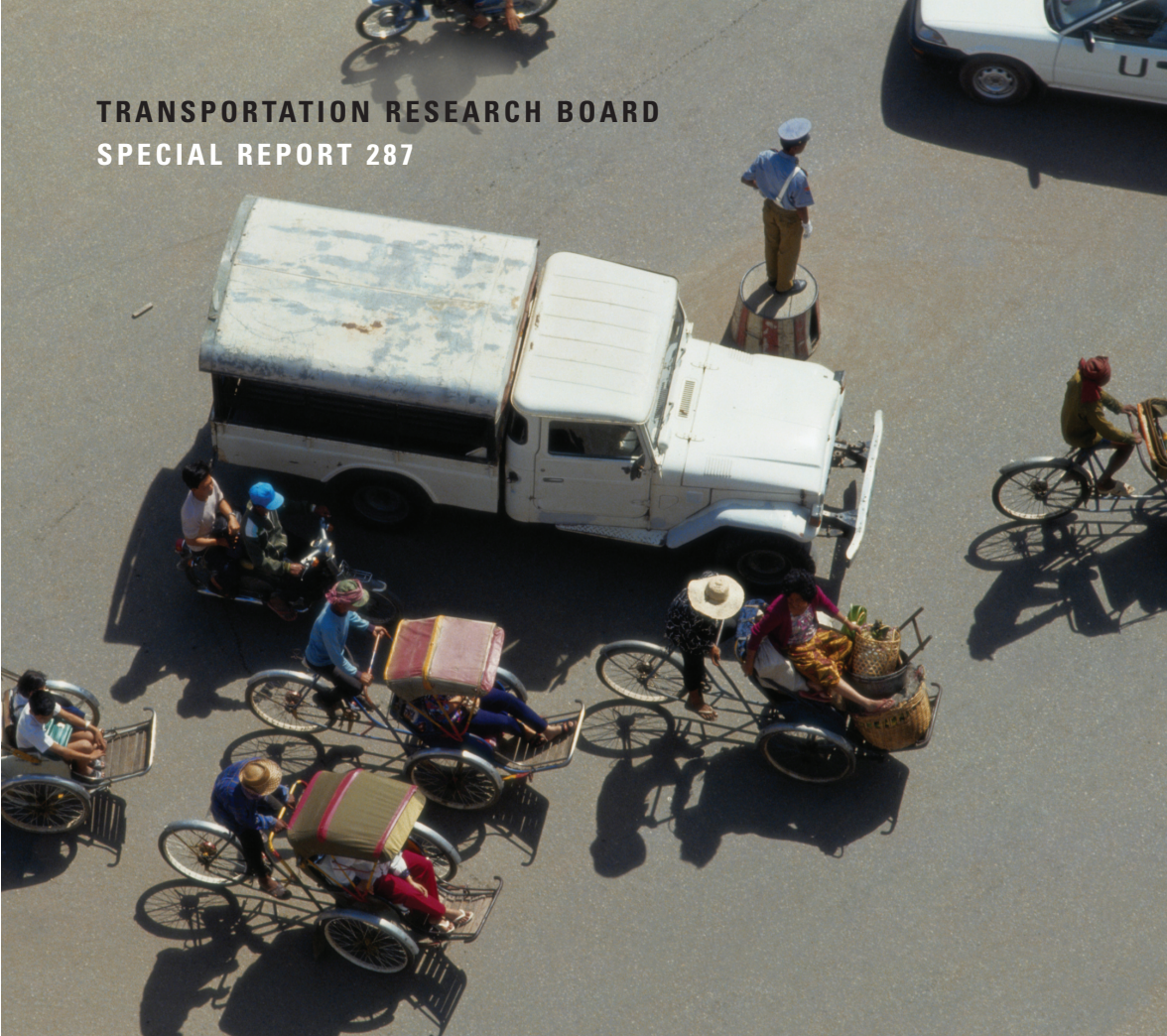


TRANSPORTATION RESEARCH BOARD
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Improving Road Safety in Developing Countries

Opportunities for U.S. Cooperation and Engagement

WORKSHOP SUMMARY

NATIONAL RESEARCH COUNCIL AND
INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES

Improving Road Safety in Developing Countries

Opportunities for U.S. Cooperation and Engagement

WORKSHOP SUMMARY

Joseph R. Morris, *Rapporteur*

Planning Committee for the Workshop on Traffic Safety in Developing Nations
Transportation Research Board
Policy and Global Affairs Division
Board on Global Health, Institute of Medicine

NATIONAL RESEARCH COUNCIL AND
INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES

Transportation Research Board
Washington, D.C.
2006
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NOTICE: The project that is the subject of this report was approved by the Governing Board of the National Research Council, whose members are drawn from the councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The members of the committee responsible for the project were chosen for their special competencies and with regard for appropriate balance.

This report has been reviewed by a group of individuals with diverse perspectives and technical expertise according to the procedures approved by a Report Review Committee consisting of members of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.

This report was sponsored by the National Highway Traffic Safety Administration of the U.S. Department of Transportation and by the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services.

Cover and book design by Naylor Design Inc.

Library of Congress Cataloging-in-Publication Data

Improving road safety in developing countries : opportunities for U.S. cooperation and engagement : workshop summary / Planning Committee for the Workshop on Traffic Safety in Developing Nations ; Joseph R. Morris, rapporteur.
p. cm.

“National Research Council of the National Academies.”

ISBN 0-309-09423-2

I. Traffic safety—Developing countries. I. Morris, Joseph R. II. National Research Council (U.S.). Transportation Research Board. III. Institute of Medicine (U.S.).

HE5614.6.I57 2006
363.12'5091724—dc22

2006045552

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Preface

With the rapid expansion of motor vehicle use in developing nations, road traffic-related deaths and injuries are rising sharply. More than 1 million people died from road traffic crashes in low- and middle-income nations in 2000; according to the World Health Organization (WHO), that number could nearly double by 2020. Children are particularly vulnerable; WHO calculates that in 2002, road traffic injuries were the second-leading cause of death globally among those aged 5 to 29, and 96 percent of those killed lived in low- and middle-income countries. On the order of 20 serious injuries are estimated to occur for every road death. Beyond the human toll, road traffic injuries impair the growth and development of low- and middle-income countries by draining at least 1 percent of their gross domestic product, or \$65 billion annually.

This document is a summary of the presentations and discussions at a workshop entitled “Improving Road Safety in Developing Countries: Opportunities for U.S. Cooperation and Engagement,” held on January 26–27, 2006, in Washington, D.C., and organized by the Transportation Research Board, the Policy and Global Affairs Division, and the Institute of Medicine of the National Academies. The workshop brought together administrators and professionals from U.S. government agencies, non-governmental organizations, international organizations, and academic research institutions to discuss the effects of the worldwide problem of road traffic injuries on U.S. interests, as well as prospects for further U.S. action to address the problem.

The organizing committee thanks all those who made presentations at the workshop and the participants who contributed to the discussions. The speakers are listed in the workshop program in Appendix A, and all participants are listed in Appendix B. The committee especially thanks Susan Gallagher, who conducted the interviews with federal government agencies that are summarized in this report.

Statements of viewpoints or judgments in this summary are those of individual workshop participants. The participants were not charged and did not seek to produce consensus conclusions or recommendations. The planning committee assisted in organizing the workshop program and identified participants but did not contribute to the drafting of this summary.

This summary has been reviewed in draft form by individuals, including workshop participants, chosen for their diverse perspectives and technical expertise, in accordance with procedures approved by the National Research Council's Report Review Committee. The purposes of this independent review are to provide candid and critical comments that will assist the institution in making the published report as sound as possible and to ensure that the report meets institutional standards for objectivity, evidence, and responsiveness to the project charge. The review comments and draft manuscript remain confidential to protect the integrity of the deliberative process.

Thanks are extended to the following individuals who participated in the review of this report: Anthony G. Bliss, World Bank, Washington, D.C.; Brian Jonah, Transport Canada, Ottawa; Charles N. Mock, University of Washington, Seattle; and Mark L. Rosenberg, Task Force for Child Survival and Development, Decatur, Georgia.

Although the reviewers listed above provided many constructive comments and suggestions, they did not see the final draft of the report before its release. The review of this report was overseen by C. Michael Walton, University of Texas at Austin. Appointed by the National Research Council, he was responsible for making certain that an independent examination of the report was carried out in accordance with institutional procedures and that all review comments were carefully considered. Responsibility for the final content of this report rests entirely with the author and the institution.

This summary was written by Joseph Morris under the supervision of Stephen R. Godwin, Director of Studies and Information Services of the Transportation Research Board. Clara Cohen, Walter Diewald, Stephen Godwin, Amelia Mathis, and Joseph Morris contributed to the organization of the workshop. Suzanne Schneider, associate executive director of the Transportation Research Board, managed the report review process. Special appreciation is expressed to Rona Briere, who edited the report, and to Alisa Decatur who prepared the manuscript. Jennifer Weeks prepared the prepublication version for web posting, and Juanita Green managed the book design and production under the supervision of Javy Awan, director of publications for the Transportation Research Board.

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Highlights

In January 2006, the National Academies convened a workshop entitled “Improving Road Safety in Developing Countries: Opportunities for U.S. Cooperation and Engagement.” The goal of the workshop was to provide a view of the diversity of U.S. interests affected by the worldwide problem of road traffic deaths and injuries, the scope of activities of U.S. agencies addressing the problem, and prospects for further U.S. engagement. The workshop discussions were intended to help the responsible government agencies gauge whether the U.S. response is proportional to the interests at stake and to identify next steps toward a more effective response.

The major points made by participants during the workshop discussions include the following:

- The scale of the road safety problem is large (1.2 million deaths annually) and growing rapidly with increased motorization in the developing world. It is projected that in 2030 road traffic injuries will cause nearly 3 percent of all deaths worldwide, up from 2 percent in 2002. Experience indicates that certain interventions to reduce road injuries have the potential to be highly cost-effective compared with other large-scale international public health programs.

- The United States has capabilities to assist developing countries with the problem. Over decades of motorization, it has developed professional and institutional strengths across many sectors: data systems, road and vehicle standards, emergency medical care, intervention programs, and enforcement and adjudication.
- U.S. engagement with the problem, occurring through the efforts of government agencies and nongovernmental organizations, is at a low level compared with the scale of the problem. Activities in some agencies are aimed principally at protecting U.S. citizens traveling abroad as workers or tourists. Other government activities address aspects of the problem that affect trade and commerce, such as vehicle safety standards and cross-border trucking operations. Some assistance is provided to developing nations for research, data systems, and professional exchanges. U.S. agencies participate in road safety programs of the United Nations and the World Health Organization, although the scale of these multilateral efforts has been modest. U.S. nongovernmental organizations are participating in technical exchange and public communication programs in developing countries.
- According to government participants, stronger and more systematic collaboration among U.S. agencies and between government and private entities would increase the effectiveness of U.S. efforts. Such collaboration is important because the most effective actions would involve several sectors, including transportation, health care, emergency services, law enforcement, and education.
- If the United States became more engaged in efforts to reduce global road traffic injuries, it might be able to increase the effectiveness of its contributions by learning from the experience of other nations and international organizations. That experience indicates that the most effective interventions focus on institutional capacity building in the transportation, health, enforcement, and public administration sectors; entail long-term commitments by all parties; and incorporate monitoring and evaluation of outcomes.
- U.S. programs also could derive lessons from the response to other global health crises, including the HIV/AIDS epidemic. The lag between recognition of the epidemic and the scaling up of a meaningful response

resulted in enormous numbers of deaths and illnesses and marked increases in the costs of prevention and treatment. Mounting a large-scale response required scientific evidence of the magnitude of the threat and the effectiveness of interventions, political will to commit resources, and a social strategy for organizing effective interventions.

- Increasing the effectiveness of the U.S. response to the global road safety problem would require planning in the government agencies concerned, first, to identify opportunities for more effective U.S. contributions with existing resources, and second, to identify initial elements of a U.S. program if new funds were made available. Careful planning could help ensure that U.S. participation would support cost-effective interventions and contribute to achieving overall policy objectives with regard to international development. Planning would also involve assembling the evidence that engagement would serve U.S. interests, while also making the ethical case for engagement.

Workshop Summary

Introduction: Workshop Objectives and Program

The National Academies held a workshop in Washington, D.C., on January 26–27, 2006, entitled “Improving Road Safety in Developing Countries: Opportunities for U.S. Cooperation and Engagement.” The participants were from U.S. government agencies, nongovernmental organizations, international organizations, and academic research institutions. The workshop discussions focused on defining U.S. interests in the problem of road safety in developing countries, identifying current U.S. government activities aimed at addressing the problem, and determining which U.S. capabilities could contribute to efforts of developing countries to reduce traffic casualties. The National Highway Traffic Safety Administration (NHTSA) of the U.S. Department of Transportation (USDOT) and the Centers for Disease Control and Prevention (CDC) provided funding for the workshop.

The workshop represented a continuation of the National Academies’ activities on this topic. An informal preliminary meeting held in May 2005 included representatives of the U.S. Departments of Transportation, State, Defense, Health and Human Services, and Commerce; the U.S. Agency for International Development; the U.S. Peace Corps; the U.S. Trade and

Development Agency; and the World Bank. Participants in this meeting identified a need for their respective government organizations to seek opportunities to increase awareness within the U.S. government and in other sectors about the magnitude of the problem and to seek opportunities for the United States to offer assistance that would improve traffic safety globally.

The workshop planning committee, appointed by the National Academies, arranged the agenda and identified participants. (See Box 1 for the statement of task defining the scope of the committee's activities, Appendix A for the workshop program, and Appendix B for the list of participants.) In preparation for the workshop, representatives of selected U.S. government agencies were interviewed, and their responses were used to compile an inventory of federal agencies' activities and interests related to road safety in developing countries. Results of the inventory were presented and discussed at the workshop and are summarized below.

The goal of the workshop was to gain a more complete view than previously available of the diversity of U.S. interests affected by the problem of road traffic deaths and injuries in developing countries, the scope of activities of U.S. agencies addressing the problem, and opportunities for further U.S. engagement. This overview was to be derived from the agency interviews and from the discussions at the workshop among representatives of

Box 1

Planning Committee for a Workshop on Traffic Safety in Developing Nations: Statement of Task

The committee will develop the agenda and identify participants for a 2-day workshop on road traffic safety in developing countries. The workshop will frame (1) the U.S. interest in reducing the frequency of injuries and deaths resulting from road traffic accidents in developing countries and (2) U.S. capabilities that could be brought to bear in reducing these losses. An inventory of U.S. federal agency activities and expenditures (along with those of U.S.-based nongovernmental organizations to the extent possible) will be presented and discussed, and current activities and expenditures will be compared with U.S. interests and capabilities. The workshop will involve approximately 50 participants drawn mainly from the U.S. government, industry, trade, international tourism, academic, and nongovernmental communities.

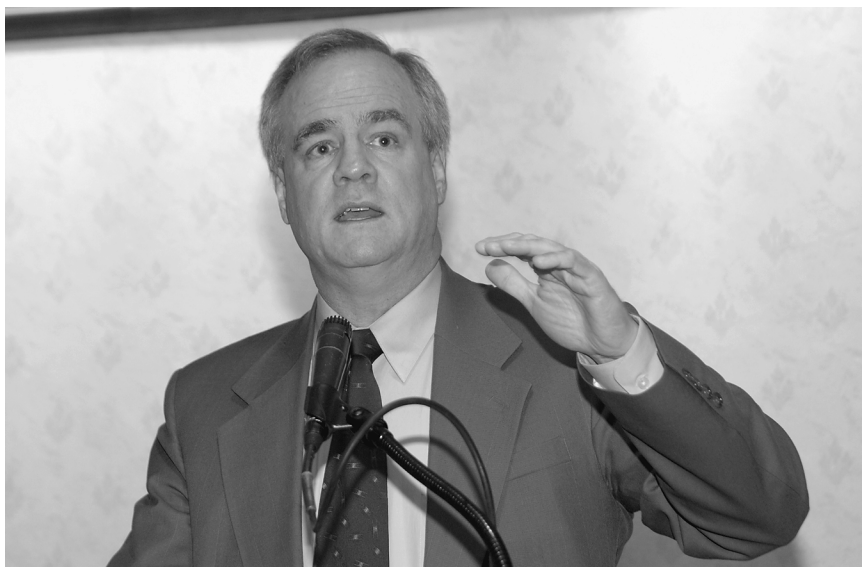
federal agencies and international organizations, as well as experts and practitioners from U.S. nongovernmental organizations and other countries. The workshop was intended to help the responsible government agencies gauge whether the U.S. response is proportional to the national interests affected by the problem and to identify next steps toward developing a more effective response.

The four sections of this summary correspond to the sessions of the workshop program, which addressed the following topics:

- The scope and character of the global road safety problem and an overview of major international initiatives;
- U.S. activities in global road safety;
- Cooperation between high-income and developing countries: opportunities and obstacles; and
- General discussions and summary.

Scope of the Road Safety Problem and International Initiatives

John Flaherty, chief of staff, USDOT, opened the workshop by describing the high priority his agency places on the international traffic safety problem. He assured participants that the agency would receive the results of the workshop with great interest and stated that he expected the workshop would contribute to building the kind of durable coalition necessary to respond to the problem of global road traffic safety. He noted that Secretary of Transportation Norman Mineta, recognizing the significance of the problem, has in his international contacts frequently emphasized the mutual interests of the United States and the developing world in reducing the burden of road traffic injuries. He observed that the globalization phenomenon is compelling nations to acknowledge the linkage between their interests and well-being and global events. In transportation, this linkage has led to cooperation on security and economic issues; however, recognition of and action on this linkage in the area of road safety have been slower to occur. The challenge facing advocates of international action on road safety is to build on the dynamic that is driving international cooperation in security and economic matters. Mr. Flaherty's remarks concerning specific U.S. interests and government activities related to global road safety have been incorporated in the summaries below devoted to these topics.



John Flaherty, Chief of Staff, U.S. Department of Transportation, noted in his opening remarks that road safety was an important issue for Secretary Norman Y. Mineta. He also described the challenges of increasing the awareness of and the attention to the road safety problems experienced by developing countries. (Photo by Pam Risdon.)

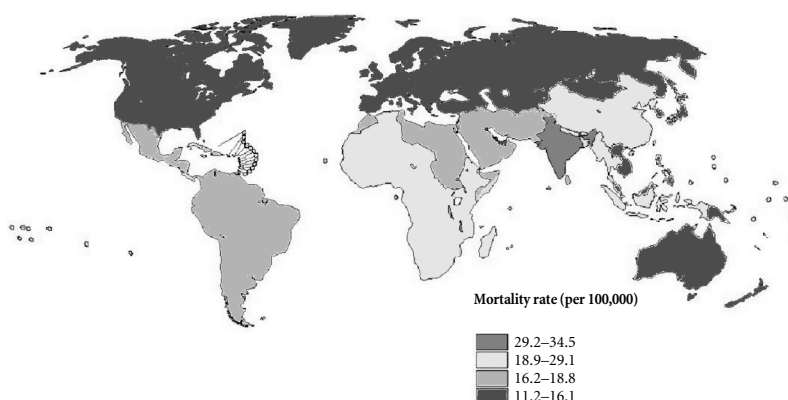
Two speakers then described the scope and character of the global road safety problem. David Bishai, the Johns Hopkins University, reviewed the economic and human costs of road crashes and the resulting deaths and injuries, while Anthony Bliss, the World Bank, outlined institutional and social obstacles that must be overcome to mount an effective global response. Dr. Bishai's remarks are summarized in this section; those of Mr. Bliss are summarized in the section below on cooperation between high-income and developing countries.

The Road Traffic Injury Problem and Its Economic, Social, and Human Costs

David Bishai reviewed the established facts about the magnitude of the road traffic safety crisis in the developing world. The World Health Organization (WHO) estimates that 1.2 million people die each year from road traffic crashes—130,000 in high-income countries and 1.07 million in low- and middle-income countries. In addition, WHO estimates that on the order of 20 million people suffer serious injuries in road crashes annually. The death rate from road crashes is higher in low- and middle-income countries

(20 deaths annually per 100,000 persons) than in high-income countries (13 deaths annually per 100,000 persons)—this despite much lower usage of motor vehicles in the former countries (see Figure 1). Road traffic injuries are the second-leading cause of death, after HIV/AIDS, among 15- to 29-year-olds in low- and middle-income countries, and the second-leading cause, after the childhood cluster diseases (diphtheria, tetanus, pertussis, polio, and measles), for 5- to 14-year-olds. WHO projects that in 2030, road traffic injuries will rank seventh among major disease and injury categories (up from eighth rank in 2002) in their contribution to the global burden of disease and injury, as measured by disability-adjusted life years (DALYs) lost. By this measure, the impact of road traffic injuries is comparable with that of cerebrovascular disease or heart disease (Mathers and Loncar 2005).

The characteristics and consequences of road crashes resulting in deaths and injuries in developing countries differ from those in high-income countries. In the United States, 80 percent of those killed in road crashes are occupants of four-wheeled motor vehicles; in low- and middle-income countries, most fatalities are among pedestrians or cyclists. The fraction of



Road traffic injury mortality rates (per 100,000 population) in WHO regions, 2000

Africa			Americas			Southeast Asia		Europe		Eastern Mediterranean		Western Pacific		
LMIC	HIC	LMIC	LMIC	HIC	LMIC	India	Other LMIC	HIC	LMIC	HIC	LMIC	HIC	China	Other LMIC
26.3	15.0	18.1	29.2	26.6	11.2	16.1	24.1	18.7	15.8	18.9	14.2			

FIGURE 1 Global mortality due to road traffic crashes (HIC = high-income countries; LMIC = low- and middle-income countries). (Source: Peden et al. 2002; used with permission of the World Health Organization.)

crashes that result in deaths is much higher in low- and middle-income countries, and the population groups with the lowest incomes are particularly vulnerable. The family burden of a road injury can be catastrophic. For example, a survey found that when a member of a rural household in Ghana was injured in a road crash, average household income and consumption declined sharply, to the point that 28 percent of households were forced to reduce food consumption. According to one published estimate, the annual cost of road injuries worldwide is 1 percent of gross domestic product in low-income countries and 1.5 percent in middle-income countries.

The frequency of road fatalities is declining in high-income countries today, despite traffic growth, because of improvements in vehicles, roads, traffic management, law enforcement, education, emergency services, and medical treatment. However, fatalities are rising in the developing world, especially where motor vehicle use is growing rapidly. World Bank projections suggest that if present patterns persist, by 2020 annual road fatalities will increase by 80 percent compared with 2000 levels in low- and middle-income countries and will decline by 30 percent in high-income countries.

When fatality data are examined across countries and over time, a rough pattern emerges: as a country's income rises, road traffic fatalities initially increase with growing use of motor vehicles; then, at higher incomes, the frequency of fatalities begins to fall (Kopits and Cropper 2005). Three factors presumably account for most of the decline: as motor vehicles become the dominant mode of transport, conflicts between motor vehicles and pedestrians and cyclists decrease; higher incomes lead to adoption of practices that reduce risk, such as better road designs, safer vehicles, and better traffic control; and travelers learn from experience over time how to reduce their risks.

This pattern might appear to suggest that the rise in fatalities in developing countries is inevitable and ultimately will be self-correcting. However, such a view is unnecessarily fatalistic. The diversity of experience among countries shows that development alone will not necessarily solve the problem, and there is evidence that appropriate measures can be taken to reduce injuries and fatalities in countries at all stages of development. Estimates comparing the cost-effectiveness of injury prevention measures indicate that improved traffic law enforcement in low- and middle-income countries could save 1 DALY for every \$5 spent and that installing speed bumps to slow vehicles at the most dangerous intersections could save 1 DALY for every \$9 spent. In contrast, treating AIDS patients in Africa with the simplest regimen of active therapy costs \$600 per DALY saved. In one example of an effective intervention, a speed enforcement program begun in 2004 in

Uganda on main roads out of the capital has reduced deaths by more than 200 per year. The annual cost is \$70,000, which was more than covered in the first year by the \$400,000 in fines collected.

Despite the availability of effective measures, almost nothing is spent on road safety in many developing countries. Annual government spending on activities aimed at improving traffic safety is estimated to be \$0.07 per capita in Pakistan and \$0.09 in Uganda, about 1 percent as much as health spending or 0.2 percent as much as military spending.

Major International Initiatives

Four presentations reviewed road safety initiatives of major international organizations: the WHO/World Bank *World Report on Road Traffic Injury Prevention* (Peden et al. 2004) and regional road safety efforts in the Americas [Alberto Concha-Eastman, Pan American Health Organization (PAHO)], the World Bank's Global Road Safety Facility (Maryvonne Plessis-Fraissard, the World Bank), and the United Nations (UN) Global Road Safety Collaboration (Maria Vegega, NHTSA).

International organizations are leading efforts to marshal action to reduce road traffic deaths and injuries. In 2003, the UN General Assembly recognized road deaths and injuries as a global epidemic, and in May 2004 a special session of the General Assembly was dedicated to the road safety crisis. World Health Day, organized annually by WHO, focused for the first time in 2004 on road safety. However, growing international recognition of the problem has not yet been matched by growth in the resources devoted to assisting low- and middle-income countries to address the problem.

The *World Report on Road Traffic Injury Prevention*, produced jointly by WHO and the World Bank and released on the occasion of World Health Day in 2004, is a comprehensive review of knowledge about road traffic injuries worldwide. It includes information on frequency and trends in crashes, injuries, and deaths; costs and social impacts; factors affecting risk; and effective interventions. The report's recommendations (see Box 2) emphasize the need to build institutional capacity, particularly in developing countries, to manage road transportation systems safely. PAHO is promoting adoption of these recommendations in the countries of the Americas, where each year 130,000 deaths and 1.2 million injuries result from road crashes. The documents have been translated into Spanish and disseminated in each country. Mexico and Honduras have adopted the recommended measures as the basis for national planning, and other coun-

*Box 2***Recommendations of the *World Report on Road Traffic Injury Prevention***

The *World Report on Road Traffic Injury Prevention* (Peden et al. 2004) recommends that governments take six actions to reduce road traffic injuries:

- Identify a lead agency in government to guide the national road traffic safety effort.
- Assess the problems, policies, and institutional settings relating to road traffic injury and the capacity for road traffic injury prevention in each country.
- Prepare a national road safety strategy and plan of action.
- Allocate financial and human resources to address the problem.
- Implement specific actions to prevent road traffic crashes, minimize injuries and their consequences, and evaluate the impact of these actions.
- Support the development of national capacity and international cooperation.

The report notes (p. 160) that “in certain low-income and middle-income countries with limited human and financial resources, it may be difficult for governments to apply some of these recommendations on their own. In these circumstances, it is suggested that countries work with international or nongovernmental organizations or other partners to implement the recommendations.”

tries have formed national committees to address the problem. PAHO has organized three international meetings in Latin America to disseminate the recommendations of the *World Report* and to discuss the need to strengthen the ability of the health sector to respond to the road safety crisis.

The Global Road Safety Facility is the World Bank’s program to implement the recommendations of the *World Report*. About 15 percent of all World Bank–funded investment is in roads, but a small share of funds has been devoted specifically to road safety improvement. The Global Road Safety Facility will provide seed funding for projects through a multidonor trust fund. Present donors are the Netherlands, the FIA Foundation, and

the World Bank. Seed funding of \$12 million per year is expected to leverage much larger investments from the main development programs of the World Bank and others. The facility will support activities at the global level (including coordination, advocacy, and research) and at the regional and national levels. At the national level, an objective of the facility is to promote one “second-generation” road safety project annually in each of six world regions over the initial 5 years of the program. These projects (see Box 3 for one example) will reflect the multisector capacity-building approach recommended in the *World Report*. The World Bank believes that a reasonable goal for the program is to reduce the death rate from road traffic crashes by 30 percent and thereby avoid 2.5 million deaths in the next 15 years. No other World Bank program can claim a comparable potential health benefit.

The UN Road Safety Collaboration is an association of national government agencies, international organizations, and private entities concerned with road safety. The transportation, health, and public safety sectors are represented. The collaboration was created in response to a May 2004 resolution of the UN General Assembly, which called on WHO to act as a coordinator on road safety issues within the UN systems. Participating international organizations include WHO, the World Bank, and UN commissions. NHTSA and CDC represent the United States. The collaboration’s periodic meetings are organized by WHO and are an opportunity to exchange information and to plan cooperative activities for all participants in the global initiative to improve road safety. The collaboration is organizing the production of a series of best-practice manuals and other tools to help public agencies develop effective interventions, including promotion of seat belt use and reduction of speeding and impaired driving.

U.S. Activities in Global Road Safety

Susan Gallagher of the Education Development Center, a consultant to the National Academies, had been engaged in preparing an inventory of activities and interests of U.S. government agencies related to road safety in developing countries and presented her preliminary findings at the workshop. This information was collected from interviews with the staff of 27 offices in seven cabinet departments and independent agencies. It was supplemented during the workshop by representatives of U.S. government agencies and nongovernmental organizations; the workshop program lists those who commented on the inventory and on their organizations’ activities. The information presented included the interests that motivate each agency’s activities (that is,

how the activity is related to fulfilling the agency's responsibilities). The goals of the inventory were to help government policy makers form a comprehensive picture of U.S. government interests related to road traffic safety in other countries, to aid in comparing the magnitude of these interests with the scope of current efforts directed at the problem, and to help agencies coordinate their efforts so as to allow a more effective governmentwide response.

Because of the considerable scope of international involvement of U.S. government agencies, the interviews did not encompass every government

Box 3

World Bank Iran Road Safety Project

The World Bank is preparing a road safety project with the government of Iran that the bank regards as an innovative and experimental approach to the problem, building on the experience of past, generally less ambitious, projects. The project was designed in accordance with the recommendations of the *World Report* (see Box 2). The World Bank states the philosophy guiding the project as follows (World Bank 2006):

Road accidents are due to a number of factors that are deeply rooted and reinforce each other, including, especially, drivers' attitude and behavior, insufficient enforcement of traffic and transport regulations, physical inadequacies in the urban and interurban road networks, shortcomings in road safety information and education, inadequate driver training and testing, insufficient control of vehicles' roadworthiness, weaknesses in the rescue and emergency service, underdevelopment of monitoring and evaluation systems, and a fragmented institutional setup. All these factors need to be addressed in a coherent and integrated way in order to bring about a sustained decrease in road accidents.

The objectives of the project are to reduce crashes and related deaths and injuries in selected pilot interurban corridors and urban areas and, through the experience gained in the pilot projects, to permanently strengthen the institutional capabilities of all the sectors with main responsibility for road safety, including the roads agency, as well as police, health care, and general public administration. The budget is \$105 million. The project has seven components:

agency with potentially relevant programs. The agencies contacted were those with responsibilities most closely related to traffic safety and public health and to U.S. external relations. The list of agencies to be interviewed was based on the knowledge of the consultant and of the staff of the National Academies and the sponsors, as well as on information provided by interviewees.

Appendix C presents the guide used for the interviews. The key questions were as follows:

- Safer road users (enforcement programs and training, driver training, and public information);
- Safer vehicles (including development of regulations for commercial vehicles);
- Safer roads (low-cost civil works in the pilot corridors and cities, such as signs, markings, and crash barriers, and development of procedures for conducting safety audits of roads)—the component receiving the majority of funding;
- Road safety monitoring and evaluation systems (establishment of both systems to evaluate the effectiveness of road safety activities and a national road crash data system);
- Improvements to postcrash rescue and relief and emergency medical services;
- Institutional development and support (including development of improved road safety legislation, guidelines for allocating funds to road safety, and safety planning); and
- Transport technical assistance (advice on improving the efficiency of operations of the road, rail, port, and transit systems).

The project targets corridors and areas where the concentration of deaths and injuries is high and aims to bring all the relevant actors together to develop an appropriate response. The goal is to replicate the elements of good practice that are observed in countries with effective safety programs. The experience in the target areas will provide a model for the application of the same techniques throughout the country.



Harvey Fineberg, President of the Institute of Medicine, and Michael McGinnis, Executive Director and Senior Scholar at the institute, meet with Maryvonne Plessis-Fraissard, World Bank, between sessions. (Photo by Mark Rosenberg.)

- Does the agency have an interest in traffic safety in developing countries? (In other words, is global road safety related to the mission of the agency?)
- Does the agency have activities or programs related to traffic safety in developing countries, and if so, what are their character, objectives, budget, and staffing?
- What is the respondent's assessment of the agency's activities related to traffic safety in developing countries? (Respondents were asked to comment on their programs' strengths and weaknesses relative to the agency's responsibilities in the area.)
- What events or actions would be required to advance the priority of the issue of traffic safety in developing countries on the agency's agenda?
- Does the agency have experience with related or analogous aid or cooperative programs that might be applicable to efforts to assist developing countries in reducing traffic casualties?

Appendix D lists the agencies interviewed and briefly describes the involvement of each in international traffic safety activities. The responses can be grouped according to the predominant interest motivating each agency's activities:

- Protection of U.S. travelers and government employees abroad from involvement in road crashes: U.S. government agency activities aimed at avoiding injuries to U.S. personnel or citizens are narrowly focused and may have little direct benefit for the residents of other countries. However, the problem of road injuries to U.S. citizens raises awareness of the general road safety problem within the affected agencies and among the public and provides a stimulus for action.
- Commercial interests of U.S. businesses that may be affected by road safety conditions and safety regulations in other countries: Activities related to commercial interests may have benefits for the residents of other countries even if those benefits were not the primary motivation for the U.S. engagement. For example, activities to harmonize international vehicle standards may lead to safer vehicles or operating practices.
- Recognition of an indirect U.S. benefit from improved general welfare in developing countries: Enlightened self-interest in economic development and welfare in other countries has involved U.S. government agencies in activities aimed directly at reducing the overall rate of road traffic deaths and injuries in developing countries.

Activities related to each of these motivations, as well as those of non-governmental organizations, are detailed below.

Activities Related to the Safety of U.S. Travelers and Employees

Offices in three of the departments and agencies that participated in the interviews—all of which have extensive foreign operations—are responsible for programs intended solely to protect foreign-based personnel:

- Department of Defense (Office of the Secretary of Defense: Safety, Health, and Fire Protection; and Uniformed Services University of the Health Sciences, Department of Preventive Medicine),

- Department of State (Undersecretary of Global Affairs, Overseas Motor Vehicle Safety Management Program), and
- U.S. Peace Corps (Office of Safety and Security).

These offices engage in similar activities, which may include establishing rules for safety practices for employees using vehicles in other countries, providing safety training for employees, setting safety requirements for vehicles used for employees, providing for emergency medical services and evacuation, investigating road crashes involving employees, analyzing the special risks of specific countries or regions, and maintaining data on the frequency and circumstances of crashes and injuries involving employees.

In addition, a program of the State Department's Bureau of Consular Affairs promotes awareness of the risks of road travel among U.S. private citizens abroad. The department publishes information sheets for 200 countries containing facts about road and traffic conditions and produces regular reports tabulating deaths from nonnatural causes among Americans abroad. This program may serve to increase the American public's awareness of the magnitude of the road safety problem in other countries. The agency staff interviewed noted that they lack satisfactory means to assess the

Nancy Carter-Foster, U.S. Department of State, indicated that her office was willing to work with other organizations on ways to focus appropriate attention on road safety. (Photo by Mark Rosenberg.)



impact of the material they prepare or to determine what methods would be most effective in helping Americans abroad avoid road traffic injuries.

In the discussion following the presentation of the inventory, a representative of the State Department confirmed that the department's current efforts are aimed principally at protection of personnel and U.S. citizens. Certain international health programs, such as those dealing with HIV/AIDS, avian influenza, and malaria and tuberculosis eradication, have been recognized within the department as addressing issues important to U.S. foreign relations. Road traffic safety has not attained the same status; however, the department would welcome discussions with other organizations on how the problem can receive appropriate attention and would be glad to cooperate in road safety activities.

Activities Related to U.S. Commercial Interests

Offices in three of the departments and agencies that participated in the interviews are responsible for programs that promote international trade and efficient international freight movement and that have implications for road traffic safety in developing countries.

The U.S. Trade and Development Agency (USTDA) promotes economic growth in developing and middle-income countries while at the same time helping American businesses export their products and services. The agency funds technical assistance, feasibility studies, training, visits, and workshops that support infrastructure development and a fair and open trading environment. Assistance involves building partnerships between U.S. companies and overseas project sponsors. USTDA projects intended to create market opportunities in transportation for U.S. companies may have traffic safety implications. For example, USTDA projects aided procurement of buses and traffic signals by the city of Beijing in preparation for the 2008 Olympics and funded a trade mission of Czech officials evaluating traffic management systems.

With regard to obstacles to greater involvement in road safety, USTDA staff noted that the nature of the projects in which the agency is engaged depends on the interests of the sponsoring country. Improving traffic safety often is not among the other countries' development priorities.

The Federal Motor Carrier Safety Administration (FMCSA) of USDOT has responsibilities for implementation of the 1994 North American Free Trade Agreement (NAFTA) concerning international truck traffic. NAFTA requires the United States, Canada, and Mexico to harmonize regulatory

standards in order to allow free operation of transportation companies across their borders. Progress toward implementing these provisions has been slow, however, and cross-border trucking is still restricted. FMCSA's NAFTA activities include working with the governments of Canada and Mexico to develop compatible commercial trucking safety requirements; providing training for Mexican law enforcement officials (in association with the International Association of Chiefs of Police) and for Mexican vehicle safety inspection instructors; providing Spanish-language educational materials for use in teaching truck drivers about U.S. safety regulations; and assisting Mexico in the development of a database of commercial carriers, vehicles, and drivers. FMCSA, through its participation in a program of the Organisation for Economic Co-operation and Development (OECD), has also provided technical advice on traffic safety in other regions. FMCSA staff noted that in carrying out its NAFTA activities, the agency has the capacity to offer non-U.S. carriers greater opportunities for education and exchange but is hindered by difficulties in establishing the necessary contacts.

Finally, NHTSA's Division of International Policy and Harmonization participates in international activities aimed at harmonization of motor vehicle standards related to safety. NHTSA represents the United States in the World Forum for the Harmonization of Vehicle Regulations (UN Economic Commission for Europe Working Party 29), which works, under the terms of a 1998 international agreement, to establish international technical regulations for motor vehicle safety. NHTSA also participates in North American standards harmonization activities under the terms of NAFTA. These standards harmonization efforts are undertaken primarily to avoid obstacles to international trade in motor vehicles and transportation services; however, they also yield general safety benefits for the participating countries through the dissemination of technological innovations and information about best practices.

Activities Based on Recognition of the Benefit to the United States of Improved General Welfare in Other Countries

Both the Department of Health and Human Services (DHHS) and USDOT conduct activities that have the primary objective of improving road safety and reducing deaths and injuries due to road crashes in low- and middle-income countries. Likewise, road construction projects of the U.S. Agency for International Development (USAID) and the U.S. government's



A crowded bus negotiates a street in Usulután, El Salvador. (Photo by Susan Gallagher.)

Millennium Challenge Corporation in developing countries are intended to enhance road safety and offer opportunities to transfer technology and expertise. These activities are carried out as a demonstration of good will, for the sake of the benefits the United States derives from economic progress in other countries, and in recognition of an ethical obligation to improve health and economic standards in low- and middle-income countries.

Within DHHS, significant activities include the following:

- The Fogarty International Center, National Institutes of Health, offers collaborative research and training grants that fund U.S. institutions to work with developing countries to build institutional capacity for research and address health problems. The center's new Trauma and Injury Research Training Program has funding commitments of \$7 million over 5 years. Currently, five grants to U.S. universities are funding activities related to road safety issues in partnership with institutions in Egypt, Pakistan, Ghana, Croatia, and Mozambique. These activities involve training researchers in the developing countries through study in the United States and the conduct of locally relevant research projects addressing injury control. Another Fogarty program provides grants directly to researchers from developing countries, although the projects funded by these grants have not addressed road traffic safety.

- CDC's National Center for Injury Prevention and Control, Division of Unintentional Injury Prevention, monitors U.S. injury trends and conducts research on injury risks and prevention methods. Road traffic injuries are within the scope of the program. The division coordinated the participation of DHHS in the 2004 WHO World Health Day, which as noted was dedicated to global road safety. Division staff were coeditors of the *World Report on Road Traffic Injury Prevention*. The division has worked to demonstrate within DHHS that the department can make contributions to health improvements abroad and to global road safety that are consistent with its responsibilities. The division has also provided technical assistance to health agencies in several Latin American countries, sometimes in support of PAHO, for the development of injury data systems and injury prevention programs, and it hosts fellows and guest researchers from other countries working on road safety research and surveillance. These activities are aimed at reducing all unintentional injuries, including those due to road traffic crashes. In addition, the division has participated with the United Nations Children's Fund in the development of an injury prevention program in Vietnam and is beginning a similar project in Bangladesh.

Other offices in DHHS that were contacted participate in various international forums, working groups, and other arrangements for the exchange of information relevant to road safety. These include the Office of Global Health Affairs, the National Center for Health Statistics (which participates in the International Collaborative Effort on Injury Statistics), and the National Institute for Occupational Safety and Health (which chairs the Global Network of Occupational Health Centers).

Programs and activities within USDOT that reflect recognition of the indirect benefit to the United States of improved general welfare in other countries include the following:

- NHTSA's National Center for Statistics and Analysis (whose main responsibilities are maintaining U.S. national databases concerning highway safety and conducting research and evaluations) is engaged in a number of projects that involve assisting other countries to develop road safety data systems. Some projects are conducted through Asia Pacific Economic Cooperation, an international economic forum with 21 member states, including the United States. In India, the center is working with the automobile insurance industry to establish an organization similar to the U.S. industry's Insurance Institute for Highway Safety. The center also participates in an OECD program on standardizing road traffic data inter-

nationally. Annual expenditures for the center's international activities are on the order of \$100,000 to \$200,000. Among the challenges the center encounters in its international activities are maintaining continuity as U.S. administrations and priorities change and demonstrating that the U.S. benefits derived from improved safety in developing countries justify the funding provided for the purpose.

- NHTSA's Office of Traffic Injury Control Program Development and Delivery administers domestic traffic safety programs concerning impaired driving, occupant protection, enforcement, speed control, pedestrian and bicycle safety, and other areas. The office has responsibilities for NHTSA planning with regard to international activities and for the agency's participation in UN, WHO, and World Bank global road safety forums, including the UN Economic Commission for Europe Working Party 1 on Road Traffic Safety.
- The Federal Highway Administration (FHWA) (whose primary responsibilities are administering the domestic federal-aid highway program and sponsoring research and technology diffusion within the U.S. highway industry) supports technology transfer centers in 22 countries. The centers' programs include training workshops and personnel exchanges. The centers are justified as promoting trade, improving safety for U.S. travelers abroad, and providing U.S. access to foreign innovations. Centers organize partnerships between U.S. state transportation departments and transportation agencies of other countries for technical and personnel exchanges. FHWA also represents the United States in international highway organizations and operates an international visitors program that hosts several hundred technical experts annually. In addition, FHWA is providing technical support to the government



Family excursion on a scooter.

of China on road safety and environmental standards under a bilateral agreement between the two countries; a similar agreement is being developed with India.

USAID supports projects in developing countries in the health sector and in infrastructure development. Activities in both areas could potentially have important influences on road deaths and injuries in the countries receiving aid:

- Offices within USAID's Bureau of Global Health offer grants supporting projects aimed at providing health services and building capacity in the health care sectors of developing countries. Injury prevention programs are among the types of activities funded. These activities probably contribute to reducing deaths and injuries resulting from road traffic crashes, but this is rarely their primary objective.
- The Bureau for Economic Growth provides grants for road building and rehabilitation. Road projects with USAID participation are under way in Pakistan, Afghanistan, Gaza and the West Bank, and elsewhere. Projects whose primary purpose is improving road safety are not funded, but U.S. standards, including those intended to ensure road safety, normally are adhered to in the design of projects. Technical and institutional capacity building through training and employment of local residents is required in all projects. Planning involves interactions with the host government, communities, and nongovernmental organizations. The U.S. Millennium Challenge Corporation, an independent U.S. development grant program that coordinates its activities with USAID, also is funding road projects in several countries.
- USAID's Global Development Alliance program forms partnerships with nongovernmental organizations to pool funds and other resources needed to carry out development projects. None of these projects specifically focus on road safety, although the program's administrators have discussed the possibility of such projects with nongovernmental road safety organizations.

Those interviewed identified as a key obstacle to greater USAID activity in road safety the lack of awareness of or the low priority assigned to the problem by the agency's U.S. partners and grant recipients, as well as

by the developing countries receiving aid. In child health programs in particular, road injuries are not recognized as among the highest priorities compared with other threats in developing countries. Another obstacle to greater engagement noted by USAID interviewees is a lack of awareness among the agency's own staff of the significance to development of the road safety problem. Indeed, this was a theme in interviews at other agencies as well—that agency staff often do not appreciate the magnitude of the road safety problem or how it relates to the agency's objectives and programs.

Involvement of U.S. Nongovernmental Organizations

The interviews conducted in preparation for the workshop involved only U.S. government agencies. However, U.S. nongovernmental entities, including nonprofit organizations and businesses, are also important contributors to overall U.S. international assistance and cooperation. Representatives of three U.S.-based nonprofit organizations—Peter Kissinger, AAA Foundation for



Open-bed trucks are typical modes of transport in El Salvador. (Photo by Susan Gallagher.)

Traffic Safety; Rochelle Sobel, Association for Safe International Road Transport; and Thomas Brahms, Institute of Transportation Engineers—participated in the workshop and described activities of their groups:

- The AAA Foundation is working with the International Road Assessment Programme to develop pilot road assessment programs in Latin American countries. The concept derives from the European Road Assessment Program developed by European automobile clubs. These programs assess the relative risk of individual road segments in a country on the basis of analyses of crash data and inspection of road design features. The Latin American initiative will also develop technical guidance to aid local authorities in improving road safety after the initial road ratings have been completed. The road ratings are communicated to local and national officials and to the public. One objective of the road assessment programs is to increase public discussion of road safety in order to generate support for investment in safety guided by risk evidence.
- The Association for Safe International Road Travel (ASIRT) was formed to press the U.S. State Department to collect and publish detailed and up-to-date information on road traffic safety risks to U.S. travelers in other countries. The State Department now publishes such information. ASIRT also supported the formation of a global road safety caucus in the U.S. Congress. The State Department's injury data have been valuable in illustrating the magnitude of the global road safety problem to policy makers and in demonstrating a direct constituent interest.
- The Institute of Transportation Engineers is an international professional association with members in 90 countries. It has a safety action plan to promote awareness and application of best practices among transportation professionals in all countries. The institute publishes selected traffic engineering and safety documents and computer-based training programs in both Spanish and English, and it cooperates in international professional exchanges.

A NHTSA representative is a member of the steering committee of the Global Road Safety Partnership, a group initially convened by the World Bank that includes U.S. and international corporate and nonprofit organizations among its membership. The partnership fosters the formation of local cooperative efforts in developing countries that link private firms and

nongovernmental organizations together with international and governmental agencies to organize and promote road safety programs.

Summary

Harvey Fineberg, President, the Institute of Medicine, presented a summary of the discussion of U.S. activities and concluding observations. He first reviewed the kinds of U.S. interests encompassed by the activities described above: protection of employees and citizens abroad, commercial interests linked to road safety, the desire to demonstrate that the United States is a global “good neighbor” in order to gain good will, recognition of U.S. benefits from development in other countries, and recognition of a moral obligation to contribute to reducing deaths and injuries in other countries. Dr. Fineberg also noted certain tensions or conflicts between the nature of these interests and the actions necessary to make progress.

First, although activists are motivated by a sense of moral obligation, politicians and the public require that commitment of U.S. resources be justified by demonstration of tangible U.S. benefits. Advocates therefore must strengthen the evidence supporting the argument for enlightened self-interest while at the same time presenting the ethical case for engagement. Second, there is a tension between the need for leadership and the requirement for collaboration across a broad range of governmental and private economic sectors in the United States in order to offer assistance effectively. Finally, increasing appreciation of the gravity of the problem among the public and politicians is necessary, but the agency interviews revealed that the problem does not appear to inspire a high degree of concern. There is no perceived direct threat or sense of urgency since the problem is seen as unfolding slowly over decades.

On the other hand, certain characteristics of the road safety problem may facilitate action. The evidence is strong on the magnitude of the costs involved and on the likelihood that those costs will grow rapidly in the future. Also, action on the problem faces no strong opposition from any social or economic faction.

Dr. Fineberg concluded by observing that while the question of U.S. willingness to devote greater resources to the global road safety problem is under discussion, planning in the U.S. government agencies concerned should address two key questions. First, if no additional funding is provided, but high-level leadership in the government is exerted, what opportunities will there be for further U.S. contributions? Second, if new funds



Trucks overloaded with cargo and passengers.

are made available, what should be the first steps of a U.S. program? A response to the latter question will be an essential part of the justification of any proposal for new funding.

Cooperation Between High-Income and Developing Countries: Opportunities and Obstacles

Anthony Bliss, the World Bank, spoke during the workshop's introductory session on the challenges of scaling up knowledge transfer and investments in road safety improvement. In his presentation, he raised issues that were illustrated by particular cases during the afternoon panel discussion of cooperation between high-income and developing countries. Five panelists contributed to a discussion of model traffic safety programs linking high-income countries with developing countries: Adnan Hyder, the Johns Hopkins University; Fred Wegman, the Institute for Road Safety Research of the Netherlands; Mary Lydon, ARRB Group, Australia; Henning Lauridsen, Institute of Transport Economics of Norway; and Avinash Sarna, consultant, formerly at the Central Road Research Institute of India.

Mr. Bliss noted that recent UN and WHO resolutions and publication of the *World Report on Road Traffic Injury Prevention* have highlighted reduction of losses associated with road traffic crashes in the developing world as a development priority. The challenge now is to scale up knowledge transfer and investment so as to develop effective, sustainable traffic safety programs in developing countries. A substantial effort will be required, and such an effort will confront obstacles arising from weaknesses in safety

management capacity in the developing world, as well as in international development assistance organizations.

As the road safety expenditure estimates cited earlier suggest, many developing countries are devoting a paucity of resources to the problem; as a result, their safety management capacity is at the most rudimentary level. There are a number of critical weaknesses: often no national goals or targets are defined, no performance data or measures of results of actions exist, systematic national estimates of the costs of road crashes are lacking, government road and police agencies seldom are held accountable for road safety performance, interventions are fragmented and not based on best practices, enforcement of traffic and safety regulations is ineffective, and legislation needed for effective safety programs is not in place. The road transportation system in general is not well managed or maintained, and safety management in truck and bus companies is poor.

If progress is to be made, this lack of capacity must be recognized. The necessary institutional capacities in high-income countries evolved over a long period of motorization, and the deficiencies in developing countries will take time to redress. Well-intentioned interventions that fail to take institutional capacity weaknesses into account will fail to yield sustainable results. The need to overcome these weaknesses is recognized by the *World Report*: five of the report's six recommendations are aimed at creating institutional capacity for road safety management at the national level (see Box 2).

International organizations also have failed to develop the necessary internal institutional capacity for providing effective assistance in traffic safety. They have not committed resources to the problem commensurate with its gravity and have not coordinated their efforts or quantified targets. The new initiatives of the UN, WHO, the World Bank, and regional organizations are first steps in addressing these deficiencies. The World Bank, after experiencing only limited success with smaller, more narrowly conceived projects, is promoting pilot second-generation projects in Vietnam and Iran that take a comprehensive, multisectoral approach. These projects are aimed at implementing the recommendations of the *World Report* by concentrating on the building of safety management capacity at the national level, thus making it possible to sustain long-term safety improvements. At the same time, the projects focus on achieving quick, measurable road safety results so as to create support for the long-term effort. The World Bank's Global Road Safety Facility, described above, has as an objective the promotion of one such project annually in each of six global regions.

Model Traffic Safety Programs Linking High-Income and Developing Countries

If the United States decides to become more deeply engaged in the global road safety problem, a valuable preparatory step will be to review the experiences of other governments and organizations to identify possible models for engagement. The panel discussion on model traffic safety programs linking high-income and developing countries provided examples of such models and of the roles of a variety of institutions in international knowledge transfer. The activities described involve universities, government agencies, and private nonprofit and for-profit organizations:

- The Road Traffic Injuries Research Network, an example of a university-based research collaboration, is an association of traffic safety researchers in high-income and developing countries that facilitates networking and creation of partnerships by connecting researchers in developing countries to the international traffic safety research community. The network has sponsored training, meetings, pilot research projects, a Listserv, and an electronic newsletter. Its objectives are to make investment in traffic safety research a higher priority in developing countries and to strengthen capabilities for conducting safety research. The network has received funds from international organizations and private donors and is governed by a board of sponsors and participating researchers.
- Government agencies and institutions in the state of Victoria, Australia, have conducted more than 40 road safety projects in the past 10 years in 30 countries, including China, India, and countries of Southeast Asia. Australia, in particular the state of Victoria, is noted for innovation and performance in road safety. Australian participants in the projects have included the state highway agency; the police; a state insurance agency; Monash University; and the ARRB Group, a research and consulting organization set up as a private entity, owned by the governments of the Australian states. The ARRB Group distributes safety technology internationally as a commercial enterprise. It has developed a set of standard products: model regulations, guidelines, and legislation; safety management strategies; evaluation techniques; program reviews; demonstration projects; and educational materials. Projects are funded by the client governments, international organizations, and Australian aid funds. Projects are conceived as partnerships, typically involving an Australian

state or national government agency, an Australian university, an international agency, a local contractor, and the host government. The effectiveness of the program depends on preexisting, established relationships among all these parties.

- The Institute for Road Safety Research of the Netherlands is also a private, government-owned organization, and the Netherlands is, like Australia, a country noted for its success in reducing road crashes. The institute has participated in traffic safety projects in other countries initiated by government-to-government contacts at the ministerial level, including projects in central and eastern Europe emphasizing institutional capacity building. The Netherlands government has provided support for training of central and eastern European engineers and engineer exchanges, and central and eastern European engineers are encouraged to participate in professional organizations and conferences.
- The Institute of Transport Economics, Norway, a private organization that receives base funding from the government, has participated in about 20 safety projects in Africa and Asia in the past 25 years, often funded jointly through the Nordic Development Fund (the foreign-aid fund of Norway, Sweden, Finland, Denmark, and Iceland). Early, small projects did not achieve sustainability; the host country lacked institutional capacity, and funding ceased once the aid project ended. A new, more ambitious approach now is being tested: a regional aid program with the 14-nation Southern African Development Community, supported by the Nordic Development Fund. The program entails commitments to a 10- to 15-year engagement and emphasizes national road safety programs and regional model legislation. The intent is for the regional structure to reinforce each country's efforts and provide sustainability. Problems encountered have included lack of cooperation among government agencies in the participating countries, insufficient provision for evaluation of program results, and the uncertainty of ongoing funding among the countries receiving aid. The lessons of the overall experience of the Nordic projects are that a long-term commitment by all parties is required, multisectoral cooperation in the recipient country is essential, and monitoring and evaluation are especially difficult tasks.

The final speaker on the panel, Avinash Sarna, described the status of road safety efforts in India and requirements for establishing successful

working relationships between high-income and developing countries. India has suffered a dramatic increase in road crashes and associated deaths and injuries in the past 30 years (see Figure 2); in 2003, 86,000 persons were killed in reported crashes. Road safety is a problem of emerging public and government interest, but political will and financial support to address the problem remain inadequate. Road safety improvements are not guided by overall national or state policies or action plans. Data systems are weak, and there is no capability to evaluate the safety impacts of interventions. Little coordination occurs among government agencies with safety responsibilities. The nation faces a choice with regard to the future trend in road traffic injuries and fatalities. If crash rates are reduced as motorization increases, exponential growth in injuries can be avoided. However, progress in reducing crash rates will require development of a strong national commitment; financial support; and efforts from all relevant sectors within the country, including government bodies, health institutions, the motor vehicle industry, communities, and civic organizations.

Aid programs supported by high-income countries can contribute to effecting the needed changes. Forms of involvement should include participation in a global exchange of ideas and experience; transfer of road safety knowledge through training and professional development programs; support for and participation in joint road safety projects, including research projects, pilot infrastructure projects, and projects involving traffic management and accident investigation; and programs to support the develop-

Percent Change in Accidents

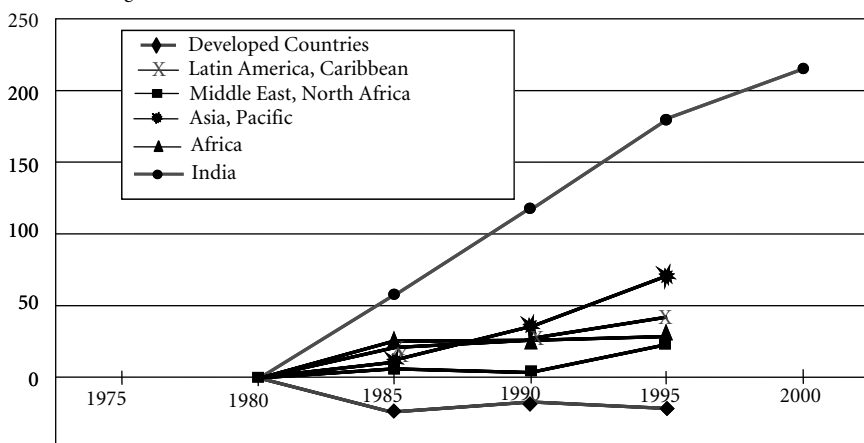


FIGURE 2 Indian and global road safety trends. (Source: Avinash Sarna, workshop presentation.)

ment of road safety policies and plans and to strengthen institutional and legal systems.

Lessons Learned from Other Public Health Challenges

In the concluding presentation, Jim Yong Kim, Harvard School of Public Health, Harvard Medical School, spoke about lessons learned from the global response to the AIDS epidemic that may be applicable to the crisis of road safety in developing countries. A period of years elapsed between recognition of the magnitude of the costs of the AIDS epidemic and the scaling up of global efforts to combat the epidemic to a level at all commensurate with the need. The costs of those efforts could have been greatly reduced if the global reaction had been more rapid. However, global funding for AIDS control, including funding for assistance to developing countries, has increased significantly in recent years. Attaining this level of success required developing evidence, political will, and a social strategy. Any effective movement to generate action on a public health crisis will depend on the same three elements.

Scientific *evidence* is needed to demonstrate the dimensions and costs of the health crisis and the effectiveness of available interventions. The evidence must become widely recognized. In the case of AIDS, such evidence existed from the 1980s, at least a decade before interventions on a meaningful scale were mobilized, demonstrating that evidence alone is insufficient to spur action. When political action was finally stimulated, one item of evidence turned out to be a critical motivator: the demonstration that AIDS treatment could be effective in Africa. Perhaps treatment programs gained support more readily than prevention efforts because the benefits of the former investments are more visible and their beneficiaries identifiable; in any case, the experience suggests that it is necessary to find ways of presenting evidence to policy makers in terms that are meaningful to them.

Creation of *political will* to respond to AIDS at the global level was to a great extent the consequence of an activist movement in high-income countries. Activists have a similar role to play in creating political support for the provision of assistance to improve road safety because they can show leaders that action on road safety has political benefits.

Social strategy is defined as a strategy for attaining a social objective, such as control of AIDS or reduction in road traffic deaths and injuries. The strategy must recognize the strengths and weaknesses of institutions and the expectations of stakeholders in a country. In the case of AIDS, the break-

through in obtaining funding for treatment in developing countries has led to increased resources for prevention, which is the more cost-effective intervention. In the case of road safety, a comparable social strategy has been adopted in the World Bank's second-generation road safety projects, described above. In those projects, immediate and visible payoffs in reducing crashes and associated deaths and injuries are sought by concentrating initially on direct interventions (e.g., removing physical hazards and strengthening law enforcement) in locations with high crash frequency. The strategy is that demonstrating short-term successes will build political and public support and momentum for the needed long-term institutional reforms.

General Discussions and Summary

After the invited presentations, workshop chair Mark Rosenberg asked the participants to comment on four questions concerning the goals of the workshop in light of the insights gained from the presentations and related discussions:

- What is the U.S. interest in reducing the losses from road injuries in developing countries?
- What forms can U.S. assistance for road safety take, how can it be delivered, and how can the United States ensure accountability and measurable objectives in the projects it supports?
- How can collaboration on the problem among U.S. government agencies be promoted?
- How can U.S. organizations identify needs of developing countries?

The workshop ended with a discussion of the next steps viewed by participants as necessary to a more effective U.S. response.

U.S. Interest in the Problem

The workshop presentations and the responses of U.S. government agency interviewees, as summarized above, form a consistent picture of the scope of U.S. interests affected by the problem of road safety in developing countries. Nearly all such interests can be grouped into four categories:

- Protection of U.S. travelers and employees abroad (including civilian and military U.S. government employees and employees of U.S. private organizations) from involvement in road crashes.
- Commercial interests of U.S. firms that may be affected by road safety conditions and safety regulations in other countries. For example, vehicle manufacturers have an interest in international harmonization of safety standards, and North American trade may be impeded by differences among countries in the safety standards and practices applied to commercial trucks.
- Indirect U.S. benefits from improved general welfare in low- and middle-income countries. Road injuries and fatalities, like any major public health problem, are an obstacle to economic development. U.S. welfare is enhanced by economic development in other countries: development brings more opportunities for trade and reduces problems arising from emigration and conflicts. Institutional capacity building for the sake of improving road safety (such as strengthening competencies for public administration, infrastructure planning, and law enforcement) probably contributes to development in more general ways as well that may also benefit the United States. (For example, strengthening capabilities for enforcement of traffic laws may help strengthen police capacity to combat international crime and may also decrease corruption, increase public acceptance of the police, and thereby promote democratic stability.) Development aid also serves as an instrument for gaining good will for the United States internationally.
- Altruism. U.S. government officials and the electorate may decide that contributing to relieving the road safety problem in the developing world is morally imperative.

As the description of U.S. government agency activities showed, these various interests have motivated different forms of U.S. engagement. Concern for protecting U.S. citizens and commercial interests has led to narrowly focused actions, although it has also served to raise awareness of the global road safety problem among U.S. agencies and their constituents. The broader kinds of interests—in promoting economic development for the sake of indirect U.S. benefits or out of a sense of moral responsibility—can be served only through efforts aimed at general improvement in traffic safety in the developing world.

Forms of Assistance, How Assistance Can Be Delivered, and How Accountability and Measurable Objectives Can Be Ensured

The workshop presentations and discussions concerning cooperation between high-income and developing countries, as well as the conclusions of the *World Report*, clearly indicate the challenges of scaling up knowledge transfer, international cooperation, and assistance. The workshop presentations also provided examples of the objectives, content, and organization of cooperative international road safety programs. Elements of international assistance programs that probably will be critical to success include the following:

- Programs should take a long-term perspective aimed at institutional capacity building at the national level.
- Programs must be multisectoral; that is, resources and capabilities will be required not only by road agencies, but also by law enforcement, emergency response and medical services, education and research institutions, and agencies of general public administration responsible for infrastructure planning, data, and evaluation. Attaining the needed cooperation across sectors in developing countries was identified as a serious challenge and a difficulty encountered in most projects.
- Programs should have specific goals and incorporate monitoring and evaluation.

The World Bank's second-generation traffic safety projects are the prototype for projects aimed at satisfying these requirements comprehensively. However, participants described activities of more limited scope that are consistent with such a comprehensive framework, including the following:

- Activities that tie professionals to the international community of practitioners in research, education, engineering, and public administration so as to develop skills and promote awareness of best practices. The Road Traffic Injuries Research Network and activities of the Transportation Research Board that attract substantial international participation are examples.
- Assistance on data programs that can provide credible quantitative evidence of the economic and human costs of traffic-related deaths and



A broken bicycle lies among shattered glass after a collision between a bus and a cyclist in Huangshan, China. Cyclists are among the most vulnerable road users when they must share the roads with cars, trucks, and buses. (Photo by Mark Rosenberg.)

injuries in a country. The workshop presentations made clear that broad dissemination of facts on these costs to the leaders in a country is necessary to build local support for traffic safety initiatives. Creation of a standardized global data infrastructure could provide this information at the country level. Quantitative objectives could be set and progress monitored on both a country-specific and a global basis. Creating such a data infrastructure would require a large, collaborative project.

- Cooperation to develop the capacity of nongovernmental organizations and civil society in a country as a way to build general public awareness of and support for road safety initiatives. The project of the AAA Foundation and auto clubs of other countries to develop road assessment programs in developing countries as a means of stimulating public dialogue on the problem is an example of such a nongovernmental initiative. The initiative of the National Academies to support the development of African science academies, although not specifically related to road safety, is another illustration of this kind of engagement. That

initiative is supporting African academies in building their capacity to provide independent, evidence-based advice to their governments and countries on health-related matters. Strengthening science academies in developing countries, and the scientific community they represent, can inform public policy and increase awareness of road safety issues.

- U.S. government cooperation with initiatives of nongovernmental organizations, in particular by undertaking the government-to-government communications that often are needed to facilitate such activities. If a private-sector safety initiative (e.g., the auto club road assessment programs described above) requires the support or participation of the host government, the necessary interaction with the host government can often be carried out more efficiently with the participation of the U.S. government than by the private parties acting alone.
- Participation in established international coordinating activities, including the UN Road Safety Collaboration described above, and in international forums such as the global and regional road safety stakeholder forums being planned by the UN as part of Global Road Safety Week in 2007.
- Efforts to ensure that infrastructure projects receiving U.S. aid incorporate safety in designs. For example, the U.S. government's Millennium Challenge Corporation, which requires all projects it assists to have specific objectives and evaluation of results, is funding road projects in several countries. Safety improvement is an appropriate objective for any road project.
- Public communication. Further U.S. government action on global road safety will be likely only if a constituency outside government is calling for action. The role of government agencies in advocacy is circumscribed, but certain kinds of involvement might be appropriate. Efforts can be made to ensure that all potential constituencies and influential groups—for example, the engineering and medical professions, U.S. businesses affected by road safety conditions abroad, and journalists—are included in activities.

The organizational forms of the assistance projects described during the workshop were diverse and included government-to-government

bilateral aid; region-to-region aid (the Nordic countries' program with southern African governments); projects in which an international intermediary organization (WHO or the World Bank) takes on management responsibility with the financial and institutional support of the donor country; and projects carried out largely among nongovernmental entities (e.g., the Road Traffic Injury Research Network and the auto club road assessment programs), sometimes with some government support. Several of the projects described involve partnerships with numerous participants: multiple agencies in donor and recipient governments, nongovernmental organizations and contractors in donor and recipient countries, universities, and the international organizations. Formation of such partnerships is facilitated by preestablished relationships among the parties and careful planning.

Presenters made clear that attaining sustained results ultimately depends on the motivation and resources of the developing country and that the international role necessarily is limited to information dissemination and to the provision of technical and financial assistance when requested by those governments that have a commitment to action. It was noted that the character of U.S. bilateral aid projects is determined to a great extent by the priorities of the aid recipient; therefore, increasing U.S. involvement in road safety through projects delivered by USAID will require expressions of interest in the problem from the recipient governments.

The presentations identified some keys to accountability for the outcomes of assistance projects. The first is ensuring that the developing country recognizes its ownership of the project—that the country has invested its own resources and that leaders and administrators are committed to getting results. Accountability also requires projects large enough that they can be expected to produce measurable results, and that the experience and training imparted by the project make a long-term contribution to building institutional capacity.



Mixed traffic on a city street.

Promotion of Collaboration Among U.S. Government Agencies

Several presenters emphasized that the greatest road safety benefits can be attained only through the collaborative efforts of several sectors, including the roads agency, as well as public health, law enforcement, education, and public administration. The most effective U.S. aid programs will draw on the capabilities of each of these sectors in the United States and will seek to build competence in each of the corresponding sectors and establish ties among them in those countries receiving assistance.

Because of the need for a multisectoral strategy, workshop participants from several U.S. government agencies suggested that the governmentwide response of the United States to the global road safety problem would be greatly strengthened by the creation of a permanent institutional structure with the participation of all the relevant agencies. This interagency body would be a mechanism for building working relationships, coordinating actions across agencies, and allowing agencies to benefit from each other's efforts and knowledge; it would be a point of contact for nongovernmental organizations that might wish to partner with the government in road safety activities; and it could help ensure that U.S. government engagement in international activities is well organized and takes advantage of all available capabilities. The proposed interagency body would be in a position to formulate a governmentwide internal action plan and to propose national goals and timetables. Government participants discussed various forms the institutional structure of this body could take, including a joint program office and an official working group. These structures would differ in the formal funding commitments required from the participating agencies and in the seniority of agency staff who would be the principals of the group.

In addition to collaboration across cabinet departments, coordination within departments is necessary. The inventory of agency interests and activities produced for the workshop revealed that some departments have many offices concerned with aspects of global road safety. USDOT has created an internal coordinating and planning mechanism for work on this issue, including designation of a lead agency (NHTSA) and lead staff within the department. That arrangement may be a useful model for other departments.

Collaboration depends on transparency, participants noted. Agency staff who were interviewed sometimes hesitated to share information about their activities. A possible consequence of this attitude is that agencies may be unaware of common interests and opportunities for collaboration.

Any administrative actions that could provide incentives for more open communication of agency activities, within the government and to the public, would contribute to overcoming this barrier.

How to Identify Needs of Developing Countries

Most participants commenting on this question emphasized that the needs most relevant to planning U.S. assistance activities are priorities articulated by the governments and institutions of the developing countries. Therefore, in contacts with other countries' governments, U.S. parties should be prepared to listen, ask, and discuss so as to discover what kinds of initiatives are desired. Participants suggested a number of other guidelines for U.S. government interactions with governments of developing countries concerning road safety:

- Initiatives must be structured as cooperative efforts with all parties being equal around the table, rather than the developing country being relegated to a junior partner status.
- In communicating with other countries, the U.S. participant must clearly enunciate the nature of its interest and the scope of its commitment to cooperative initiatives.
- Establishing genuine local ownership of projects—through commitment of resources, control, and accountability—is key to attaining sustainable results.



Car-motorbike crash.

- In discussions with other countries, U.S. participants should cite the relationship of safety to infrastructure development and show appreciation for the need to focus on vulnerable users as a priority.
- U.S. initiatives should reflect the recommendations of the *World Report*, which refer to the fundamental needs existing in most developing countries.
- Activities that help other countries better identify their needs, such as building data and monitoring systems and developing research capacity, are a valuable form of assistance.
- The experience gained in successful assistance projects, that is, projects that yield results valuable to the country receiving aid, should be seen as an indicator of needs. Some earlier, small-scale safety assistance projects that failed to produce sustainable benefits evidently were not targeting critical needs. The World Bank's second-generation projects are structured according to a hypothesis about needs; if they are successful, the hypothesis is supported.

It was suggested that case studies of ongoing major cooperative international road safety activities are needed to document the history of each project's development, organizational structure and participants, objectives and methods, and results to date. These case studies would ensure that the lessons learned in each initiative are preserved. A particularly valuable case study would be a history of the development of international cooperative health and road safety programs in Vietnam. The critical elements involved in organizing a U.S. contribution in that country were the leadership of State Department officials and partnership among the State Department, DHHS, and U.S. nongovernmental organizations.

Next Steps

Several participants suggested immediate next steps that U.S. government agencies could take toward developing a more effective U.S. response to the global road traffic safety problem. Creation of the permanent interagency body described above would be the first step. Several other suggested immediate actions could form the initial agenda of the interagency body. These include the following:

- Completing the task begun in this workshop of defining and documenting the U.S. interest in the problem of international road safety and identifying the agencies and programs already concerned with addressing it.
- Engaging U.S. nongovernmental organizations in determining their relevant interests and resources and establishing good communications on the problem.
- Conducting the above-discussed case studies of recent significant international road safety initiatives.
- Coordinating a process of practical, governmentwide planning, following two tracks: first, to identify opportunities for more effective U.S. contributions using existing resources; and second, to identify initial elements of a U.S. program if new funds were made available. Plans would demonstrate that U.S. participation could support cost-effective interventions, including interventions with immediate short-term payoffs, and that the benefits would contribute to achieving overall development-related policy objectives. The above discussion of possible forms of U.S. road safety assistance includes specific activities that could be elements of these plans.

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Appendix A

Workshop Program

Improving Road Safety in Developing Countries: Opportunities for U.S. Cooperation and Engagement

The National Academies

January 26–27, 2006

Marriott Wardman Park Hotel
2660 Woodley Road, NW
Washington, D.C.
Room Wilson AB

Workshop Objectives: To frame the U.S. interests, activities, and capabilities with potential application to the problem of road traffic injury in developing countries. To present, discuss, and refine an inventory of U.S. federal government activities and expenditures on road safety in developing countries. To promote discussion and exchange among workshop participants representing government, industry, academia, nongovernmental organizations, and international organizations.

Agenda

Thursday, January 26

8:45 a.m.	Welcome and Introduction to the Workshop	Mark Rosenberg, Chair, and Executive Director, Task Force for Child Survival and Development
9:00 a.m.	Opening Remarks	John Flaherty, Chief of Staff, U.S. Department of Transportation

9:35 a.m.	The Scope and Character of the Global Road Safety Problem	
	The Problem and Its Economic, Social, and Human Costs	David Bishai, Associate Professor, Population and Family Health Sciences, Bloomberg School of Public Health, Johns Hopkins University
	Challenges of Scaling Up Knowledge Transfer and Investments	Anthony Bliss, Lead Road Safety Specialist, World Bank
	Discussion	
10:35 a.m.	Panel Discussion: Overview of Major International Initiatives: Objectives and Actions	Moderator: T. Bella Dinh-Zarr, Director of Traffic Safety Policy, American Automobile Association
	WHO/World Bank <i>World Report on Road Traffic Injury Prevention: Framework and Recommendations</i>	Alberto Concha-Eastman, Pan American Health Organization
	Regional Road Safety Efforts in the Americas	
10:50 a.m.	Global Road Safety Facility	Maryvonne Plessis-Fraissard, Director, Transport and Urban Development, World Bank
11:00 a.m.	UN Global Road Safety Collaboration	Maria Vegega, Chief, Behavioral Research Division, National Highway Traffic Safety Administration

11:10 a.m.	Discussion	
1:00 p.m.	U.S. Government Activities in Global Road Safety	Moderator: J. Michael McGinnis, Senior Scholar, Institute of Medicine
	Why the Inventory Was Commissioned	J. Michael McGinnis
1:10 p.m.	Survey of U.S. Government Activities and Interests in Road Traffic Injury in Developing Countries	Susan Gallagher, Senior Scientist, Education Development Center
1:40 p.m.	Reactions to the Survey:	Moderator: J. Michael McGinnis
	Christine Branche, Director, Division of Unintentional Injury Prevention, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention	
	Marilena Amoni, Associate Administrator for Program Development and Delivery, National Highway Traffic Safety Administration, U.S. Department of Transportation	
	Nancy Carter-Foster, Senior Adviser for Health Affairs, U.S. Department of State	
	John Seibert, Assistant for Safety, Health, and Fire Protection, Office of the Secretary of Defense, Department of Defense	

David Abrams, Director,
Office of Behavioral and
Social Sciences Research,
National Institutes of Health

J. Peter Kissinger, President
and CEO, AAA Foundation
for Traffic Safety

Rochelle Sobel, President,
Association for Safe
International Road
Travel

Discussion

- | | | |
|-----------|--|--|
| 2:45 p.m. | Summary by Discussant:
Nature of U.S. Interests,
Gaps Between Interests and
Activities | Harvey Fineberg, President,
Institute of Medicine |
| 3:15 p.m. | Panel Discussion:
Cooperation Between High-
Income and Developing
Countries: Opportunities
and Obstacles | Moderator: V. Setty
Pendakur, President, Pacific
Policy and Planning
Associates, Canada |
| | Model Traffic Safety
Programs Linking High-
Income Countries with
Developing Countries | Adnan Hyder, Assistant
Professor, Department of
International Health,
Bloomberg School of Public
Health, Johns Hopkins
University |
| 3:30 p.m. | | Fred Wegman, Managing
Director, Institute for Road
Safety Research, Netherlands |
| 3:40 p.m. | | Mary Lydon, General
Manager of Research, ARRB
Group, Australia |

- 3:50 p.m. Henning Lauridsen, Chief Research Engineer, Institute of Transport Economics, Norway
- 4:00 p.m. Avinash Sarna, Senior Consultant, Transport, Intercontinental Consultants and Technocrats, India
- 4:15 p.m. Lessons Learned from Other Public Health Challenges (HIV/AIDS) Jim Yong Kim, Associate Clinical Professor of Social Medicine; Associate Clinical Professor of Medicine, Harvard School of Public Health, Harvard Medical School
- 4:30 p.m. General Discussion:
 What forms can U.S. road safety assistance take and how can it be delivered?
 How can the U.S. ensure accountability and measurable objectives in the projects it supports?
 How can collaboration among U.S. federal government agencies be promoted?
 How can U.S. organizations identify needs of developing countries?
- 5:45 p.m. Adjournment

Friday, January 27

- 9:00 a.m. Summary of preceding day's events and next steps Mark Rosenberg

Topical summaries by rap-
porteurs:

What is the U.S. interest in
addressing the problem? Bella Dinh-Zarr

What forms can U.S. road
safety assistance take and
how can it be delivered? Tony Bliss

How can the U.S. ensure
accountability and measur-
able objectives in the proj-
ects it supports?

How can collaboration
among U.S. federal govern-
ment agencies be promoted? Mark Rosenberg

How can U.S. organizations
identify needs of developing
countries? V. Setty Pendakur

9:30 a.m. Discussion and Next Steps: Moderator: Mark Rosenberg
A Prioritized Agenda

Noon Adjournment

Appendix B

Workshop Participants

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Appendix C

Guide for Government Agency Interviews

Traffic Safety in Less Developed Countries

SUSAN GALLAGHER

Education Development Center, Inc.

The goal of the interviews is to compile an inventory of the U.S. government's interests and activities related to road traffic safety in less developed countries and to determine what actions or events would be required to cause agencies to become more involved. A number of federal agencies are being interviewed. We hope that you will participate so that we can gather accurate and representative data from your agency. Data will be compiled and a summary grid created for presentation to a National Academies workshop in January. A report will be written after the workshop and include comments generated by workshop participants.

The results are not confidential as we need to include a list of agencies contacted and a list of the individuals to whom we spoke. However, you will not be quoted verbatim. Judgments and conclusions in the written report prepared after the workshop will be the responsibility of the National Academies.

Interests

1. Does the agency have interests in traffic safety in less developed countries, for example, road user behavior, the vehicle, the roadway, regulation, enforcement, education, data collection, or research?

2. Does traffic safety in less developed countries have a relationship to the programs or mission of your agency? If yes, what is the basis and nature of the interest? For example,
 - A statutory responsibility to provide technical assistance, education, or training to foreign countries.
 - Concern for protecting agency personnel abroad.
 - Responsibility to promote trade through harmonization of standards.
 - Effects on economies (e.g., tourism, global businesses).
 - Improved law enforcement and justice administration in other countries (e.g., to combat international crime).
 - Collection and improvement of data on traffic problems and injuries.

Activities

3. Does the agency currently have activities or programs related to traffic safety in less developed countries?
 If yes, what are the nature and objectives of the activities? For example, do the activities deal with any of the following aspects of the road transportation and emergency response systems in less developed countries:
 - Drivers, passengers, and pedestrians: training, licensing, regulation, enforcement, public education.
 - Vehicles: standards, inspections, design features.
 - Roadways: standards, facilities, traffic management, speed limits, road design, emergency response, medical services, trauma care, disability prevention.
 - Information systems: injury, crash, and traffic database development and applications.
 - Workforce and institutional capacity building: professional training, exchange programs.
 - Institutional environment: legal liability, insurance, law enforcement.
 - Land use policies.
 - Mass transit: buses, subways.
4. Has the agency done anything else to encourage the improvement of traffic safety in less developed countries?
5. Has there been any change in agency activities about road traffic safety in less developed countries since World Health Day, April 7, 2004, devoted to global road safety?
6. Have any partner organizations approached or worked with your agency to improve road traffic safety in less developed countries?

7. Has the agency published research or articles relevant to road traffic safety in less developed countries?
8. Does the agency have a grants program specific to road traffic safety for less developed countries?
If yes, can researchers from less developed countries apply for grants for their country on road traffic safety?
9. Does your agency support U.S. researchers in less developed countries?
10. Does your agency host visitors from less developed countries on matters relating to road traffic safety, for example delegations or fellowships?
11. In the past did the agency have activities dealing with road safety in less developed countries that are no longer carried on?

Expenditures and Staffing

12. What are approximate expenditures and staffing levels (FTEs) for current road traffic safety activities in less developed countries?
13. Are there other resources (human, knowledge, financial, in-kind) the agency has that might be applied to this problem?
14. If more resources were available to devote to improving traffic safety in less developed countries, how would you use it?

Advancing the Traffic Safety Agenda

15. What is your assessment of the agency's activities related to traffic safety in less developed countries? For example:
 - Internal strengths (e.g., depth of expertise, experience working with less developed countries, local data, etc.).
 - Areas for improvement.
 - External opportunities (e.g., to offer assistance to improve traffic safety).
 - External threats to increasing involvement in traffic safety.
16. What events or actions would be required to advance the issue of road traffic safety in less developed countries on the agency's agenda?
17. In general, how does the agency identify and assess emerging international problems and global issues that may require attention and resources?

Relevant Experience on Another Topic

18. Does the agency have experience with related or analogous aid or cooperative programs in less developed countries that might be applicable to efforts to assist in the reduction of road traffic casualties?

19. Has the agency engaged in technical assistance to less developed countries on other topics?
20. In general, what are the forms of the agency's programs of assistance or interaction with less developed countries on technical or health matters?
21. Does the agency work through international agencies or country to country?
22. How are less developed country needs identified and relationships established?

International Road Traffic Safety

23. Does your agency have a separate action plan or a strategy for global road traffic safety?
 - If yes, does it specifically include less developed countries?
 - If yes, has the plan or strategy been implemented?
24. Has traffic safety been integrated within an overall action plan or global strategy for your agency?
 - If yes, has the plan or strategy been implemented?
25. Are you familiar with
 - World Health Assembly Resolution on Road Safety and Health.
 - WHO *World Report on Road Traffic Injury Prevention*.
 - The Global Road Safety Crisis: We Should Do Much More—Task Force for Child Survival and Development.
 - UN resolution to improve global road safety.
 - World Health Day, April 7, 2004, devoted to global road safety.
 - UN General Assembly meeting on global road safety.

Other

26. Is there anyone else in your agency or another agency that I should contact about road traffic safety in less developed countries?

Thank you for your time. If you think of anything else that might be important for the inventory of U S. government interests and activities related to road traffic safety, I can be reached at [telephone number and e-mail address].

Appendix D

U.S. Government Agencies Participating in Interviews

Listed below are the departments and agencies from which staff were interviewed in preparation for the workshop, with a brief description of the activities of each office related to road safety in other countries.

Department of Defense

Office of the Secretary of Defense, Safety, Health, and Fire Protection

Protects members of the department and the military in the United States and abroad. Safety, Health, and Fire Protection sets overall department policy, which is implemented by each military branch. Activities related to global road safety include maintaining databases of crashes, analyzing risks, and establishing road safety rules for personnel and safety requirements for vehicles.

Uniformed Services University of the Health Sciences, School of Medicine, Department of Preventive Medicine and Biometrics

The university is a federal institution of learning. It graduates 155 uniformed service members per year in programs in medicine and public

health and conducts research. Relevant activities include integrating injury prevention into the health sciences curriculum and conducting research on road injury risks to department personnel.

Department of Health and Human Services

Office of the Secretary, Office of Global Health Affairs, International Health Office for the Americas

Provides leadership and coordination for department programs with other countries. Facilitates sharing information and connecting people with expertise and resources.

National Institutes of Health, Fogarty International Center, Trauma and Injury Research Training Program

Addresses global health challenges through collaborative research and training grants that fund U.S. institutions to work with developing countries to build capacity for research and address health problems in the country. Professionals from developing countries receive advanced education to prepare them to conduct research in their home countries.

Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Unintentional Injury Prevention

Averting or reducing health threats from abroad to U.S. citizens is part of the mandate of DHHS and CDC. The National Center for Injury Prevention and Control partners with other federal agencies; international, national, state, and local organizations; state and local health departments; and research institutions to reduce injuries and associated costs outside the workplace. The emphasis is on data collection and monitoring of trends in all injury-related mortality and morbidity and on injury prevention strategies. Road traffic injuries are included within the broad area of injury prevention. Relevant current activities include technical assistance to other countries' ministries of health to develop the capacity for collection of injury data and training and technical assistance to researchers and technical workers from other countries.

Centers for Disease Control and Prevention, National Center for Health Statistics, Office of Analysis and Epidemiology

Oversees the International Collaborative Effort on Injury Statistics, which provides a forum for international exchange and collaboration among injury researchers. The goals are to develop and promote international standards in the collection and analysis of injury data. Traffic injuries are included, and some developing countries participate.

Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Division of Safety Research, Surveillance and Field Investigations Branch

Conducts data collection, analysis, and research on surveillance methods and forms partnerships to improve occupational health surveillance. One of the three strategic goals of the National Institute for Occupational Safety and Health is the enhancement of global workplace safety and health through international collaborations. Almost all occupational research related to road traffic safety could be applicable to developing countries. Relevant activities include chairing an international worldwide consortium of government agencies, universities, and private-sector organizations—the Global Network of Occupational Health Centers, made up of the WHO Collaborating Centers in Occupational Health. The member agencies are developing a work plan and carry out joint projects.

Centers for Disease Control and Prevention, Coordinating Office for Global Health

Establishes strategies for international work within CDC and provides resources for other CDC groups to carry out technical work internationally. CDC works in partnerships, particularly with ministries of health or international organizations, to improve global health, including global road safety.

Department of State

Undersecretary for Global Affairs, Overseas Motor Vehicle Safety Management Program

Oversees a fleet of 10,000 motor vehicles operated abroad by the Department of State. Coordinates motor vehicle control and safety policies for the

department. Activities include vehicle inspection, driver training, crash investigations, and maintenance and analysis of crash data.

Bureau of Consular Affairs, Directorate of Overseas Citizens Services, Office of American Citizens Services and Crisis Management

Promotes awareness among Americans abroad of the risks of road travel and reports on road and traffic conditions in other countries so Americans will have facts on which to base informed decisions about their travel and activities. The office also reports on nonnatural causes of death among Americans abroad, including deaths due to road accidents, and publishes consular information sheets with facts relating to road conditions and traffic safety issues for 200 countries.

Department of Transportation

Office of the Secretary, Office of International Transportation and Trade

Has the objective of ensuring a global market that is safe, secure, and available to U.S. interests. The office manages international programs for the Secretary of Transportation with regard to transportation safety for all modes—aviation, rail, road, and marine. The secretary seeks to raise awareness of global road safety at bilateral and multilateral meetings and international conferences.

National Highway Traffic Safety Administration, Office of Traffic Injury Control, Program Development and Delivery

NHTSA administers traffic safety programs and provides national leadership and technical assistance to states, local communities, and others. It is primarily a domestic agency, but with new authority from Congress to be engaged in global road traffic safety, it can work explicitly on traffic safety at the international level, primarily through international organizations and with industrialized countries to identify their best practices. The office's responsibilities include research relating to impaired driving, occupant protection, enforcement and criminal justice, speed management, pedestrian and bicycle safety, motorcycle and pupil transportation safety, and emergency medical services. Relevant activities include providing U.S. representation on two UN Economic Commission for Europe working parties related to traffic safety—

WP1 on best practices and WP29 on harmonization of vehicle regulations—and on the steering committee of the Global Road Safety Partnership.

National Highway Traffic Safety Administration, Office of International Policy, Fuel Economy, and Consumer Programs

Serves as primary liaison for NHTSA's international work related to vehicular standards and driver and behavioral issues.

National Highway Traffic Safety Administration, Office of Strategic and Program Planning

Develops the strategic plan for NHTSA and for specific topics. NHTSA's current plan for international activities calls for work with international partners to improve global traffic safety and to establish, improve, and harmonize traffic safety data collection systems.

National Highway Traffic Safety Administration, National Center for Statistics and Analysis

Collects, analyzes, and disseminates data on traffic safety and evaluates NHTSA programs. The center is working with international organizations on projects designed to improve traffic safety data in several countries.

Federal Highway Administration, Office of Safety Programs, Office of International Programs

FHWA manages the federal program to provide funding and technical support to state and local government road agencies. Its international activities include informing the domestic highway community of technological innovations in other countries and promoting U.S. highway transportation expertise in other countries to encourage the transfer of U.S. highway transportation technology to foreign countries. Technology transfer centers in 22 countries are supported.

Federal Motor Carrier Safety Administration, Policy and Program Development, North American Borders Division

FMCSA administers safety regulations governing the operation of large trucks and buses in the United States. Under the terms of the North

American Free Trade Agreement, it works with the governments of Canada and Mexico to develop compatible commercial motor carrier safety requirements and procedures throughout North America for vehicles entering the United States.

U.S. Agency for International Development

Bureau of Global Health, Office of Health, Infectious Disease, and Nutrition, Child Survival and Health Grants Program

Makes grants to nongovernmental organizations, including private voluntary organizations, to build the capacity of medical service infrastructure and ensure the quality of services for improving children's health in other countries. Grants can fund programs for road traffic safety for children. The Office of Health, Infectious Disease, and Nutrition also operates programs that provide assistance to other countries addressing broader health issues.

Bureau of Global Health, Office of Health, Infectious Disease, and Nutrition, Maternal and Child Health Team

Supports programs designed to improve maternal and child health in developing countries. None of these programs currently addresses road safety specifically.

Bureau for Economic Growth, Agriculture, and Trade, Office of Infrastructure and Engineering

Responsible for USAID road-building and improvement projects. Road safety is regarded as integral to all projects rather than as a separate category.

Global Development Alliances Secretariat

A new program that promotes the formation of public-private partnerships supporting international development projects. It has held discussions with the Global Road Safety Partnership and others on road safety, but no projects focusing on this problem are under way.

U.S. Peace Corps, Office of Safety and Security

Responsible for the safety of staff and volunteers in 77 countries. The office establishes policies with regard to safe travel and vehicle use and assesses the safety of transportation in the countries where Peace Corps staff work.

U.S. Trade and Development Agency

Creates commercial opportunities abroad for U.S. companies. Examples of agency activities are provision of technical assistance to other countries to develop trade regulations and analysis to define and assess the financial viability of business opportunities. Projects are funded on the basis of a proposal from the other country, often with a U.S. partner. Projects to help U.S. companies procure transportation-related contracts abroad (e.g., providing traffic management systems) may have road safety implications.

Workshop Planning Committee

Biographical Information

Mark L. Rosenberg, *Chair*, is executive director of the Task Force for Child Survival and Development, a nonprofit global health organization combining public health expertise with experience in collaboration to address complex public health issues. The task force acts as a neutral convener, bringing critical partners together to do what none could do separately. Before assuming his current position, Dr. Rosenberg served 20 years with the Centers for Disease Control and Prevention, where he performed early work in small-pox eradication, enteric diseases, and HIV/AIDS. He was director of the National Center for Injury Prevention and Control from 1994 to 1999. Dr. Rosenberg is board certified in psychiatry and internal medicine. He has received the Surgeon General's Exemplary Service Medal, as well as the Meritorious Service Medal, Distinguished Service Medal, and Outstanding Service Medals from the U.S. Public Health Service. He is a member of the Institute of Medicine (IOM). He received his undergraduate degree and degrees in public policy and medicine from Harvard University.

Anthony Bliss is lead road safety specialist in the Transport and Urban Development Department at the World Bank. The focus of his work is on the development and promotion of multisectoral strategies to improve road

safety outcomes in low- and middle-income countries. He is producing a strategic framework to guide future World Bank road safety initiatives and assisting in the preparation of road safety projects in Vietnam, China, and Argentina. Before taking up his current position, he was general manager of the Strategy Division at the Land Transport Safety Authority, New Zealand. He holds bachelor of arts and master of arts degrees in economics, both from Canterbury University, Christchurch, New Zealand.

T. Bella Dinh-Zarr is national director of traffic safety policy at AAA. She previously worked for the National Highway Traffic Safety Administration, the Texas Transportation Institute, the Centers for Disease Control and Prevention, and the *International Journal of Technology Assessment in Health Care*. Dr. Dinh-Zarr received a bachelor of arts degree in Spanish literature from Rice University and a master of public health and a doctorate in health policy from the University of Texas School of Public Health. She has trained at the Universidad Catolica de Valparaiso, Chile, and the Institute of Child Health, London, as part of the Cochrane Collaboration. She has published on the topics of tools to assist older drivers, safety belt policies, and interventions to reduce injuries from problem drinking. Dr. Dinh-Zarr serves on several Transportation Research Board committees, was an appointed member of the 2005 White House Conference on Aging Advisory Committee, and is a member of the American Public Health Association and the Delta Omega Public Health Honor Society.

J. Michael McGinnis joined IOM as senior scholar in 2005 to develop a program on evidence-based medicine and the expansion of clinical effectiveness studies. From 1999 to 2005 he served as senior vice president at the Robert Wood Johnson Foundation. From 1977 to 1995 he was assistant surgeon general and deputy assistant secretary for health (disease prevention and health promotion) through the Carter, Reagan, Bush, and Clinton administrations. He is chair of the IOM Committee on Children's Food Marketing. Dr. McGinnis' international work includes service as chair of the World Bank–European Commission task force on postwar reconstruction of the health sector in Bosnia in 1995–1996. He is a member of IOM, a fellow of the American College of Epidemiology, and a fellow of the American College of Preventive Medicine. Other recognitions include the Wilbur Cohen Award, the Porter Prize, the National Health Leader of the Year Award, and the Distinguished Service Medal of the U.S. Public Health Service. Dr. McGinnis earned degrees in political science, medicine,

and public policy from the University of California at Berkeley, the University of California at Los Angeles, and Harvard University.

V. Setty Pendakur is emeritus professor of planning, School of Community and Regional Planning, University of British Columbia, and president, Pacific Policy and Planning Associates, Vancouver, British Columbia. He has chaired the Transportation Research Board's Transportation in the Developing Countries Committee since 1997. His interests include urban transport in developing countries, congestion management and sustainability in Asian megacities, and nonmotorized transport planning. Dr. Pendakur was a member of the National Research Council's Panel on Transportation Options for Megacities in Developing Nations in 1995–1996. He received a bachelor of engineering degree from the University of Mysore and a master of science degree in civil engineering and a doctorate in transportation planning from the University of Washington.

Improving Road Safety in Developing Countries: Opportunities for U.S. Cooperation and Engagement

Estimates suggest that more than 1 million people die and an additional 20 million people are injured in road traffic crashes in low- and middle-income nations each year. This report, which focuses on the potential for the United States to help address the problem of road safety in developing countries, provides a view of the diverse ways in which the United States and its citizens are affected by this problem, the scope of activities of U.S. agencies addressing it, and prospects for further engagement.

“Through my own work as a surgeon in Africa and in the United States, I have witnessed the human costs of road traffic injury. The tragedy of this suffering is compounded by the fact that so much of it is preventable. This report is of great significance and well timed to promote the small but developing momentum on road safety globally.”

—Charles Mock, MD, PhD, Director, Harborview Injury Prevention and Research Center,
University of Washington, Seattle

“This report systematically identifies an extraordinary range of resources that the United States could mobilize to address this epidemic and makes it clear that improving global road safety is in America’s interest. Future generations will not understand how we could have failed to help make roads safe when we have this capacity to assist and so many lives depend on it.”

—Mark L. Rosenberg, MD, Executive Director, Task Force for Child Survival and Development

“This landmark document reports on the first step taken by a nation to formally consider opportunities for global cooperation and engagement in initiatives to address the silent epidemic on the world’s roads. This report provides a robust framework for participating agencies and organizations to shape and launch initiatives designed to improve global road safety.”

—Anthony G. Bliss, Lead Road Safety Specialist,
Transport and Urban Development Department, World Bank

This report, released by the Transportation Research Board (TRB), the Policy and Global Affairs Division (PGA), and the Institute of Medicine (IOM), summarizes presentations and discussions at a workshop held on January 26–27, 2006, in Washington, D.C. TRB, PGA, and IOM are part of the National Academies, which include the National Academy of Sciences, the National Academy of Engineering, the Institute of Medicine, and the National Research Council.

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ISBN 0-309-09423-2