



**TRANSPORTATION RESEARCH BOARD
STRATEGIC PLAN**

Adopted by TRB Executive Committee, June 15, 2007

TABLE OF CONTENTS

Environmental Scan	2
Mission and Goals	7
Performance Assessment	7
Gap Analysis	14
Objectives and Action Plan	16

I. ENVIRONMENTAL SCAN

Trends and Issues Affecting TRB: Customers, Institutional Environment, and Resources

Introduction

As the entity responsible for conducting strategic planning for TRB, the Executive Committee of the Transportation Research Board developed and adopted a new Strategic Plan in 2007, after compiling an updated list (issued in 2006) of *Critical Issues in Transportation*—a document that has the broader purpose of identifying key areas and concerns of current interest to the transportation community. These trends and issues bear on the future of TRB, in the sense that the organization is—or if not, should be—affected by changes in the transportation enterprise itself. As transportation evolves, the needs of system users, providers, and operators change too; and many of these groups are customers of TRB services, products, and programs. Thus, an environmental scan must consider factors that directly affect the Board’s ability to respond to customer needs, along with longer-term issues that will influence TRB indirectly by changing its customers’ requirements. The discussion of these trends and issues is organized into three main sections: Customers, Institutional Environment, and Resources.

Customers

The transportation enterprise is expanding and evolving, both in the United States and around the world. Many of these changes, documented in *Critical Issues*, have direct relevance to TRB because they have implications for customers’ needs—for those who use TRB products and services, for transportation researchers, and for the transportation system itself. Examples of such contextual factors include: changing demographics within the professional community, increased technical sophistication, globalization of the economy, continued population growth, increasing congestion and delay, loss of leadership in road safety, broader concerns about sustainability and transportation’s role, continuing decentralization of transportation decision making, and growth in public-private partnerships and tolling. These and the other key trends described in *Critical Issues* have important implications for transportation system users, providers, and operators. What will these trends mean in turn for TRB?

First, these changes have implications for transportation research. TRB’s customers have long looked to the Board to identify new issues and priorities for research. Research is needed on a variety of topics that could enhance our understanding of the challenges facing the U.S. transportation system. Some fruitful areas of investigation might include:

- *Congestion* across all modes of transportation, with significant *constraints on capacity* in many areas;
- Applications of *e-commerce and telecommunications technology* to optimize transport efficiency, with resulting effects on travel demand and trip distribution, and potential longer-term effects on work and residential location;
- Applications of *intelligent transportation systems (ITS) technologies* to enhance safety and improve transportation system performance;

- *More effective management of existing and new transport facilities*, to improve performance and increase capacity;
- *Systems-level* responses to address capacity and funding shortfalls, absent laws and institutions to respond to those needs;
- *Institutional changes* and accompanying issues, potentially including devolution of authority to lower levels of government, privatization, outsourcing, and public-private partnerships;
- *Applications of technology* in aviation and highways to facilitate *more direct charging for use* of facilities—and the broader, societal implications of such applications;
- Issues concerning *equity and environmental justice*, including limited mobility of the most disadvantaged populations, who also often bear the brunt of negative side effects from transportation facilities;
- The many challenges for transportation posed by *globalization*, in the drive to reach new customers, cut costs, and achieve new levels of connectivity in the transport of goods, people, and information;
- Expanded emphasis on, and need for cost-effective approaches to, *security and emergency response*, absent significant new revenues to support such efforts;
- *Preservation and protection of the environment*, with accompanying challenge of how to consider these goals with demands for improved mobility and expanded system capacity in some areas;
- *Transportation and land use relationships*, and the institutions governing them;
- Sustainability issues, ranging from *global climate change and energy consumption* to *local air quality and related health issues*; and
- Development and commercialization of *new engine technologies and alternative fuels* to reduce air pollutant emissions and petroleum use.

Transportation research is evolving to explore the types of issues highlighted above, and the need for credible research seems to be greater than ever as the world grows more complicated in the connections and movements that characterize work, consumption, leisure, and day-to-day living.

TRB's customers include many of the major institutions responsible for transportation in the United States today, but these responsibilities are in many instances in a state of flux. The trend over the past 20 years has been toward greater devolution toward individual participants in transportation decision making and investment. Transportation is not one industry but a collection of industries and organizations, involving public and private sectors and every level of government. In the private sector, deregulation and competition have resulted in significant consolidation of railroads, airlines, and trucking firms, and consolidation is now occurring in the

construction and engineering fields as well. In the public sector, some devolution of authority to lower levels of government has occurred, and outsourcing of design and maintenance services is growing. Many states and metropolitan areas are very interested in public-private partnerships that promote private-sector investment in transportation infrastructure. Many important questions, with significant potential impact on TRB, fall out of this dynamic environment. Will state transportation agencies become more or less important in this changing environment? What role with metropolitan planning organizations (MPOs) play in the future? What will the federal role look like 10 or 20 years from now? What role will private financing play in transportation investment? How will the passenger- and freight-moving sectors collaborate in fostering a systems approach toward transportation investment? There is a strong likelihood that many new customers of TRB services could come from a changing institutional environment in transportation.

The demographics of the transportation professional community are also changing, with massive retirements of the 'old guard' in many organizations and the emergence of a younger, much more diverse work force that is working in a far broader range of disciplines. TRB can support the needs of the changing transportation professional community to help facilitate professional development and serve new and changing audiences.

Institutional Environment

The demand for TRB products and services remains strong. The number of specialty conferences and workshops and the Annual Meeting activity (in terms of both papers and participants) are at an all-time high, as are subscriptions to the Board's electronic transportation research newsletter, usage of the TRIS and RiP databases, and visits to TRB's homepage. The Annual Meeting reached a milestone in 2006 with more than 10,000 individual participants.

However, the institutional environment for TRB activities also indicates some future challenges. Core program sponsorship from several transportation sectors has declined in recent years; the support for policy study work is at about half the level it was in 2002; and some significant gaps in sponsorship have proved difficult to close. In addition, the Board has had limited success in engaging top leaders of a number of the organizations that remain sponsors in TRB activities, making their role less effective than it might be.

Given its volunteer-based operation, TRB's core program draws its strength from its participants—the thousands of dedicated volunteers who make TRB the success it is. Thus the proliferation of other organizations (and meetings) competing for the limited time volunteers have to devote to *pro bono* activities is worrisome. Some of these other organizations have structures that include state and local chapters, facilitating local, grass-roots participation. Many of the organizations have a more specialized focus than TRB, concentrating on a specific mode, profession, technology, or area of transportation; some are advocates or *de facto* lobbyists for a sector, industry, or point of view; and some occasionally compete with TRB for funding. For TRB to continue to prosper, it needs to distinguish itself and its mission from the goals and missions of these other organizations, while taking stock of where the competition for people, time, and dollars may be heading.

In this era of globalization, with more interaction than ever occurring among researchers worldwide, TRB has a significant, and growing, international presence at its Annual Meeting, and

in recent years the Board has actively sought to participate with a growing number of foreign institutions in information exchange and in specialty conferences and related activities, both here and abroad. A strategic question for TRB, as a national organization, is how should it seek to define and enhance its international role to foster productive collaboration on transportation research, education, and technology transfer?

Finally, the demands on TRB operations reflect the expectations that customers have for services that are now provided in a fast-paced society. The demand for electronic dissemination of TRB products and services has been coupled with a growing demand for electronic communication among the Board's volunteer constituents. As a result, TRB has had to move quickly to improve its web site, extend the utility of the resources provided on the Internet, and add new resources. At the same time, there is recognition that some aspects of TRB committee activity can only be conducted in face-to-face meetings and that the Board's role as an independent convener of expert groups will continue to be an important function in the future.

Resources

TRB's core programs are affected by the availability and distribution of transportation research funding. Research resources increased under the latest reauthorization of federal surface transportation programs, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), but a shift has been occurring in the relative roles of federal and state governments. Moreover, federal research dollars for surface transportation are increasingly encumbered by congressional designations of how or by whom the dollars are to be used. The decline in federal discretionary dollars for transportation research is a troubling trend, putting pressure on programs old and new that are supported through these funds. And, as worrisome as the trend is for modes that have trust funds, the circumstances are even worse for agencies in areas like rail and marine transportation, which do not. Competition for dwindling federal dollars threatens the Board's policy study activity and its future core support from federal agencies.

While there has been a decline in funding for TRB policy studies, there has been an upsurge in congressional interest in creating new cooperative research programs. The Airport Cooperative Research Program, called for in the Vision 100—Century of Aviation Reauthorization Act, is in its first year of operation. SAFETEA-LU funded creation of the Strategic Highway Research Program 2 (SHRP 2), a national freight cooperative research program, and a pilot hazardous materials transportation cooperative research program. These federally funded programs, to be managed by TRB, lack year-to-year stability because they are subject to the annual congressional appropriations process.

States' interests are broadening, and their increased resources under SAFETEA-LU and its predecessor, TEA-21, have resulted in a growing National Cooperative Highway Research Program (NCHRP)—now at the level of about \$33 million a year. With a trend toward greater devolution, responsibility for a quality national research program in transportation could increasingly fall to the states. Given their historical importance to TRB's core funding and mission, their future is critical to the Board's. But, as is often noted, research is never the most important issue on any operating agency's agenda. In addition, state transportation agency leadership turns over very quickly, making it difficult for the agency heads without prior

transportation experience to develop a full appreciation of the longer-term value of research to their departments. Moreover, federal aid designated for research underpins the state programs; states' future commitments to research could be affected if the federal program declines or is restructured without a strong state research component in the next reauthorization. And, as devolution proceeds to the regional and local levels, there may well be significant growth in the number of toll authorities and other local or regional transportation operating entities, which typically have not played a prominent role in supporting research.

A perennial issue for TRB and other research organizations is the challenge of persuading individual sponsors, public or private, that they are receiving value commensurate with their contributions. The value of the investment in research is very difficult to measure, and pay-offs are likely to be realized over a longer time frame than many consider desirable. If transportation budgets become even tighter in the future, some of the core agency support for the TRB program could be vulnerable. Moreover, in an organization that enjoys the collective support of many or all agencies of one type—in TRB's case, for example, state transportation departments—the loss of one or two of these agencies would not dramatically alter the level of support for TRB, and some agencies might consider that they could get much the same benefits by being a 'free rider' on the system. If such reasoning became more general, the whole structure of support would collapse.

Historically, TRB's principal connection has been with the public-sector providers of transportation infrastructure and services; other constituencies have been added around this central core. In recent years, several non-U.S. Department of Transportation federal agencies with interests in transportation, including the Department of Energy and the Environmental Protection Agency, have cycled in and out of sponsorship. When these agencies were TRB sponsors, it was difficult to attract substantive participation from agency leaders. This has also been an issue with some continuing federal sponsors.

Increased participation by private firms has been a TRB goal for many years, but this has been difficult to achieve. This era of dynamic change, in which globalization and just-in-time delivery have solidified the connections between transportation and logistics, has given rise to new business relationships and expectations, which often do not lend themselves to longer-term research activities. Investment in an institution like TRB may not be perceived to yield significant returns in an environment in which business transactions may often be near-instantaneous. However, in an era in which public-private dialogue and partnerships have become increasingly important, the Board's neutral forum affords an opportunity for candid discussion and relationship-building that may well be attractive to a broader range of private-sector interests. TRB's objectivity and its multimodal focus make it increasingly unusual in a world populated by organizations that have both explicit and implicit goals and agendas. From the Board's perspective, a considerable ongoing effort is required in order to maintain existing relationships with an already large group of stakeholders. How much effort can and should be devoted to nurturing new ones—some of whom are only now entering the transportation arena and are likely to be difficult to attract or retain in any case? Finding ways to increase the participation and funding support from private companies within the Academies' institutional ground rules will be a continuing challenge in the coming years.

II. MISSION AND GOALS

TRB Mission: *Provide Leadership in Transportation Innovation and Progress through Research and Information Exchange*

The mission of the Transportation Research Board is to provide leadership in transportation innovation and progress through research and information exchange, conducted within a setting that is objective, interdisciplinary, and multimodal.

TRB Goals

1. Anticipate future transportation challenges and provide leadership in promoting and conducting research and policy analysis to prepare the United States for meeting those challenges.
2. Conduct and promote knowledge creation and dissemination, especially on innovative practices and technologies in the transportation sector.
3. Provide timely and informed advice on transportation and transportation-related issues to decision makers and others who are responsible for the nation's multimodal transportation system.
4. Act as an effective and impartial forum for the exchange of knowledge and information, including transportation and its relationship with social, economic, environmental, and other issues.
5. Promote collaboration on transportation research, education, and technology transfer at international, national, regional, state, and local levels; across public and private sectors; and with transportation providers, customers, and other stakeholders.
6. Contribute to the professional development of individuals currently working in transportation and to the education and enhanced diversity of the pool of individuals who will work in the field in the future.
7. Conduct and promote communications efforts to enhance the awareness of transportation research and its contributions to innovation and progress in transportation.
8. Contribute to the public's understanding of transportation and its significance to the nation.

III. PERFORMANCE ASSESSMENT

Strengths, Limitations, Challenges and Threats, Opportunities

TRB is an 87-year-old, independent, nonprofit U.S. institution that promotes and conducts transportation research and information exchange; serves as a neutral forum for research-related

meetings and activities; manages contract research programs in highways, public transportation, and airports; conducts balanced studies by expert committees on national transportation policy issues; and publishes and disseminates widely the results of research.

A. STRENGTHS

A well-established constituency that is both broad and deep.

- Historic and continuing ties to the U.S. highway community and the state highway and transportation agencies.
- A broad sponsorship base including current sponsorship by most of the modal and other component administrations within the U.S. Department of Transportation (USDOT).
- Participation, although uneven, by all modes of transportation in TRB activity
- A volunteer network of more than 5,000 transportation experts who serve on a diverse array of TRB technical committees and panels and who participate in a wide range of TRB activities.
- A ‘bottom-up,’ grass roots structure of about 200 standing technical committees that attract very broad participation of the transportation community—from students to top-level leaders of transportation organizations.

Linkage to the National Research Council/National Academies of Sciences and Engineering/Institute of Medicine, providing institutional credibility and resources.

- The stature of the National Academies is vitally important in attracting talented individuals to serve and in drawing public attention to programs and products.
- The National Research Council (NRC) processes governing committee appointments and report review ensure that policy studies and other projects on major transportation issues are conducted objectively by balanced committees of experts who serve without compensation.

A long-standing reputation for credibility, objectivity, and neutrality.

- These traits make TRB attractive as an institution to conduct policy studies on national transportation policy issues, and to convene conferences and other meetings of parties with differing perspectives on technical or policy issues.
- TRB’s peer-reviewed papers and reports provide an important contribution to the transportation literature.

A broad array of programs, services, and products, including some that are preeminent or unique.

- TRB's Annual Meeting is the single largest gathering of its kind, currently drawing approximately 10,000 attendees to exchange research results and information on all aspects of transportation.
- The *Transportation Research Record: Journal of the TRB* series provides a compendium of peer-reviewed technical papers grouped by subject matter, drawn largely from Annual Meeting presentations.
- The Cooperative Research Programs are customer-oriented programs of contract research, in which the customers (e.g., state transportation agencies for NCHRP, transit operators for TCRP, airport managers for ACRP) select problems for pool-funded research, conducted with the guidance of small panels of volunteer experts.
- The Transportation Research Information Services (TRIS)—an extensive computerized bibliographic database that is available without charge on the Web through the Bureau of Transportation Statistics' National Transportation Library Web site.
- Policy studies on national transportation issues, conducted according to the NRC study process described above.
- The Strategic Highway Research Program (SHRP) 2, a congressionally authorized program of targeted research on four vital theme areas for highways—safety, capacity, reliability, and renewal.

A diverse, experienced, dedicated staff.

- Staff includes a broad variety of specialists well recognized in their fields.
- Staff members have long-standing expertise in organizing and facilitating the work of the volunteer committees.

A whole that is greater than the sum of its parts.

- The interactive, cross-fertilizing nature of the various components of TRB results in an organization that is stronger and more influential than all of its individual parts.
- TRB is a unifying force, by virtue of its ability to bring all parties to the table and look at the nation's transportation system as a whole.

B. LIMITATIONS

Uneven participation by transportation groups and constituencies.

- Ties to government and universities traditionally have been stronger than ties to the private sector. Universities contribute time and talent, but little financial support, to TRB.

- Persistent under-representation of some stakeholder groups (e.g., carriers, shippers, construction, industry, and consultant communities) and of decision makers outside the traditional transportation community.
- Gaps even within the public sector. Example: some environmental advocacy organizations and transportation agency environmental experts are represented, but few public environmental agencies below the national level; national-level environmental agency participation has been sporadic and lacking in involvement of senior executives.
- Stronger representation of some disciplines and fields than others (e.g., weak representation in areas of vehicles/fuels, international/trade issues, logistics).
- Slower growth than desired in participation by women and members of minority groups in TRB activities.
- Perception that TRB is not ‘balanced’ can affect credibility and willingness of some individuals and groups to actively participate in TRB activities.

An organizational structure and institutional ties that limit TRB's flexibility and ability to change, and that may result in higher costs for some activities in comparison with other types of organizations.

- Bottom-up standing committee structure tends to reinforce the status quo, or at least make the pace of change very slow. The large number of narrowly focused committees itself may be an issue in this regard.
- NRC/NAS policies and procedures limit TRB's flexibility and the speed with which it can initiate new programs, services, or projects.
- The structure of the Board's financial support gives TRB limited scope to initiate new programs, projects, or services within existing budgets.
- TRB's indirect cost rates, set by its parent institution, are perceived as high.
- TRB lacks an adequate institutional structure to conduct collaborative research, especially internationally.

Constraints on ability to respond quickly to requests for policy and technical advice.

- It is generally perceived that TRB policy studies are slow and costly, although a range of options exists to respond to the needs of sponsors. A traditional 18-24 month policy study costs \$500,000 or more depending on the complexity of the subject. On occasion, major studies are conducted in a year or less, but doing so places unusual demands on volunteers and staff. TRB also offers a faster turnaround on less complex topics, such as expert reviews of plans, reports, and research programs; this option can cost less than \$200,000 and deliver

advice in a matter of months. Regardless of option, however, certain processes of the NRC cannot be compromised, and these processes require time. Projects cannot be undertaken unless they are considered carefully and approved by the institution. Great care is taken in forming committees that are balanced in terms of perspectives and free of conflicts of interest. In addition, projects involving NRC committees that provide advice to government must comply with the Federal Advisory Committee Act Amendments that apply to the NRC. And all NRC reports are subject to institutional requirements for report review.

- The CRP project panel process, while praised for its strong involvement of the users of the research, increases the time necessary to develop and deliver research findings.
- The traditional emphasis of the Annual Meeting on paper sessions, which require a substantial lead time for paper preparation, may reduce the ability of this event to focus on issues of the most current interest to the transportation community.

Methods of distributing research results and other information that are not targeted as effectively as they could be to the relevant constituencies.

- For an organization that is a clearinghouse for research information and that issues more than 150 publications annually, getting the word out to those who need it is critical. TRB has made great strides in publicizing its products and activities, especially through its weekly electronic newsletter. However, some current methods of dissemination may not be effectively targeted, and changes in format for the delivery of some products could improve their accessibility.

Continuing perception of TRB as primarily a highway-oriented organization.

- Despite the Board's extensive involvement in, and outreach to, other modes of transportation, its origins and long history of serving the highway community still affect its image.

C. CHALLENGES AND THREATS

Possible Loss of Relevance

- One of the major threats TRB faces is reduced relevancy. As long as it remains relevant to the needs of its sponsors and constituencies, it is likely to enjoy their participation and support. This goes to the heart of the strategic planning process and is obviously linked to a number of different points in this analysis. In order to remain relevant to sponsors and constituents, the Board must focus on providing programs and services that are considered highly useful by customers and sponsors (especially programs and services that it is uniquely well-suited to provide). TRB should proactively adjust its programs and emphasis areas to stay in tune with the needs and concerns of its sponsors and constituents, and it probably should avoid diversifying its offerings to the point of 'trying to be all things to all people.' It also must effectively, proactively communicate the availability of its programs to existing and potential customers and sponsors.

- The diversity of TRB's work and its constituencies results in tensions between different aspects of its mission—i.e., technical versus policy work—and raises different expectations of where TRB should and will put its emphasis. Although some tension is inevitable, TRB needs to determine how it might best respond to, or mediate, these potential conflicts at a time when expectations of transportation's role in society are changing.

Delays, disruptions, and cutbacks in funding by major sponsors.

- Given TRB's dependence on a large number of mostly public-sector sponsors, the continuing support—and timing of that support—from one or more of these public agencies is often in doubt. Recently, there has been attrition in non-USDOT federal sponsors (Department of Energy and U.S. Environmental Protection Agency), and a failure to bring in new ones such as the Transportation Security Administration and other components of the Department of Homeland Security, aside from the Coast Guard.
- TRB's financial health is tied to a large extent to public-sector interest in and support of transportation research generally. Public-sector support for research has been relatively strong in recent years. However, the last legislative reauthorization cycle was marked by extensive earmarking and 'over-designation' of funds in the research title of SAFETEA-LU. The resulting drop in federal discretionary dollars for transportation research has had an immediate, significant effect on the level of support for the Board's core programs—FHWA reduced its funding support by more than \$1 million annually. There has also been a decline in the funding of congressionally requested policy studies.
- For core support and NCHRP, TRB is particularly dependent on state funds, which originate from the State Planning and Research (SP&R) provisions of Federal-Aid programs for highways—the status of which may be revised in future authorizing legislation. Thus even 'state' funds are tied to Federal-Aid programs, and the extent to which states would 'backfill' to make up for reductions in their federal aid for research is debatable.
- The long-term status of TCRP is also uncertain; although funding for the program increased under SAFETEA-LU, in past years earmarking in the annual appropriations process has reduced the available funding. ACRP funding is also subject to the annual appropriations process and, like TCRP, must be periodically reauthorized by Congress.
- Organizational changes, both in public- and private-sector organizations, may result in increased uncertainty about the overall level of financial support for TRB by these groups. For example, several industry groups (e.g., the National Asphalt Pavement Association and the American Concrete Pavement Association) that had been sponsors of TRB in the recent past withdrew their sponsorship, based on financial concerns or other organizational issues.

Competition and redundancy

- A variety of professional organizations, university research centers, special-purpose organizations, foundations, and others offer services similar to some of TRB's services. While generally healthy—reflecting a broader scope, increased resources, and new participants in

transportation research—it can mean duplication of activities and increased competition for scarce dollars and for volunteers' time.

- There is no clear delineation of the roles of federal agencies, vis-à-vis TRB, in transportation research. This has implications for the focus of, and potential audiences for, TRB research, as well as for funding. Without knowledge of the research that is being conducted, its scope, and its quality, there is potential both for redundancy and for the existence of critical gaps—which, if known, TRB might help fill.

Technological obsolescence vs. increasing IT costs

- In an era of rapid developments in and applications of information technologies, failure to respond quickly enough to the new opportunities in electronic communication and dissemination of information could result in technological obsolescence. Accordingly, with increased demand for electronic delivery of information, TRB is devoting more staff and other resources to these efforts—raising the issue of how TRB can use IT and related technologies to conduct its work more effectively.

D. OPPORTUNITIES

Continuing, and possibly growing, demand for the types of services TRB provides.

- This period is proving to be a complex, transitional era in transportation, in which there is a continuing need for the types of services TRB provides—including information dissemination and supporting research, inclusive forums for policy debate, and credible institutions for the conduct of special studies and policy debate.
- In an era of globalization and increasingly international contacts and cooperation, opportunities and interest exist for TRB to undertake increased outreach to the transportation community, in the United States and abroad, including technical advice and information resources, as well as collaborative partnerships with research institutions in other countries.
- There is also interest in some developing countries, such as China and India, in establishing a TRB-like entity.
- There is continuing interest in extending the Cooperative Research Program model to a variety of areas with limited research capability of their own.

New information technologies that could improve TRB's delivery of products and services.

- Applications of new information technologies—including videoconferencing, CD-ROM, and Internet applications such as webinars—could lead to faster, less expensive, and more customer-oriented ways of delivering TRB products and services. The Board has made significant progress down this road, but the pace of change is swift and the level of user

expectations high. Electronic options have changed product portfolios, with implications for many aspects of TRB's operations, financing strategies, and interface with customers and constituents. (See 'threat' side of this above.)

Opportunities to expand TRB's constituencies and financial support.

- There may be an opportunity to broaden TRB's constituencies and financial support, in particular by attracting additional private-sector participation, as appropriate to TRB's mission and NRC guidelines. TRB should revisit the financial thresholds for sponsorship and sustaining affiliate status, and rethink the 'one-size-fits-all' structure of its affiliate program, which has failed to yield new sources of financial support in recent years. More aggressive outreach may be needed to identify, attract, and retain new sources of financial support, particularly for TRB core programs.

Potential to capitalize on TRB's talent pool to identify new, cutting-edge opportunities for intellectual investigation.

- To remain current and relevant, TRB should tap its pool of talented volunteer experts to seek out new intellectual opportunities as they emerge, including opportunities to extend investigations beyond the traditional set of transportation-related fields and disciplines.

IV. GAP ANALYSIS

One of the key objectives of the strategic planning process is, through the assessment of TRB's performance, including input of stakeholder groups, to identify major gaps that need to be addressed in order to fulfill TRB's mission. Gaps may be identified in any or all of the areas that define the Board—its products and services, constituencies, participants, disciplines, subject areas, methods, resources, and processes. A *gap* can be defined as an area in which improvement or expansion is needed in order to enhance, or even to maintain, the relevance and usefulness of TRB to its sponsors and to the broader transportation community, or to attract new sponsors and audiences.

Another way of approaching this is to ask the following questions. Which groups should be involved in TRB that are not currently engaged? What disciplines, subject areas, and issue perspectives are missing or under-represented in the TRB portfolio? What changes should be made to the existing array of services and products that the Board provides and/or to the means by which those services and products are marketed and delivered? What resources are needed to support and enhance existing services, and what resources would be needed to augment them?

Groups that have been historically difficult for TRB to attract and to engage include shippers, private-sector suppliers and contractors, transportation and non-transportation agencies at the local level, non-transportation agencies at the state level (such as state environmental organizations), aviation-related organizations, and elected officials. The issue for some of these groups is that they do not perceive transportation—or research—to be centrally important to their mission. This can also be said of some of the federal agencies that have been more peripherally involved in TRB

in the past. Recently, there has been a reversal in the trend toward greater involvement of the non-USDOT federal agencies—EPA and DOE have lapsed as TRB sponsors, NASA has hung on, and DHS/TSA has never come on board. Involvement by DOD has not solidified despite the Board's increased involvement with maritime and freight issues following the incorporation of the Marine Board into TRB. Strategies for collaborative involvement on individual projects may be a good entrée for some of the federal non-USDOT agencies not currently engaged.

Also missing are certain disciplines, subject areas, and issue perspectives. Those interested in motor vehicle design, for example, are likely to go to the Society of Automotive Engineers rather than to TRB, and it would probably not be productive for the Board to try to attract that group with a well-established organization already representing its interests and expertise. With the growing integration of transportation and logistics, however, it may make sense for TRB to try to engage the logistics industry and its associated research community more fully. More systematic outreach to existing organizations such as the Council of Logistics Management could be an important first step. Design of a specific activity or series of activities targeted to this subject area and community might also be helpful. Similar efforts may be needed in the areas of telecommunications and electronic communications, as the relationship between these areas and transportation continues to evolve.

One area that appears to be benefiting from greater attention is the international community interested in transportation. International participation in the Annual Meeting and other activities is substantial and growing, and TRB's international presence is being enhanced by collaboration (an example is the collaboration with OECD on planning the road pricing conference held in 2003) and partnering with foreign research institutions (as in the signing of a memorandum of understanding with the European Conference of Transport Research Institutes in 2006). If pursuing this approach more systematically in the future, TRB could stress the benefits to sponsors, in terms of the growing recognition that we can learn from the experience of other nations in addressing transportation-related problems.

Increasing the diversity of individuals serving on TRB committees and participating in conferences and other activities—diversity in terms of age, gender, ethnicity, geography, and expertise—is a continuing challenge, and one that also needs to be addressed proactively in the planning process.

Expanding the array of services and products that TRB already provides—or changing the relative balance among them—may also be appropriate, along with enhancing the means by which the Board markets and delivers its products. One area in which significant strides have been made but more remains to be done is taking full advantage of electronic tools for faster and more targeted delivery of reports, and improved marketing of TRB products and services. Numerous comments have been offered on the perceived need to do a better job at 'selling' TRB, often simply by doing better at informing target communities about who we are and what we do that can benefit those communities. This challenge is perhaps more difficult for a research-oriented organization, in that research typically has many advocates but no champions.

Given the significant cutback in FHWA funding for TRB's core program resulting from the cut in USDOT discretionary funds for research under SAFETEA-LU, the Board has had to undertake

some immediate revenue-enhancing measures such as raising Annual Meeting and conference registration fees, as well as some cost-cutting measures affecting the frequency, distribution, or scope of TRB services and products. These measures, although painful, were deemed necessary to preserve the content of those programs that have traditionally been the ‘core’ of TRB. Thus a key part of the gap analysis in this strategic planning cycle must be to identify potential sources that might be tapped to augment existing funding and provide continuing support for TRB core programs in the future.

V. OBJECTIVES AND ACTION PLAN

“A goal without a plan is just a wish.”

Antoine de Saint-Exupéry

The following objectives have emerged from the strategic planning process, based on the Executive Committee’s scan of the external and internal environments; revised TRB mission and goals; surveys of standing committee chairs, state representatives, and e-newsletter subscribers; analysis of TRB strengths, weaknesses, opportunities and threats; and gap analysis. Under each objective, potential actions are noted. Some of these candidate actions were proposed by members of the Subcommittee on Planning and Policy Review or the Executive Committee; others were suggested by respondents to one of the three strategic planning surveys conducted by TRB; and still others build on action items in the Board’s prior strategic plan or were proposed by TRB staff. The Executive Committee decided to include this broad set of candidate actions in the plan, while recognizing that it may not be possible to pursue all of them. The bracketed line beneath the title of each objective identifies which ‘rubric’ the objective belongs to—finance; outreach; or research, knowledge, and information—and also indicates which of the Plan’s 8 Goals it relates to.

1. Broaden and solidify TRB’s financial base

[*FINANCE*; all goals]

A. Develop a strategy to enhance revenues

1. Consider increasing conference and workshop registration fees, publication prices, and other charges, as appropriate, to bring them more into line with the market
2. Increase private-sector base and enhance revenues by offering recognition opportunities for organizations that contribute to TRB, e.g. by listing them as contributors in the Annual Meeting Program, etc.

B. Develop a fundraising strategy to diversify and increase core support

1. Explore potential for stronger relationships with foundations, including research foundations of transportation organizations
2. Restructure TRB Affiliates program to attract more donors and yield greater revenues by targeting affiliate packages and services to different constituencies, including the private sector, universities, and public agencies

3. Develop strategy to engage high-ranking officials of government agencies more actively, to ensure their continuing support for TRB; assist them in understanding how the changing role of governments in transportation is changing funding mechanisms in a way that may affect research and TRB
4. Develop strategy to attract support from additional federal government agencies, including those that are ‘lapsed’ TRB sponsors

2. Expand coverage and relevance

[*RESEARCH, KNOWLEDGE, & INFORMATION*; *OUTREACH*; goals: 1, 4, 5, 6]

A. Develop a strategy to expand TRB’s coverage and its relevance to different segments of the transportation community and key non-transportation entities

1. To solidify and extend its coverage of all transportation modes, build on existing activities and leverage two recently established cooperative research programs, the Airport Cooperative Research Program and the National Cooperative Freight Research Program; in connection with those specific sectors, pursue active outreach to aviation agencies and associations, freight companies and associations, and related federal agencies
2. Local government — Establish closer ties with metropolitan planning organizations (MPOs), local government; pursue active outreach to MPOs, mayors, counties, and county associations, as well as local entities involved in land use, health care, and environmental planning and decision making
3. State DOTs—Explore methods to enhance the ability of state DOT employees to participate directly in TRB committees, meetings, and conferences
4. Other public agencies—Explore methods to encourage participation in TRB committees, meetings, and conferences by employees of non-DOT public agencies
5. Private Sector—Explore what TRB can do to attain a new relationship with the private sector by identifying and communicating the connections between the Board’s current mission, services, and products and the needs of retailers and other private-sector organizations that are transportation customers or providers
6. International — promote meaningful partnerships with transportation research organizations outside the United States; assess opportunities for expanded international collaboration on research and other activities; pursue active outreach to international transportation community
7. Industry and professional groups—pursue partnerships and joint activities with other organizations, including those that have overlapping interests and are not TRB sponsors, as well as organizations such as tollway authorities and international firms that are playing a bigger role in operating U.S. transportation facilities

8. Recognize the role of cooperative efforts and interconnections among different segments of the transportation community, particularly in terms of cross-cutting issues; explore how TRB can foster/build on/contribute to such efforts
9. Review how effectively the current structure and activities of TRB's Marine Board serve the needs of the marine transportation community and various maritime sectors; identify steps being taken and new opportunities to broaden and strengthen the Marine Board's ability to identify research and engineering needs and to provide a forum for exchange of information

B. Promote greater involvement by women, minorities, and young professionals

1. Explore establishing a special relationship with historically black college(s) or minority-serving institution(s), to bring TRB's research focus to the institution(s) and facilitate increased participation (Texas Transportation Institute model)
2. Explore creation of scholarship program for minority students and young professionals to attend TRB Annual Meeting
3. Explore new measures and continue measures already in place to enhance diversity, such as following through with monitoring minority subcontracting on CRP projects

3. Improve Effectiveness of TRB

[RESEARCH, KNOWLEDGE, & INFORMATION: goals 1, 2, 3, 4, 5, 6]

A. Target advice and guidance

1. Develop and periodically update *Critical Issues in Transportation*, and provide a top-down link to these issues in addressing strength and relevance of TRB committee activities
2. Issue and update regularly a comprehensive transportation research agenda, keyed to the *Critical Issues*
3. Anticipate future transportation challenges and explore means of addressing them, e.g. through self-initiated policy studies, core technical activities
4. Emphasize cross-cutting issues and connections between and among the various divisions of TRB
5. Building on an action item from the 2002 TRB Strategic Plan to develop a 'big issues in transportation' study series, identify several key national transportation policy issues for which there are significant gaps in information/analysis, together with potential study designs and fundraising suggestions
6. Serve as an information resource on research issues for staff of Congressional committees, especially during reauthorization cycles

7. Improve and expedite the reporting of research results and implementation to practitioners, e.g. through practical information and tools generated from research

B. Ensure continuing strength and relevance of TRB standing committees

1. Strengthen the ability of TRB and its committees to address critical, emerging, and cross-cutting issues through improved coordination and communications and review of committee scopes
2. Develop and update research needs statements, to be provided as a comprehensive electronic database available to sponsors, affiliates, and subscribers
3. Pursue measures to foster increased participation and leadership on standing committees by women, minorities, and young professionals
4. Pursue measures to foster increased participation and leadership on standing committees by employees of public agencies
5. Pursue measures to address growing size and complexity of TRB Annual Meeting
6. Monitor effectiveness of measures taken to improve stature of TRB's peer review process, including establishment of TRR Publication Board; consider additional measures/refinements as appropriate
7. Present more research of interest to the private sector; sponsor conferences/sessions for industry, practitioners

C. Ensure continuing strength and relevance of TRB research management activities; assist in development of additional cooperative research programs

1. Monitor effectiveness and usefulness to customers of TRB's research management activities
2. Develop 'success stories' from newer programs to assist in marketing their continuation and funding support in the future
3. Provide information and guidance upon request to other organizations interested in initiating cooperative research, such as metropolitan planning organizations (MPOs), toll road authorities, and non-governmental organizations
4. Provide information on how individuals are selected to serve on CRP panels and SHRP 2 expert task groups
5. Provide information on 'matchmaking' for individuals/organizations who wish to form a team to propose on a research project

4. Promote enhanced outreach and public understanding of TRB, research, and transportation

[*OUTREACH*; goals 2, 6, 7, 8]

A. Promote public understanding of TRB, research, and transportation

1. Explore means to facilitate two-way communication with transportation customers—to better understand them and their needs, and to communicate more effectively with them on issues and solutions
2. Include technology transfer and information dissemination as part of initial planning of research projects, conferences, and other TRB products
3. Develop strategies to achieve greater visibility for research results, enhanced coverage of transportation stories and those focused on transportation research and its implementation
4. Do a better job of communicating the benefits of TRB participation, including direct communications/meetings with elected and appointed officials and decision makers
5. Undertake more aggressive marketing of TRB—build on existing activities, develop stronger ties with media, and raise TRB profile with targeted groups and the general public (e.g., through an attention-getting tool on research similar to ASCE’s ‘report card’ on the state of U.S. infrastructure)

B. Enhance electronic outreach

1. Make enhancements to website and e-newsletter formats, accessibility, search capability
2. Put *Transportation Research Record* journal series online, available through subscription and on pay-per-view basis (individual articles)
3. Use webcasts, e-newsletters, and other technology tools to reach those who find it hard to attend meetings