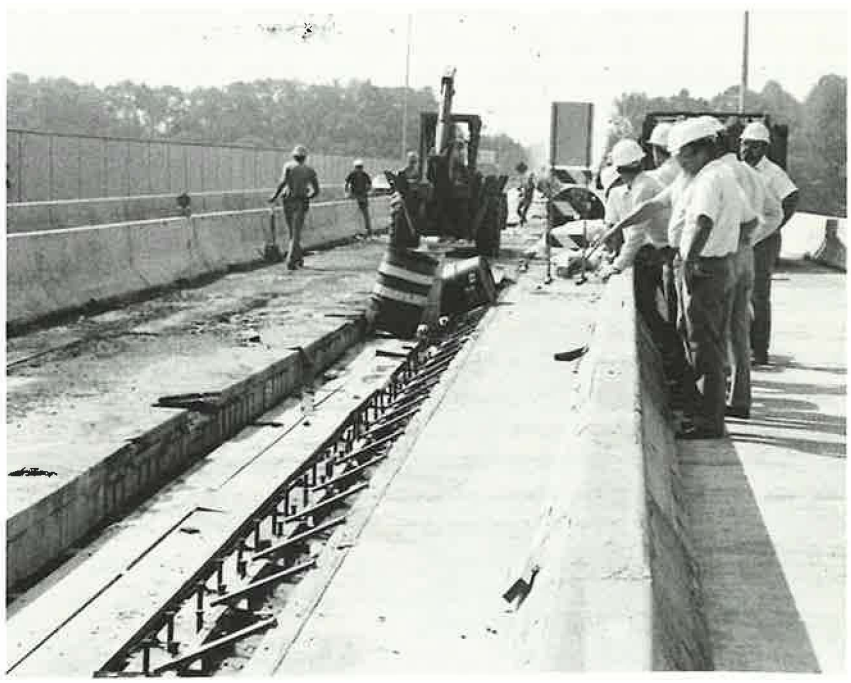
TRB'S FIELD VISIT PROGRAM:

42 YEARS OF TRANSPORTATION INFORMATION EXCHANGE



Members of the TRB Committee on Structures Maintenance observe the process of replacing and widening a deteriorated bridge deck.

During fiscal year 1987, under the Transportation Research Board's field visit program first started in 1945, staff members once again completed a series of visits to transportation organizations around the country, collecting and sharing transportation research information.

One of the principal objectives of TRB's field visit program is to learn of problems that these organizations face and to pass on information pertinent to their solution—information that is based on research or the experiences of other states, industry, or educational institutions. A second objective is to learn of research activities in progress or contemplated in order to inform the organization visited of similar research being carried out at other institutions, preventing duplication of effort, and to identify new methods and procedures that might have application elsewhere.

Ten professional staff members of TRB's Technical Activities Division took part in this program during the past year. They visited every state highway and transportation department, universities, transit and other modal agencies, and industry and held discussions with hundreds of transportation colleagues. Although the aims and structure of the program have changed little over the years, more effective ways of accomplishing tasks have evolved. One illustration of this is the development of TRB's automated information services.

Field visits, according to all participants, continue to provide substantial benefits in a variety of ways. Transportation professionals, for example, can learn how best to take advantage of TRB's services based on their agencies' support of the Board. Personnel moved from positions with little need for the Board's services into other work where those services could be beneficial may learn of them through contact with a TRB technical staff member.

Other features of the program have proved valuable. Top-flight specialists can be identified as contributors to special studies or ongoing activities in the Cooperative Research Programs, Special Projects, and Technical Activities divisions of TRB. Problems in need of solution can be recognized and brought to the attention of appropriate researchers through meetings and committee communications. Staff visitors can be made aware of innovative or experimental work that may not be widely disseminated but should be brought to the attention of others in the field.

A summary of transportation trends and current research activities identified during this year's field visit program is presented in the following article.

PLANNING AND ADMINISTRATION

Planning

Transportation planning continues to evolve in response to rapidly changing conditions. The result has been a current emphasis on short-range problem solving and decision making. Planning as part of the management process is beginning to be stressed in many states to permit agencies to monitor and anticipate change and plan the organization's response more effectively. Increasing in importance is the linking of strategic planning with systems management, programming, financial planning, and project planning.

Most organizations are developing strategies to maintain existing systems, but this effort varies by region. Demographic changes have led to increased transport needs, particularly in the South and West. Special corridor studies and analyses continue to develop as a result of rapidly growing suburbs surrounding metropolitan areas.

A strong interest in the development of public-private partnerships for financial support for transportation improvements is still evident. Increasingly emphasized are technological applications to problem solving, such as computer-aided design and drafting (CADD), interactive graphics, weigh-in-motion, automatic vehicle identification, integrated highway and bridge information systems, and artificial intelligence.

One exception to the short-range pattern is the Consensus Transportation Program recently organized by the American Association of State Highway and Transportation Officials (AASHTO), which plans to develop, in conjunction with public and private sector interests, a "consensus" national transportation program that will continue into the 21st century. The post-Interstate Consensus Transportation Program includes a multifaceted approach that will identify highway, transit, and transportation modal interlinks to the year 2020. The information-gathering aspects currently under way include:

- Various AASHTO Task Forces and Committees are involved in a complex process of determining transportation requirements to the year 2020;
- A series of hearings throughout the states is being hosted by the Advisory Committee on Highway Policy;
- A conference on the potential impacts (demographics, technologies, energy, and so forth) on the nation's future surface transportation system will be conducted by TRB; and
- Information gathered in this process will be transmitted to a Transportation Alternatives Group (TAG), a broad-based organization that has been formed as a part of the 2020 program.

Current plans are to present alternatives (such as responsibilities and financing alternatives) at a national forum in mid-1988 to be conducted by the Transportation Alternatives Group. In the fall of 1988, a consensus conference will be held to seek the best combination of solutions for meeting the transportation requirements at the national, state, and local levels.

Finance

Although the nation's attention has been focused on speeding the passage of the Surface Transportation and Uniform Relocation Assistance Act of 1987 through Congress, the most significant financial development is the continued growth in state transportation revenues. In 1985 state motor fuel taxes increased by about 9 percent. Motor vehicle operator's licenses increased by 7 percent. With

many states increasing their license fees, receipts increased more than 11 percent, to $8.6 billion, by March 1986. Motor fuels are producing about $15 billion per year in tax receipts.

Federal-aid highway apportionments increased about 240 percent from 1975 to 1986, and state revenues for highways increased 276 percent and continue to rise. Reduction in appropriations from the Highway Trust Fund will result in a reduced level of federal aid at a constant $13.5 billion a year through 1991.

Thirty-nine states were considering motor fuel tax increases in 1987. Eighteen have passed tax increases during the past year. Montana's gasoline tax is 20 cents/gallon; the tax in Iowa, Nebraska, and Utah is 19 cents/gallon; and is 17 cents/gallon in Connecticut, Minnesota, Montana, North Dakota, and Tennessee. The national average rate is now about 14 cents/gallon.

In addition to increasing motor fuel taxes, legislatures also continue to increase vehicle and driver license fees, titling taxes, and general funds for transportation. Legislatures are beginning to think in terms of total transportation. Virginia's $422 million per year transportation tax package provides 8 percent to be spent for transit, 2.4 percent for airports, and 4.2 percent for port development.

Motor fuel tax evasion is responsible for lost tax revenues. The FHWA estimates that more than $1 billion a year in tax revenues may be lost by evasion. As the state and federal fuel taxes increase, there is greater inducement to evade them. The Tax Reform Act of 1986 changed the point of federal tax collection to the refinery or customs point. Previously, the tax was applied at the point of sale or use; this change may make tax evasion more difficult.

In response to state pressures to permit the use of tolls on federal-aid funded roads, the new Surface Transportation Act of 1987 provides for seven non-Interstate toll projects on which federal aid may fund up to 35 percent of costs.

The future of gasohol remains uncertain. Federal and state tax reductions or exemptions on gasohol result in an annual loss of $700 million in potential tax revenues, and the U.S. Department of Agriculture is subsidizing gasohol producers with about $70 million in free grain from Commodity Credit Corporation reserves.

Students visit TRB under the summer Undergraduate Minority Intern program.

Manpower and Management

State departments of transportation continue to experience a high loss of staff because of retirement, although the losses do not appear to be having an adverse impact on the management ability of the departments involved. College graduates are being aggressively recruited by the states; entry-level engineers are being paid about $22,000 to $24,000 a year. State offices are employing consultants to meet the design and inspection needs of the growing construction program, and computer-aided design programs have dramatically improved the productivity of these departments.

The application of micro- and minicomputers is also revolutionizing the management information systems within state departments of transportation and eliminating unnecessary activities. Though computer use has enabled management to obtain pertinent and timely information, there is a growing recognition that the technical activities in

Requirements of State Highway Agencies for Civil Engineers, 1984–1989

Year	Total Number of Engineers Employed	Number of Engineers Required for		
		Net Growth[a]	Attrition[b]	Total
1984	29,969	529	916	1,450
1985	30,508	539	933	1,470
1986	31,057	549	949	1,500
1987	31,616	559	966	1,530
1988	32,185	569	984	1,550
1989	32,764	579	1,002	1,580

[a]Allowing for productivity improvements.
[b]Retirements and deaths.

SOURCE: Special Report 207. Transportation Professionals: Future Needs and Opportunities. TRB, National Research Council, Washington, D.C., 1985.

transportation might better be decentralized, leaving management more time to deal with substantive policy issues.

Many DOTs have moved away from the practice of appointing a career professional engineer as chief administrative officer. During the past 2 years, 26 new CAOs have been appointed to state DOTs. Of these, only about 20 percent have a background in transportation engineering.

To make the DOTs more politically responsive, several states are emphasizing the removal of upper management positions from classified civil service status and making them appointments of the Secretary of Transportation. Even so, these positions often continue to be filled with career personnel.

Recognizing that the issues facing the DOTs are increasingly policy rather than engineering questions, state DOTs are creating new offices of policy analysis or strategic planning. About 15 states are actively developing a strategic management process. Though past decisions were based largely on engineering rationale, it is now considered important to take into account constituencies and to include external economic, social, and political considerations, as well as engineering ones, in the allocation of transportation resources.

Increased use of noise barriers helps blunt the impact of highway clamor. *(photograph by Dan Rosen)*

ENVIRONMENTAL ISSUES

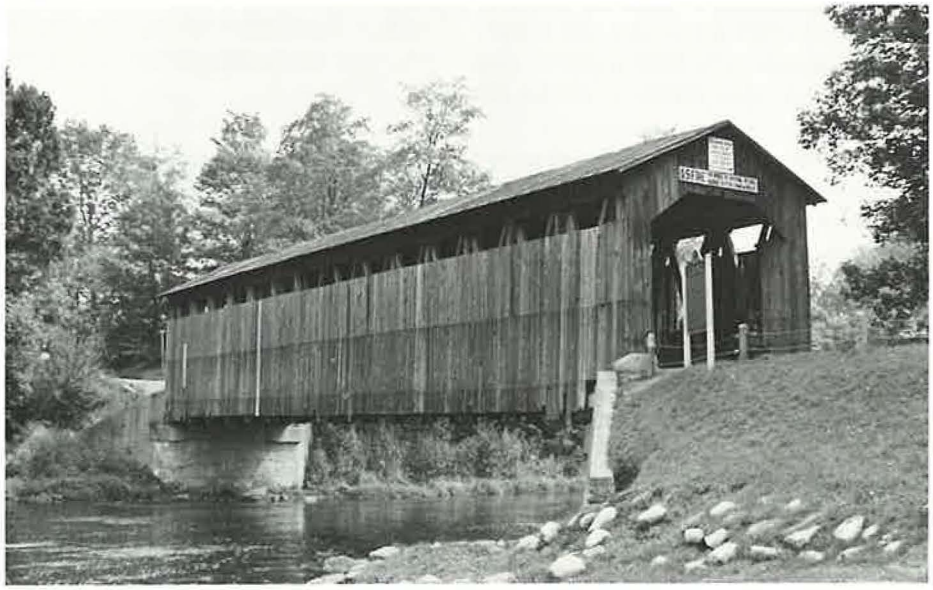
Environmental issues continue to receive limited attention. However, noise abatement and historic preservation issues are beginning to take on increasing importance.

Noise abatement is being given priority in several states because citizen action committees have been formed in response to the upgrading of transportation facilities. States are beginning to increase their commitment to designing and constructing noise barriers and mitigating the impacts of highway noise.

In the field of historic preservation, increasing attention is being focused on preserving historic bridges and other significant items of historic importance. State historic preservation offices are developing increasingly stringent guidelines, resulting in expanded attention by the states to historic preservation.

DESIGN AND CONSTRUCTION

Computer-aided design and drafting is rapidly evolving from trial installations to a dependable and indispensable tool for state design and mapping departments. Those states already using CADD are upgrading equipment and expanding the number of work stations. Other states, especially those with declining work forces, are starting to acquire systems for the first time. Software is improving, although further improvements are needed and anticipated. The majority of CADD design functions involving bridges are used in the



State offices are paying increasing attention to the preservation of historic structures like this Michigan bridge.

Steel haulers in Detroit use axle configurations unfamiliar to most drivers. A Division B policy study is currently looking at interactions between heavy vehicles and pavements. *(photograph by David Witheford)*

development and modification of standard plans.

Pavement management activities are expanding into more states and local agencies, but each agency appears to be developing a system to accommodate its own organization and pavement inventory. Emphasis so far has been on network management rather than on project design. Only a few states are involved in project management. *NCHRP Synthesis 135*, on Pavement Management, which is in preparation, should be valuable for further increasing the usefulness of pavement management and achieving more uniformity among the states.

Performance of pavements subjected to heavy traffic is strongly influenced by quality of materials, design details, construction quality, and timely maintenance. Coordination and cooperation among those responsible for design, construction, and maintenance are recognized as extremely important in achieving predicted pavement life. Some of this coordination may be an unanticipated benefit of pavement management activities.

Four states have adopted a standard design for subsurface drainage using an open-graded drainage layer with a filter layer. Incorporating open-graded drainage layers into new pavements (especially PCC pavements) is reported to effectively solve pumping and faulting problems.

Stronger interest in developing bridge management systems is being demonstrated by the states. Having the bridge inventory data needed to qualify for federal aid is speeding the development of bridge management activities. Also, recent floods in the Midwest and Northeast have inspired interest in the hydraulic characteristics of streams at bridges. Evaluation of the adequacy of waterway openings, stream alignment, and pier depths compared with scour depths may soon become part of the regular bridge inspection process.

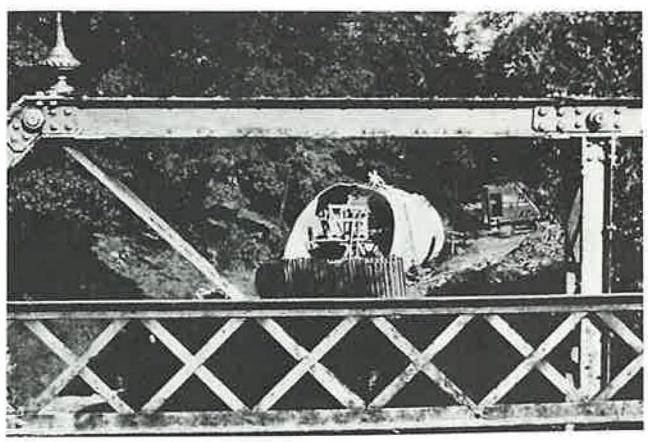
MATERIALS AND CONSTRUCTION

One state is using a new product for field extraction of asphalt. This product does not contain any chlorinated hydrocarbon solvent; thus the problem of hazardous waste disposal is avoided. Solvent extraction for laboratory comparison is, however, still being used.

Another state is conducting a materials management study in the hope that materials management can be linked to construction management and maintenance management. This will involve manpower productivity standards for testing, including both lapsed and hands-on time. A standard sample program for its district laboratories is also being operated.

Because it is believed that cement grouts contribute to pavement deterioration, their use has been discontinued in one state visited; instead silicone-based grout is being used.

A federal agency found that when joint sealants were accepted by certification, only 35 percent of those tested met the specifications. When they were tested for acceptance in a centralized laboratory, 95 percent of the samples were rated acceptable.



Deficient bridges in some states are being replaced by culverts. *(photograph by George Ring III)*

The trend toward the use of polymer-modified asphalts is continuing and most reports are favorable. A significant amount of research on asphalt additives and modifiers is being undertaken by state and federal agencies.

Training of field construction personnel of both states and contractors is being increasingly emphasized. Many organizations are now using videotapes for training. In December 1986, the FHWA published the first issue of the *Directory of State and Local Highway Training and Technology Resources*, which lists many training aids. More states are completing Interstate construction programs and turning their attention to reconstruction, with a heavy emphasis on bridges.

Many states are giving increased attention to the design of foundations for structures. Soil reinforcement and use of engineering fabrics are taking their place in common, rather than experimental, usage.

TRAFFIC OPERATIONS, SAFETY, AND MAINTENANCE

Traffic Operations

Increasing emphasis on reconstruction of major facilities, Interstate and other, brings traffic management to the fore both as a public agency concern and as an expensive item in construction contracts. Thus, TRB's recent conference on Corridor Traffic Management is particularly timely as a source of guidelines and an informative videotape on TSM and other measures that can address such problems effectively. A related TRB activity, the Annual Conference on Freeway Traffic Management, also continues to attract attendees before the TRB Annual Meeting because of its relevance.

Urban and suburban congestion is becoming of primary interest to the public in widely diverse parts of the country. Research programs are beginning to respond by examining the potential of new technologies as well as the effectiveness of present ones.

The major traffic operations activity during the past year is more evident overseas than in the United States. In Europe, particularly, initiatives are under way involving 14 major vehicle manufacturers (PROMETHEUS) and mixes of industry and government (DRIVE) to incorporate advanced technology into vehicle guidance, driver information, and related vehicle/facility controls. Similar activities are occurring in Japan. These appear to be unified, focused, and well-funded efforts in contrast with the largely uncoordinated activities occurring in the United States. A government agency that has seriously begun to study the high-tech potential for addressing congestion—Caltrans (California Department of Transportation)—is the one that has perhaps the most alarming forecasts of urban congestion with which to contend.

To update an item from 1986, sales of the *Highway Capacity Manual* now exceed 19,000, and should continue to grow now that the FHWA software has become available.

When urban freeways like Detroit's Lodge Freeway are to be reconstructed, careful planning is called for to keep traffic moving. *(photograph by David Witheford)*

Traffic Safety

The year 1986 marked the 20th anniversary of the National Motor Vehicle Safety Act and the Highway Safety Act. A review of trends over the 20-year period shows that, in 1966, more than 53,000 people died in motor vehicle crashes, compared with 44,817 in 1986. This translates to a reduction from 5.72 deaths per 100 million miles traveled in 1966 to 2.47 in 1986.

These figures indicate progress in reducing the number of traffic deaths, but they do not suggest that all, or even most, traffic safety problems have been resolved. States and local jurisdictions are still faced with many old and emerging safety problems and issues. One example is the provision in the 1987 Federal Highway bill permitting states to raise the maximum speed limit to 65 mph on rural portions of Interstate highways. The higher speed limit may be made legal on nearly 34,000 miles of the 43,291-mile Interstate highway system. It is too early to predict the effect, if any, that the new speed limit will have on traffic accident experience, but it can be expected that potential problems will be closely monitored and studied by the states.

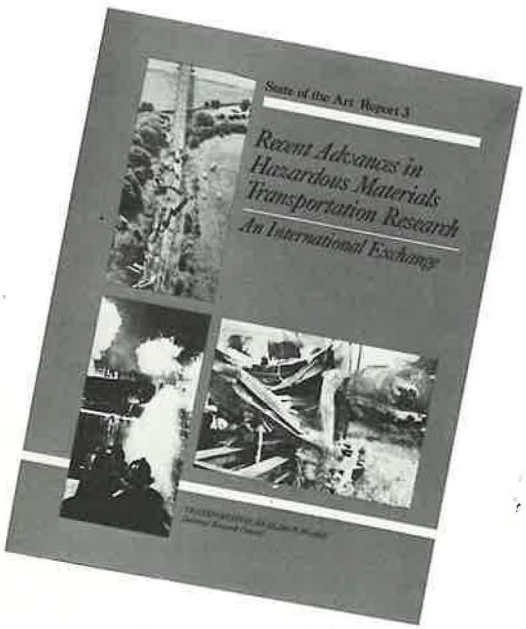
Truck safety issues continue to occupy center stage in many states. Alarmed by the number and severity of truck accidents, Congress enacted the Commercial Motor Vehicle Safety Act of 1986. The new law took effect on July 1, 1987, and applies to both bus and truck drivers. Also receiving increasing attention are truck safety equipment and inspection requirements.

The National Minimum Drinking Age Act, urging states to raise the minimum alcohol purchase age to 21, appears to

Truck safety concerns led to enactment by Congress of the Commercial Motor Vehicle Safety Act of 1986. *(photograph by Dan Rosen)*

be having an effect on reducing alcohol-related accidents among young drivers. Forty-four states now have laws establishing 21 as the minimum age to purchase or consume alcohol. Recent studies show a 13 to 16 percent decrease in fatal alcohol-related crashes among 18 to 20 year olds in states with a 21-year-old purchase age.

As reported in previous summaries of transportation trends and research activities, the improvement of state traffic records systems is receiving a higher priority in many states. In recent years, TRB activities in this area have been directed to the development of the components of traffic records' systems. An encouraging trend, at all levels of government, is the emphasis on integrated systems and practical applications of traffic records' systems to identify safety problems and to evaluate countermeasure programs, although more work needs to be done to stress this function in highway transportation. The lack of complete and accurate data still hampers policy makers and program managers in the development of immediate and long-range highway and traffic safety programs.



TRB published *State of the Art Report 3: Recent Advances in Hazardous Materials Transportation Research* in 1986.

Maintenance

Attempts to develop objective measures for maintenance operations include the current national effort to develop minimal luminance requirements for highway signs. Monitoring will require a simple vehicle-mounted device for rapid checking. Other efforts involve data capture methods for determining when maintenance is needed.

One state is considering contracting for pavement striping on the basis of performance. The successful contractor is the one who can guarantee the least annual cost to maintain the prescribed minimum level of visibility; selection of the marking material is left to the contractor.

In one state, a computer users' group composed of division maintenance engineers and headquarters staff has been established to advance the use of microcomputers for maintenance purposes. Periodic meetings are scheduled with early efforts addressed to assembling a catalog of existing programs and to transfer information by computer.

In another state, a review team visited each maintenance area to hold brainstorming sessions to gather ideas for new technology and assembled a list of more than 150 items. Another group interaction involved peer review reports on pavement striping and marking, spot overlays, mowing, and vegetation control.

Pavement managers may need to use asphalt mixtures designed on a regional basis to accommodate variations in climate. Of particular importance is mean annual temperature. A midwestern state reports that a mix used in the North may last three to four times as long as the same mix used in the South because of a difference of approximately 10 degrees in mean annual temperature. These findings suggest that asphalt pavement performance is much more sensitive to small temperature changes than was previously believed.

Development and testing of ice detectors continued at defense and state laboratories. However, both finding a completely reliable ice detector and selecting a site for the detector that will provide a good sample of an areawide condition are proving difficult.

Experimental installations of a relatively new method of pipe rehabilitation at the Naval Academy and in an eastern state have indicated that the method offers promise for relining deteriorated pipe without replacement. A feltlike liner coated with a resin is forced into the existing pipe and cured with hot water.

MASS TRANSPORTATION, AVIATION, AND RAIL TRANSPORT

Transit

Federal budget cuts have had considerable impact on transit programs. Local managers have faced the difficult decisions of service cuts and layoffs, have

implemented efficient programs such as the use of part-time labor, and have explored many new ways of revenue enhancement such as service marketing and sale of advertising space. Concurrently, there has been a general trend for agencies to increase the types of services they provide. No longer do the majority of agencies limit their service to fixed-route and fixed-schedule transit.

The administration's continuing insistence that there be more of a linkage between the public and private sectors has had an equally profound impact on transit management. Transit agencies now routinely consider contracting out of services as well as other private-sector involvement options. Furthermore, developers, employers, and commercial establishments are taking an active role in the provision of shared-ride arrangements for their employees and customers in hopes of mitigating direct traffic impacts of their activities.

The state share of transit funds continues to increase. Responding to this change, transit agencies are forming new state organizations to strengthen the ties between them and state governments. Where such organizations already existed, they have become more active.

Transit agencies are responding to pressures for change. To induce improved effectiveness while maintaining efficiency, new organizational patterns are emerging in a number of U.S. cities. Externally driven reorganizations, market-driven agencies, internal restructuring of traditional organizations, and separation of policy and operations are just a few of the pressures for change that are being observed. Most transit agencies that have historically operated as regional monopolies now face competition from other providers. Steps are being taken to respond to these new challenges through new organizational strategies that can better serve the public—steps that were the focal point for the Conference on New Organizational Responses to the Changing Environment, held by TRB.

Private van pools can complement or substitute for public transit service.

Aviation

The most urgent concern for airports is the 1987 Congressional reauthorization of the federal Airport and Airway Improvement Act that provides for upgrading the national airspace system and for airport improvements. The high unspent balance in the Trust Fund, the duration of the extension, and the formulas for distribution are all issues of contention. Relief of congestion at major hubs through expansion of airport capacity and reduction of aircraft noise impacts are also urgent problems.

The past year was a record one for the airlines, with more than 400 million enplanements and $50 billion in revenues. Continued growth in air travel demand is expected in 1988. Adjustment to deregulation is resulting in mergers and consolidations of the airline industry into fewer airlines and expanded airport hub operations as enplanements, operations, and revenues continue to increase. New entrants have disappeared along with many less-well-known carriers.

Speakers at TRB's 66th Annual Meeting in January 1987 predicted that only six to eight major carriers would survive. The regional and commuter field is still growing, but consolidations and absorption by major airlines are reducing their numbers.

Manufacturers of large aircraft also considered 1986 to have been their best year and anticipated revenues of $19 billion in 1987 from civil aircraft sales. The trend toward airline leasing (rather than purchase) continues. A major competitive struggle between Boeing and McDonnell-Douglas in the United States and the European Airbus consortium is shaping up with the recent American Airlines order for 40 new long-range wide-bodied Airbus A 300-600Rs.

The general aviation, helicopter, and corporate aircraft manufacturers have not fared well, and some predict that this situation may get worse before it gets better. Used aircraft availability is the biggest obstacle to new aircraft sales. The aging fleet and increased international sales due to the decline in the

The year 1987 saw continued growth in domestic and international air travel . . . *(photograph from U.S. Department of Transportation)*

value of the dollar abroad are two positive signs of a turnaround.

Rail

Sales of branch and secondary lines by Class I railroads to shortlines and regional carriers have continued in significant numbers during the past year. The large number of regional railroads formed in the last 2 to 3 years has led to the creation of a separate lobbying organization (Regional Railroads of America) to represent the unique economic concerns of this type of carrier.

States with continuing rail freight programs now are generally spending more state funds as federal funds dwindle. With major railroad restructuring now complete in the Northeast and Midwest, state rail programs are finally free of a crisis environment. State expenditures continue to go toward rehabilitation and maintenance of state-owned rail lines, most of which are operated by contract carriers.

Proposed high-speed passenger rail systems are still receiving serious consideration in several states, with Florida advancing the most rapidly toward development of its proposed system. Several consortiums of rail system developers are preparing proposals for the Florida franchise, which will be awarded in 1991. The project is to be funded primarily from private-sector sources and may include funding guaranteed from land development opportunities made available through the franchise. Some portions of the Florida system could be in operation as early as 1995.

Intermodal movements continue to be the railroads' fastest growing source of traffic (in volume but not necessarily in profit) primarily because of the increased use of double-stack container trains. Double-stack trains, initiated to handle containers of import traffic, are being used increasingly for domestic movements as well. Several major railroads are investing in RoadRailer equipment, trailers that can be operated either on the highway or directly on the rail, for certain specialized services. Special labor agreements have made RoadRailer trains economically feasible.

The major Class I railroads are increasingly becoming multimodal transportation companies in order to provide more complete transportation services, including ocean, inland waterways, and trucking in conjunction with rail movements.

TRB's rail committees are interested in technological advances that will increase the useful life of track structure components, particularly in light of heavier equipment; for example, 125-ton cars are being used by some railroads. Improved methods of track maintenance are increasingly important as railroads attempt to lower long-term costs while improving operations. With a low-growth traffic base and intense competition from other modes, improving productivity of all resources is a high priority throughout the rail industry.

. . . and airports experienced extreme congestion on runways, at passenger gates, and in terminal buildings and parking facilities. *(photograph by Bill Osmun, Air Transport Association)*

TRB CALENDAR

1987

December 2–5	Conference on New Organizational Responses to the Changing Transit Environment, Norfolk, Virginia (W. Campbell Graeub)

1988

January 10	Conference on Traffic Management of Freeway Emergencies and Special Events, Washington, D.C. (David K. Witheford)
January 10	Second Bridge Management Workshop, Washington, D.C. (George W. Ring III)
January 10	21st Annual Workshop on Human Factors in Transportation, Washington, D.C. (James K. Williams)
January 11–14	67th Annual Meeting, Washington, D.C.
February 7–12	Using Knowledge-Based Expert Systems in the Engineered and Constructed Environments, Santa Barbara, California (James A. Scott)
March 6–11	Conference on Goods Transportation in Urban Areas, Santa Barbara, California (Elaine King)
May 9–11	National Conference on Light Rail Transit, San Jose, California (W. Campbell Graeub)
Spring	Conference on Value of Transportation Planning in Small Communities (site to be determined) (James A. Scott)
Spring	Long-Range National User Trends and Requirements for the Nation's Highway and Public Transportation Systems (site to be determined) (James A. Scott)
Spring	Conference on State Public Transportation Funding and Administration Issues (site to be determined) (W. Campbell Graeub)
June 1–5	Second International Conference on Case Histories in Geotechnical Engineering, St. Louis, Missouri (G.P. Jayaprakash)
June 8–9	First International Symposium on Surface Characteristics, State College, Pennsylvania (George W. Ring III)
June 15–17	1988 International Air Transportation Conference, Orlando, Florida (Larry Jenney)
July 24–28	27th Annual Workshop on Transportation Law, Stamford, Connecticut (Robert Cunliffe)
August 19–20	Conference on Slope Stability, Park City, Utah (G.P. Jayaprakash)
September	Workshop on Equipment Owned by Public Agencies, Gulf Shores, Alabama (Adrian G. Clary)
November 13–16	11th National Conference on Specialized Transportation, Sarasota, Florida (James A. Scott)
Date to be determined	Bridge Maintenance and Inspection Workshop (site to be determined) (Adrian G. Clary)

1989

January 22–26	68th Annual Meeting, Washington, D.C.
March 13–15	2nd International Conference on Automated People Movers, Miami, Florida (Kenneth E. Cook)
April 18–20	4th International Conference on Concrete Pavement Design, Purdue University, W. Lafayette, Indiana (George W. Ring III)
May	5th International Conference on Mobility and Transport for Elderly and Disabled Persons, Stockholm, Sweden (James A. Scott)

TRB is either conducting or otherwise participating in the meetings listed above. For further information contact the TRB staff representative cited in each listing or Angelia Arrington, Conference Manager (telephone: 202-334-2934).