A HISTORICAL REVIEW
OF
TRB COMMITTEE A2A05
LANDSCAPE AND ENVIRONMENTAL DESIGN COMMITTEE

Written By
Harold J. Neale, 1962
Charles R. Anderson, 1992
And
Barbara M. Shaedler, 1992

Compiled and Edited By
Nicholas R. Close, 2002

Prepared for
70th Anniversary Celebration
at the
Mid Year Meeting
Topeka, Kansas
August, 2002

Table of Contents
# Table of Contents

- Introduction ..................................................................................................................................... 3
- In the Beginning, 1932 .................................................................................................................. 3
- Getting Started, 1932 to 1939 ...................................................................................................... 4
- The War Years, 1941 to 1946 ...................................................................................................... 5
- The Post-War Boom, 1947 to 1956 ............................................................................................... 7
- The Interstate Years, 1956 to 1964 ............................................................................................... 8
- Highway Beautification, 1965 to 1970 ........................................................................................ 8
- The Age of Environmental Awareness, 1971 to 1991 ............................................................... 9
- ISTEA and TEA 21, 1991 to 2002 ............................................................................................... 11
- Committee Activities .................................................................................................................. 18
  - Organizational Structure and Membership .............................................................................. 18
  - TRB Annual Meeting and Formal Papers .............................................................................. 19
  - Mid Year Meetings .................................................................................................................. 21
  - Research Needs ...................................................................................................................... 24
- What’s Next .................................................................................................................................. 26
- Table of Committee A2A05 Chairs ............................................................................................. 27
- Table of Committee A2A05 Mid Year Meeting History .......................................................... 27
Introduction

The Landscape and Environmental Design Committee, officially known as Committee A2A05 of the Transportation Research Board (TRB), is one of the oldest Committees in TRB.

For those unfamiliar with TRB’s Committee structure, A2A05 is indicative of the Committee being in Division A (Technical Activities), Group 2 (Design and Construction), Section A (General Design) and the fifth Committee within that Section.

As you will note when reading the following pages, throughout its history the Committee has produced many publications, identified emerging issues such as drainage, roadside maintenance, environmental analysis, noise, historic and cultural preservation, scenic and natural resources through the establishment of Task Forces and Subcommittees that eventually developed into full Committees of TRB. Committee A2A05 has been a very productive and innovative Committee of the Transportation Research Board.

The year 2002 marks the 70th anniversary of the TRB Committee that started its life as the Joint Roadside Development Committee of the Highway Research Board (HRB) and the American Association of State Highway officials (AASHO) in 1932.

In the Beginning, 1932

In the early 1930's highway officials were primarily interested in getting the highway user “out of the mud”. It was almost unheard of to use highway funds for the purchase of grass seed or to acquire more right of way than actually needed to build and maintain the roadbed or other items now considered essential in transportation facilities. Limited funds precluded appropriations for beautification or “pansy planting”, as it was facetiously called. However, by diligent and constant effort, the attitude of the administrators and engineers was changed from skepticism to support. In a large measure, this was attributable to the public support generated through the contributions of the Subcommittee on Public Relations and Education, under the guidance of Professor Philip H. Elwood, enlisting the support of garden clubs, civic organizations, and others interested in protecting and preserving the natural beauty of rural America.

The Highway Research Board (HRB) was urged by the American Society of Landscape Architects (ASLA) to make a nation-wide survey of all aspects of roadside development. This led to the American Association of State Highway Officials (AASHO) recommending the appointment of a joint Committee of AASHO and HRB on roadside development.

The original Committee was appointed in 1932 and Luther Keith of the Connecticut State Highway Department was named Chairman. The first Joint Committee was comprised of eight members, four from the Highway Research Board and four from the American Association of State Highway Officials. The Joint Roadside Development Committee of the Highway Research Board and the American Association of State Highway Officials 1932 were:
• Luther M. Keith, Chairman, Connecticut, Director of Roadside Development
• Walter D. Ludwig, Forester, Pennsylvania Department of Highways
• Harold J. Neale, Landscape Engineer, Virginia Department of Highways
• Franz A. Aust, Associate Professor of Landscape Design, University of Wisconsin
• Philip H. Elwood, Jr., Professor of Landscape Architecture, Iowa State College
• Thomas H. Cutler, AASHO Chief Engineer, Missouri State Highway Commission
• Wilbur H. Simonson, Senior Landscape Architect, U. S. Bureau of Public Roads and
• Francis W. Sayers, Engineer of Roadside Improvement, Missouri State Highway Commission.

Getting Started, 1932 to 1939

The Committee initially set up five research projects, namely:
• slope erosion
• education and public relations
• zoning
• highway types and road areas and
• plant materials.

The Slope Erosion Committee was comprised of representatives of State highways, the Soil Conservation Service, the Tennessee Valley Authority, and the National Park Service. It continued its intensive studies until 1939 when a final report was published. The conclusion of this report states:

“The effectiveness of erosion control work has been clearly demonstrated. It has been an important factor in aiding highway departments (1) to promote the streamlining of their highways; (2) to solve their highway slope erosion control problems; (3) to promote friendly relations between county and federal agencies and landowners working in the same area and having common problems; (4) to establish definite techniques for the collection of data and presentation of results; and (5) to investigate problem areas, which is another step in the regional approach to sympathetic and harmonious study of slope erosion on highways.”

Several years later, Roy W. Crum, a Director of the HRB stated: “We spent considerable time wondering just what could be done; what the objectives from a research standpoint might be. We realized that much more was involved in this problem than making the roadside look better. Roadside development covers the whole right of way of the road and it is bound to go beyond and include part of the adjacent property”.

The first meeting of the Joint Committee was held in Milwaukee in 1932. At the inaugural meeting the Committee wrote a definition of roadside development, which seventy years later, still stands the test of time:
“Roadside development must conserve, enhance, and effectively display the natural beauty of the landscape through which the highway passes, as well as provide safety, utility, economy, and recreation facilities by means of proper location, construction, and maintenance of the highways”.

In 1933 the Committee added to its objectives and recommendations: “Highway authorities should control the right-of-way and its appurtenances and have power to acquire adequate rights-of-ways and other parcels of land for the public benefit”. It is interesting to note that the scope statement of the current Committee is still very similar to the original 1932 definition and the design parameters of current issues such as context sensitive design were embodied in those original statements.

During the 1933 to 1939 period this Committee expanded rapidly. There were Subcommittees on slope erosion, education and public relations, urban zoning, highway types and roadside areas, plant ecology, and roadside economics. Papers began to appear in print with titles such as: Design of the Highway Cross Section, Highway Design: Its Relation to Landscape Objectives, The Sectional Layout of Multiple-Lane Highways, Erosion Control, and Snow Control by Tree Planting.

At a meeting in Minnesota in August 1939, a resolution was adopted to discharge the Joint Committee and have separate HRB and AASHO Roadside Development Committees. Harold J. Neale of the Virginia Department of Highways was appointed Chairman of the HRB Committee. He had been chairman of the joint Committee since 1936.

Officially sanctioned Roadside Development Committee reports came into being and were continued through 1962. This was the only HRB Committee permitted to publish separate annual documents.

**The War Years, 1941 to 1946**

The war years of 1941-1946 saw a slackening of activity by HRB and a decrease in thickness of the annual proceedings. However, the Roadside Development Committee continued to expand its area of interest and publish reports. In the 1941 Proceedings of the 21st Annual Meeting, the Committee published an excellent report on Design of Roadside Drainage Channels and another on Turf for Protection of Roadside Gutters and Slopes.

In 1942, the Committee structure contained three divisions, namely
- Design, Right-of-Way and Border Patrol
- Construction and Maintenance and
- Education, Economics and Public Relations.

These divisions remained until 1952. There were also eleven Subcommittees including roadside design, waysides, right-of-way and border control, drainage and drainage structures, plant ecology and turf culture. In addition to Committee members, collaborators and at-large members
were added to the roster. It became the largest Committee in HRB, reaching a membership of seventy-six. In 1944 Carl Izzard converted his drainage Subcommittee to a full Committee on surface drainage of highways.

In the 1930's and 1940's this Committee explored topics not yet recognized by highway departments as being important aspects of the highway environment as we know it today. Such things as land use, environmental factors, joint use, economic benefits, zoning and rest areas were common topics for discussion. An example was their concern over antiquated laws dealing with right-of-way acquisition. In 1942, one of their reports states, “We are attempting to build a modern highway system for the stream-lined motor vehicle with land acquisition laws and devices of the horse and buggy period of our grandfathers”. They believed that the right-of-way should not be limited to traffic lanes but must include adequate shoulders, drainage ways, and flattened cuts and fills that were rounded to create a cross-section that was safer, easier to maintain, and aesthetically pleasing.

The Committee kept looking ahead. In 1943, its chairman suggested that post-war highways would be planned for both permanency and utility with the concept he termed “Complete Highways”. This concept included four basic requirements: utility, safety, beauty and economy. Each requirement was defined as follows:

**UTILITY** is most important, for unless a highway is serving completely in a useful capacity, its value is limited. In the broader sense, utility means service, and as such includes provision for the handling of all types of traffic, with adequate safety -turnouts, waysides, parking facilities for school and commercial buses, service areas for the distribution of mail, gasoline, milk, and farm products, as well as elements that result in the enhancement of land values. Complete highway service and enhanced land values go together.

**SAFETY** means orderly movement of vehicular and pedestrian traffic. The complete highway design should eliminate present and potential traffic hazards by keeping sight distance open on curves and at intersections, by flattening slopes so that traffic may leave the traveled way quickly and safely in emergencies, and by preventing erosion from forming gullies or deepening ditches into veritable traps for motor vehicles. These and other hazards may be avoided by demonstrated roadside development methods.

**BEAUTY**, an essential part of the complete highway, requires the harmonious integration of engineering, architectural, and landscape techniques. Conservation of stream shores, fine trees, weathered rock ledges, and similar natural features are essential to the attainment of beauty in the finished highway. A well-located highway with a streamlined, erosion-proof cross-section, and with well-designed structures in relation, has pleasing and long-lasting qualities, which appeal to both the landowner and the motoring public.

**ECONOMY** is the quality of providing maximum vehicular and driver service combined with safe design and pleasing appearance, at relatively low construction and maintenance costs. Since the unit costs of annual highway maintenance may be decreased through the
integration of the basic principles of landscape design and practice, it is obvious that
developed roadsides are an economy.

He envisioned the post-war highway as being a product of a team with special training and
experience in engineering, soil science, architecture, and landscape design techniques which had
been developed and, to some degree perfected, in the design of parkways and urban freeways.

Activities during the 1940's and early 1950's continued at a high level. In 1941, the Committee
recognized the importance of technology transfer and organized a “Clearing House” to distribute
information from many sources. This was a major activity with four distributions a year that
continued until the early 1970's. Topics of interest, for which information was gathered and
distributed, included: stabilized turf shoulders, use of aerial surveys in highway development,
transitional grading, plantings to reduce headlight glare, roadside equipment, waysides, traffic
noise, maintenance costs, herbicides, water resources, litter cleanup, and a host of other topics.

**The Post-War Boom, 1947 to 1956**

In 1952, after 5 years of work, the Committee produced Special Report 7 entitled, *Parking
Turnouts and Rest Areas*. The report was unique, being the only comprehensive report published
by that date on the subject. The following year resulted in publication of two more Special
Reports. Special Report 16, *Mechanization of Roadside Operations*, and Special Report 17,
*Roadsides, Their Use and Protection*.

In 1953, after 17 years as Chairman, Harold Neale resigned his chairmanship and was succeeded
by Frank H. Brant of North Carolina. After Neale's tenure, each succeeding chairman served
two, 3-year terms. Frank Brant reorganized the Committee but retained its aim and scope of
work. He reduced the membership to a more manageable size of 28, some 48 less than the
previous total. The Committee preached the need for functionally designed plantings of trees
and shrubs to assist in guiding traffic, reducing headlight glare, controlling drifting snow, and
screening against noise, dust, fumes, and visual pollution. The 1954 Committee proceedings
contain a comprehensive task report on roadside design to reduce noise, dust, and fumes.

By 1954, the Committee concluded their work on stabilized turf shoulders and published a
Circular on the subject the following year. At the same time they issued a circular titled
*Correlating Roadside Development with Highway Design*. Circulars were Committee statements
on a particular phase of roadside development. Special reports were more detailed and covered
topics such as *Safety Turnouts and Rest Areas*. During the 1950's, 11 Circulars and 5 Special
Reports were authored and published by the Committee. They felt there was a growing need to
get the results of their studies to Engineers and other decision-makers, not just to roadside
development personnel. This was pursued in 1954 when the Committee membership included
its first female member, Miss Olive E. Potter, Editor of the publication, “*Contractors and
Engineers Monthly*”, who became chairperson of the Subcommittee on Publications.

**The Interstate Years, 1956 to 1964**
During the mid-1950's and early 1960's planning, design and construction of the interstate program became the prime topic of discussion. In 1956 the Committee participated in the “Symposium on Highway Shoulders” and the chairman presented a paper, Highway Shoulder Design from the Roadside Development Viewpoint. The 1957 proceedings were devoted almost entirely to roadside aspects of the interstate highway.

In 1958, two years after the interstate highway program was enacted, Wilbur J. Garmhausen of Ohio, leader of the nationally recognized “Ohio Short Course on Roadside Development”, became Chairman. He appointed the first secretary of the Committee, Earl A. Disque of the National Park Service. The Committee has had a representative of the National Park Service on its roster from 1953 to the present date. The United States Forest Service also had a representative on the Committee during several time periods. A very productive one-man activity during the fifties and sixties was the Subcommittee on Bibliographies that was very capably chaired by Bradford Sears of Syracuse University. One bibliography was published in the fifties, one in 1960, and one in 1965 to catalog the best of existing literature on roadside development.

The primary responsibility of transportation jurisdictions to provide a transportation service to highway users, broadened with the increase of highways and traffic to include the effect of traffic noise on roadside dwellers. The Committee published reports on noise abatement in 1955, 1956, 1959, and 1960 and had a Subcommittee on this subject until 1964. The Committee's interest in this subject continued until a separate Committee was appointed to address this important environmental matter. However, the Committee continues to investigate and report on the aesthetic considerations in the design of noise abatement features.

Highway Beautification, 1965 to 1970

In 1964, Charles R. Anderson, of Maryland, was appointed Committee Chairman. His term included the years when President Johnson and his wife, Lady Bird, were very strong advocates of roadside beauty, rest areas, and scenic lands. During the January 1966 annual meeting in Washington, D.C., Anderson was summoned to the White House for a conference with Mrs. Johnson regarding visual improvement of the highway approaches to Washington, D.C. On three other occasions he was invited to the White House to attend meetings on roadside development. President Lyndon Johnson convened the White Conference on Natural Beauty. Several members of the Committee participated on a highway Committee chaired by Lawrence Rockefeller.

In April 1965, the Executive Director of the HRB, Grant Mickle, requested the Committee to prepare a report on the state of the art of roadside development. He believed it would be a very worthwhile contribution to help insure the success of President Johnson's highway beautification program. Within three months, eleven Committee members authored eleven chapters of the Art and Science of Roadside Development. It was published as HRB Special Report 88. Congress passed the Highway Beautification Act in November 1965. The Art and Science of Roadside Development became a textbook for use at Syracuse University in 1967.
Joint Mid Year meetings with its sister AASHO Committee on Roadside Development commenced in 1964. Some members served on both Committees and the meetings were well attended and very productive. General Howard A. Ives, Administrator, Connecticut State Highway Department, was Chairman of the AASHO Committee on Roadside Development. At the 1965 annual HRB meeting he made a presentation, Pictorial Dissertation: A Case for Safety Rest Areas with Adequate Comfort Facilities. At the time, the federal government would not participate in the cost of comfort facilities in rest areas. Both Committees promoted the urgent need for comfort facilities, particularly along the new Interstate Highway System. The message was heard and federal funding was approved for comfort facilities. The nation's rest area program then evolved into the fine system we now enjoy. By 1976 nine percent of the average daily traffic stopped at Interstate rest areas on a nation-wide basis.

Ladybird Johnson had great love and respect for roadside beauty and the environment. Her inspiring work during the sixties was the beginning of our nation's environmental crusade that blossomed and bore fruit through the seventies. At the Committee's 1980 Mid Year meeting in San Antonio, Texas, an engraved pewter tray was presented to Mrs. Johnson as the patron of roadside beauty on behalf of the nation's highway landscape architects and all roadside personnel.

The Committee kept abreast of all aspects of the Highway Beautification Act. Members received reports and made recommendations concerning rest areas, the acquisition of scenic lands, and the control of outdoor advertising and junkyards. The Federal Highway Act of 1973 authorized states to use highway funds for bike paths. During the next several years the Committee sponsored papers on bikeways and explored bikeway design. In the same year they started work on another new federal program, “Operation Wildflowers”.

The Age of Environmental Awareness, 1971 to 1991

With the signing of the National Environmental Policy Act, the Committee became more and more involved with natural environmental features such as wetlands, erosion control, wildlife, and water quality. The theme of the 1972 HRB Summer Meeting in Madison, Wisconsin was “Highways and the Environment”. Several Committee members delivered papers at this meeting.

To reflect the broad environmental activities of the Committee, its name was changed in 1973 to Roadside Environment. Soon the word “roadside” was felt to be too limiting when the Committee's interest was the entire transportation corridor. In 1978 the name was changed to the present A2A05 Committee on Landscape and Environmental Design.

In 1969 the Committee assisted the AASHO Committee on Roadside Development in preparing the AASHO Guide for Highway Landscape and Environmental Design, which was published in 1970. In 1974 the AASHO Committee was disbanded when the AASHTO reorganized. John J. McC Ryan of New York was appointed Chairman of the Committee in 1970. After 12 years as secretary, Earl Disque retired and Charles Anderson was appointed to the position. The
Committee became deeply involved in improving aesthetic elements, applying landscape architectural and ecological principles and practices to highway location, design, construction and maintenance, as well as collaboration with other HRB Committees and other organizations concerned with multiple use and joint development projects.

Throughout the years erosion control has been a key element of roadside development and forms the very foundation of highway beauty. Changing highway design standards and construction methods required a continuing research effort and reporting of more effective and economical techniques of erosion control. Modern equipment played an important role. In the early days, flattening and rounding of slopes involved costly hand labor. Modern grading equipment greatly reduced the “per cubic yard” cost. Streamlined cross-sections are much safer and they permit considerable savings in the cost of mowing, erosion, and snow control. The Committee published numerous papers on the subject. In 1968 the Committee authored a chapter entitled, Highway Roadsides for the United States Department of Agriculture publication, Turf Grass Science.

Prior to the seventies, erosion control was primarily aimed at stabilizing highway roadsides and medians after grading was complete. The Committee took the initiative in controlling sediment during construction. At the 1971 annual meeting, the Committee sponsored a panel presentation on Erosion Control during Construction. The interest was high and 175 people attended the session. The Committee also staffed the panel to oversee the National Cooperative Highway Research Program project, Erosion Control During Construction, which was performed by Utah State University.

The Committee had a keen interest for many years in scenic highways and the acquisition of scenic lands. In 1974, the year HRB became the Transportation Research Board (TRB), the Committee participated in a jointly sponsored session on current practice and problems of acquiring land for scenic enhancement.

In 1976, Dr. Lawrence E. Foote of Minnesota became Chairman of the Committee and he appointed Kenneth A. Rickerson of the Federal Highway Administration as secretary. The new Chairman stressed the need to have professionals perform all aspects of environmental work.

Papers began to appear on all modes of transportation. In 1976 the Committee sponsored a symposium, “Visual Aspects of Transportation Facilities”. Presentations were made on highways, airports, mass transit, and power transmission lines.

1982 brought a new Chairman to the Committee, Robert L. Jacobsen of the Federal Highway Administration in Denver, Colorado. He appointed Barbara Schaedler of the New York Port Authority as secretary. 1982 also marked the 50th anniversary of the Committee. Past members were invited to the Mid Year meeting in Hot Springs, Arkansas to discuss past accomplishments of the Committee.

The Committee realized the need for AASHTO to update their 1970 Guide For Highway Landscape and Environmental Design. After discussions, AASHTO requested their Highway Subcommittee on Design, Task Force on Environmental Design, to proceed with the updating process. The Task Force welcomed assistance from TRB Committee A2A05 in writing,
producing graphics and photographs for the re-write. Eleven Committee members authored the new Guide. Several new subjects were added to the Guide including, wetlands, water quality, erosion control during construction, park and rides, as well as other modes of transportation. After all reviews and comments were made, AASHTO approved the excellent Guide for Transportation Landscape and Environmental Design and it was published in June 1991.

**ISTEA and TEA 21, 1991 to 2002**

ISTEA or the Intermodal Surface Transportation Efficiency Act was enacted by Congress in 1991 and was a six-year reauthorization of federally funded transportation programs. ISTEA revamped the federal funding and provided a set-aside amount of funds for transportation enhancements spread over ten categories.

TEA-21 or the Transportation Efficiency Act carried on the work of ISTEA for another six-year term until 2003.

In 1988 David H. Fasser of the New York State Department of Transportation became Chairman of the Committee. Although scenic highways were mentioned throughout the history of the Committee, a greater emphasis was now being placed on the scenic attributes of highways and byways with the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991.

By the Mid Year meeting in 1988, papers were presented on the Scenic Highway Program, Scenic and Historic Highways, and Restoring the Historic Landscape. Soon thereafter a task force on scenic byways was set up within the Committee. In anticipation of legislation establishing a National Scenic Byways Program, the Committee solicited papers throughout 1991 and sponsored a session on Scenic Byways at TRB’s 1992 Annual Meeting. The Scenic Byway legislation was passed in November 1991 and signed into law by President Bush in December 1991. Once again, the Committee was well prepared to address the next generation of transportation needs in support of new public policy.

ISTEA also brought a greater emphasis on wildflowers with dedicated funding. Wildflowers occur naturally in many areas, however it was proving to be much more difficult to establish and maintain wildflower plantings on highway rights-of-ways. After considerable research into plant ecology and construction methods, successful wildflower plantings are now enhancing our nation's highways.

Wetland research continued to be very prominent in the proceedings of the Committee. All aspects were evident in Committee-sponsored papers such as wetland creation, wetland restoration, ecological functions and factors affecting plant survival. Examples of wetland projects were included in field trips at the Mid Year meetings. TR Record 1224 titled Rest Areas, Wetlands and Hydrology, published in 1989, featured articles by Committee members and friends of the Committee.
With the passage of the Intermodal and Surface Transportation Efficiency Act (ISTEA) of 1991, scenic byways now became the number one issue for the Committee. Committee membership reflected the shift in direction, with several new members recruited from outside conventional membership areas. ISTEA enhancement activities presented new and exciting challenges for those involved in landscape and environmental design and there was a need for new research, technology and process transfer as well as design standards for scenic byways. The Committee noted that there was a shift in research needs to “continent-wide, global issues, such as scenic corridor management, hydraulic and biologic design and management, waste management and visualization”. Other issues such as rest areas and roadside vegetation were still being addressed as evidenced by the publication in 1991 of TR Record 1326, Safety Rest Areas, Roadway Vegetation, and Utility and Highway Issues.

The establishment of ISTEA resulted in “interest in transportation and related projects” from a variety of sources. The publication of TR Record 1363, Scenic Byways, in 1992 helped to focus Committee activities and the subsequent publication of TR Record 1419, Roadside Safety Features and Landscape and Environmental Design, in 1993 also helped to provide some design guidelines for states in dealing with the design and safety of alternative barriers and computer visualization and visual prioritization issues for scenic roads. Committee A2A05 was instrumental in identifying opportunities under ISTEA for ten enhancement categories including:

- facilities for bicycles and pedestrians
- scenic easements and scenic or historic sites
- scenic or historic highways
- landscaping and other beautification
- historic preservation
- rehabilitation and operation of historic buildings, structures or facilities
- preservation and conversion of abandoned railway corridors
- control of outdoor advertising
- archaeological planning and research
- mitigation of water pollution due to highway runoff

In 1994, E. LeRoy Brady of the Arizona Department of Transportation succeeded David Fasser as Chair. In 1995 he appointed Barbara Petrarca, RIDOT, as Secretary.

The Committee also established a newsletter under the direction of Committee member, and former Chair, Larry Foote (MN) in order to disseminate information to members and the broader design community.

The Rails to Trails Conservancy was involved with the Committee and in 1997 they reported on their monitoring activities of ISTEA that included billboard removal and funding enhancements.

The National Trust for Historic Preservation also became affiliated with the Committee at this time in response to the enhancements under ISTEA.
The National Scenic Byways Program was first authorised under ISTEA in 1991. An Advisory Committee Report, of which several members of A2A05 contributed, including David Fasser (NY), LeRoy Brady (AZ) and Barbara Petrarca (RI), recommended program principles and criteria for road designation. In the autumn of 1994, FHWA sponsored six regional outreach meetings across the country, presenting the design principles to the byway community. Enhancement project prioritization in California was featured in TR Record 1444, Transportation Environmental Issues: Air, Noise, Water, Mitigation Processes, and Alternative Fuels, published in 1994. Several Committee members including David Fasser (NY), Scott Bradley (MN), Gary Bush (CA) and LeRoy Brady (AZ) participated in the outreach meetings. In May 1995, the FHWA published an Interim Policy for the National Scenic Byways Program and the first round of national and all-American road designations were made in September 1996. A2A05 Committee members have all been affected by the enhancements and scenic byways provisions under ISTEA and members have stepped up and taken control of design issues, whether in private or public practice. Committee member Eugene Johnson, who was also the Scenic Byways Co-ordinator for FHWA, Chaired the Committee's Task Force on Scenic Byways.

During the mid-nineties, the Committee again fostered liaisons with several TRB Committees including A2C01, General Structures Committee, in terms of a general publication and conference on Bridge Aesthetics.

In 1995, Aesthetics, Scenic Byways and Enhancements continued to be a focus of Committee efforts. The March 1995 issue of the American Society of Landscape Architecture’s Landscape Architecture Magazine featured a cover article on Transportation and referenced several Committee members and their work.

The AASHTO Task Force for Environmental Design made a presentation at the 1996 Annual Meeting of the Committee and stressed the need for improved communications and joint projects. The AASHTO Guide for Transportation, Landscape and Environmental Design was one of the projects mentioned.

The January 1996 Issue of FHWA's Roadsides Newsletter was entirely devoted to landscape and environmental design with several Friends of the Committee submitting articles, including Richard Mason (TX) and Hans Littooy (WA). The main focus of the Committee continued to be scenic byways with the area of economic benefits associated with tourism and recreational travel.

The US Department of Transportation, Federal Highway Administration (FHWA) staff responsible for the National Scenic Byways Program, are an integral part of the Committee. They have kept the members informed of the Program's progress in designating All American Roads, scenic roads, educating state and local governments and marketing the travel and tourism industry at both the domestic and international levels. Many A2A05 Committee members have been involved with ISTEA and TEA-21 as state-employed landscape architects, as consultants to state transportation agencies or as academics involved in the research of applicable technologies to transportation enhancements funded by these two transportation acts.
TR Record 1599, *Roadside Safety Features and Other General Design Issues*, published in 1997, profiled several scenic byways initiatives. Throughout 1997, reauthorization of the transportation enhancements was the focus of FHWA's scenic byways interest. TEA-21 reauthorized the program and provided approximately $25M annually for the program. The National Scenic Byways Resource Center in Duluth, MN was established under TEA-21 to provide technical assistance to nationally designated byways. In 1998, a second round of national designations - 3 All-American Roads and 30 National Scenic Byways - were announced and in May 1999, FHWA announced the third nomination cycle for National Scenic Byway and All-American Road designations.

FHWA staff and State scenic byway coordinators responsible for the National Scenic Byways Program are an integral part of the Committee. Three State scenic byway coordinators, David Fasser (NY), Barbara Petrarca (RI) and Richard Ross (KS) and the Director of the National Scenic Byways Program, Rob Draper, presently serve on the Committee. Many A2A05 Committee members and Friends of the Committee have been involved with ISTEA and TEA-21 as state-employed landscape architects, consultants to state transportation agencies or as academics involved in the research of applicable technologies to transportation enhancements funded by these two transportation acts.

A2A05 Committee members have been active in their various states and have participated in the nomination of roads, the provision of technical advice and the design of facilities enhanced under both ISTEA and TEA-21. Committee members David Fasser (NY), LeRoy Brady (AZ), Scott Bradley (MN), Laurie Stillings (OK), Grady Stem (NM), Kevin Powell (WY) and Barbara Petrarca (RI) have been particularly active in their home states as well as providing regional or national advice and expertise on ISTEA and TEA-21 enhancements.

Committee members also attended and contributed to the success of FHWA-sponsored regional conferences in 1998, held in Vermont, Colorado, California and Tennessee. These conferences were held to address changes in TEA-21, highlight the regional byway communities and the new technology available to byways. Local byway groups, local governmental and federal land management agencies also attended the conferences.

In August 1999, FHWA and the National Scenic Byways Resource Center sponsored a four-day conference in Louisville, KY. The theme for the conference was *Sharing America's Stories, Building Successful Byways Community by Community*. The conference brought together over 250 people in the byway community including state byway co-ordinators, leaders of nationally designated and state scenic byways as well as several members of Committee A2A05.

The American Society of Landscape Architects (ASLA), whose corporate purpose is to “advance the knowledge, education and skill in the art and science of landscape architecture as an instrument of service in the public welfare”, exhibited an interest in the ISTEA funding enhancements. A2A05 Committee members David Fasser (NY), Harlow Landphair (TX), LeRoy Brady (AZ) and Barbara Petrarca (RI) liaised with the ASLA and investigated the establishment of an ASLA Standing Committee of Transportation and the Environment. The interaction between the Committee and the ASLA was truly symbiotic and served to strengthen the Committee as many of our members are from state transportation agencies, whereas the
ASLA has a very large membership of private consultants and academics. A common interest in the funding enhancements has created a closer bond between the Committee and the ASLA. Committee member Barbara Petrarca (RI) also served as the local Rhode Island chapter Chair of the ASLA and Committee member David Fasser (NY) served a term as President of the Council of Landscape Architectural Registration Boards (CLARB). CLARB is responsible for the national administration, examination and registration of landscape architects.

By the late 1990’s the scenic byways initiative had matured to the point where research needs, papers and presentation on scenic byways design issues were no longer a high priority and the Committee was seeking to move in new directions. Context sensitive design or CSD had come to the forefront of transportation design during the late 1990’s. Context Sensitive Design had become one of the new design methods to deal with the new reality of a fundamental shift in power enabled through the last two federal transportation acts and new state laws, where the customer was more empowered in the decision-making process. Context Sensitive Design, is very simply… design excellence. It also embodies many of the scope and goal statements of TRB Committee A2A05 since its inception way back in 1932.

In 1994 the American Association of State Highway and Transportation Officials (AASHTO) adopted a policy on National Highway System Design Standards. Included in the policy was a call to “…integrate safety, environmental, scenic, historic, community and preservation concerns…” Soon after, the Federal Highway Administration (FHWA) published its Flexibility in Highway Design. This document calls for designers to examine projects on a case-by-case basis, but more importantly, it recognizes that while AASHTO’s Policy on Geometric Design of Highways and Streets is the authority on highway design, this guideline can accommodate variations in design criteria to account for unique landscapes, environmental constraints and cultural values.

In May 1998 the Maryland Department of Transportation hosted a landmark conference entitled “Thinking Beyond the Pavement”. Key co-sponsors were the FHWA and AASHTO. Some 325 chief engineers, senior designers, and planners from across the U.S. met to discuss how transportation design transcends functional considerations alone

During 1998, three papers were reviewed by the Committee and one was accepted for publication. Committee interest focused on the Flexibility in Design Workshop hosted by Maryland. The issues of flexibility in design and context sensitive design proved to be topical and of interest to a broad spectrum of design professionals.

After the 1999 Mid Year meeting, the Committee turned its full attention to the issue of context sensitive design. Many A2A05 members have taken leadership roles in the development and implementation of these programs in both the pilot states and other states wishing to explore context sensitive design. At the end of 1999 the Committee adopted the overall research need concerning context sensitive design and felt that the previously published research needs statements were still an adequate representation of needed research to address context sensitive design.
Committee members David Fasser (NY), Barbara Petrarca (RI) and Friend of the Committee Wil Gates (RI) approached the ASLA in February 2001 to establish a Professional Interest Group to deal with the issue of Context Sensitive Design. These Committee members and Scott Bradley (MN) worked with ASLA in preparation for a national on-line Context Sensitive Design seminar that was presented in June 2002.

The American Association of State Highway and Transportation Officials (AASHTO) Task Force for Environmental Design once again requested in early 2000 that A2A05 Committee members take on the responsibility of re-writing and updating the AASHTO Landscape and Environmental Design Guide. There are many cross-linkages between AASHTO's Task Force on Environmental Design and TRB Committee A2A05. This much needed update and total rewrite opportunity results from the previous success of Committee members and friends in authoring the AASHTO Landscape and Environmental Design Guide with review and sanction by the AASHTO Task Force on Environmental Design. Committee member Scott Bradley (MN) is directing this endeavour and has enlisted the aid of several key authors including Committee members Doug Mann (TX), Mark Mathews (TX), Leif Hubbard (WI), Craig Churchward (MN) and Friend of the Committee Dennis Adams (FHWA). Committee members Dave Fasser (NY), Mark Masteller (IA), Scott Bradley and Friend of the Committee Elizabeth Fischer (FHWA) serve on the project’s NCHRP Technical Panel along with three members of the AASHTO Task Force on Environmental Design and NCHRP staff liaison Charles Niessner.

Committee member Charles Adams (MD) is a member of the AASHTO Standing Committee on Highways (SCOH) Task Force on Context Sensitive Design. He has contributed a strong linkage between the Committee, AASHTO’s Task Force on CSD and the pilot project on CSD initiated by FHWA. Committee member Sally Oldham (MD) is also a member on the AASHTO Task Force on Context Sensitive Design; she also serves on the Performance Measurement Subgroup.

At the 2001 Mid Year Meeting in San Diego, CA, Friend of the Committee, Carol Reamer Braun (MN), and other interested individuals, arranged to piggyback an AASHTO National Safety Rest Area Conference for one and one-half days onto the end of the TRB Meeting. The combined conference drew a total of over seventy practitioners.

At the 10th Anniversary Celebration of the National Scenic Byways Program on December 18, 2001, John Horsley, Executive Director of AASHTO, released The Road Beckons: Best Practices for Byways publication. The AASHTO publication provides an overview of national excellence in scenic byways. Launched in February 2000, The Road Beckons: Best Practices for Byways competition recognizes the importance of valuing the byway’s resources, bringing a plan to life, partnering for success, and attracting, educating and serving visitors. At the August 2001 National Scenic Byways Conference, John Horsley presented awards to the finalists and stated, “I commend the truly excellent work being done throughout the country. As the people behind all forty-one projects submitted for this competition have made significant contributions to their byways and their communities, your leadership clearly demonstrates ‘the best of the best’ practices nationwide to establish, preserve, and enhance byways.” AASHTO sponsored the competition in cooperation with the Federal Highway Administration and the America's Byways
Resource Center. Two A2A05 Committee members were directly involved in the Best Practices initiative.

Recently on an individual level, Committee members have been actively pursuing interactions at both the regional and national levels. This ‘grass roots’ liaison is important to the Committee in terms of collecting and disseminating information and direction critical to the Committee’s scope, goals and objectives.

In 2001, Committee member Mark Masteller (IA) spoke to the Iowa Aggregate Producers on Use of Aggregates in Highway Erosion Control and the Iowa Chapter of the American Society of Civil Engineers (ASCE) on Integrated Roadside Vegetation Management.

During 2000 to 2002, Committee member Howard Wagner (CO) was an active member of ASTM Subcommittee D18.25, Erosion and Sediment Control and Past Chair of Erosion Control Blankets Section, D-18.25.02 as well as being actively involved as a speaker and author for the International Erosion Control Association (IECA).

Committee member Harlow Landphair (TX) presented a paper on A Cost Effectiveness Comparison of Stormwater Quality BMPs, at the 2001 International Conference on Ecology and Transportation (ICOET).

Committee member Leif Hubbard (WI) participated in several workshops including an AASHTO Region 3 Conference held in June 2001 on “Design Excellence Through CSD”, an FHWA/Montana DOT workshop held in September 2001 on “CSD, Transferring Lesson's From Our Collective Experiences”, as well as providing input during October 2001 to NCHRP Project 25-23, Environmental Information Management & Decision Support System for Transportation.

Committee member Sally Oldham (MD) is a Board Member for Scenic Maryland as well as a Board Member for Scenic America, a national non-profit organization whose mission is to preserve and enhance the scenic quality of America's communities and countryside.

Committee member Bill Billings (MO) is our liaison member with the TRB Roadside Maintenance Committee A3C07 and Committee Member Kevin Powell (WY) is our liaison member with TRB Environmental Analysis Committee A1F02.

During Earth Day celebrations in Washington D.C. on April 20, 2000, Committee member Scott Bradley (MN) accepted FHWA’s Environmental Excellence Award for Research. Scott initiated and managed a collaborative research project that created an interactive CD-ROM expert system for the selection of roadside landscape plants for all areas and conditions characteristic of Minnesota. Four members of the Committee and three friends of the Committee provided collaboration assistance on this research project as well.
Committee Activities

The preceding information was presented as a chronology of events through various eras. The Committee also believes it is important to present more recent activities through its standing Subcommittee structure.

Organizational Structure and Membership

During the first several decades the Committee had numerous Subcommittees. Important issues to the Committee were normally handed to a Subcommittee for action. The records show eleven Subcommittees were in existence in the 1940's and as many as nine in the 1960's working on a variety of subjects. In 1979, the Committee reorganized into its present structure with four standing Subcommittees:

- Steering
- Research Needs
- Formal Papers and
- Mid Year Meeting

Ad-hoc Subcommittees or task forces are created when the need is identified. Goals and objectives were established for the Committee as well as each Subcommittee. A schedule for updating the goals and objectives was set for rotation every five years. All members participate on a Subcommittee. This has led to a very strong and organized structure that has direction, operates efficiently, and is very productive.

The Committee has endeavored to have a balance in membership. In general, membership composition has been about one-half from state transportation agencies and one-sixth each from federal agencies, research and education areas, and private consultants. This balance provides expertise from a variety of entities and has produced a strong Committee. The Steering Subcommittee performs talent research to assist the Chairman in filling vacancies.

In 1993 Committee membership stood at twenty-three, plus three foreign members. The first foreign member of the Committee was appointed in 1967. He was a landscape architect from British Columbia, Canada. Since that time there has always been a Canadian representative on the Committee. The Committee also tries to maintain a global perspective with one or two members from other countries. Past international members have been from South Africa, Australia, Belarus and the Netherlands.

A mandatory Committee activity is the completion once every three years of a Triennial Self-Evaluation (TSE). The purpose of a TSE is to allow each Committee to critically evaluate its current performance and to set visions for the future. A2A05 completed a TSE in February 1993 for the purpose of assessing the Committee’s operation and function with respect to its scope and goals. The TSE received a “very good” rating of 3.78 out of 4.0 from TRB. Another TSE was completed in December 2000, covering the period February 1, 1994 to January 31, 1997.
The Committee has been graced through the years with outstanding TRB staff representatives such as Frank Wray, Larry Spaine, Pat Ring, Frank McCullagh, Bill Dearasaugh and our current TRB staff representative, Stephen Maher. The TRB staff representatives have always been helpful to the Committee in terms of liaison with TRB’s organizational structure and processes. All Committee members have been very appreciative of their guidance, assistance and friendship over the years.

Barbara Petrarca from the Rhode Island Department of Transportation became the new Chair of the Committee in February 2000. Scott Bradley from MinnDOT, assumed the role of Secretary of the Committee. The review of the Committee’s membership in February 2001 presented an opportunity to strengthen the Committee in areas of diversity of knowledge, geographic coverage and links to industry, government and academia. In February 2002, David Fasser, NYDOT, became the first Committee member to be granted Emeritus status. The Committee’s roster in 2002 includes twenty-two members and one Emeritus member. Fifteen members are affiliated with state transportation organizations, six members are employed as consultants, three members are in academia, one member is with FHWA, one member is from the National Parks Service and one member is International. Geographically we are well balanced with seventeen states represented, covering the northeast, southeast, midwest and southwest areas of the continental United States. The Committee has one European and two Canadian members.

Under the Chairmanship of Barbara Petrarca, the Committee again submitted a Triennial Self Evaluation for the period February 1, 1997 to January 31, 2000 to TRB’s Group 2 Chair for evaluation. The Committee’s self-evaluation resulted in a rating of 3.53 out of 4 and the Group 2 Subcommittee’s rating was an overall 3.52 out of 4 possible points. In March 2002, the Committee once again submitted a TSE covering the period February 1, 2000 to January 31, 2002 with a self-evaluation rating of 3.60.

The Committee determined in 1998 that in order to attract new qualified members to the Committee and to provide existing members with information about the Committee’s function and business, an Orientation Guide was needed. Committee A2A05’s Orientation Guide for Members was produced and distributed in July 2000. Based on the success of the initial document and to capture changes in the Committee’s membership, the Second Edition of the Orientation Guide for Members was distributed in July 2001. The Guide contains the Committee’s Scope, Goals and Objectives as well as that of its Subcommittees, a roster and profile of each Committee member, an annual report for 2000, an evaluation of the Committee’s activities for 1997-2000, a historical review of the Committee since 1932 and a list and photographic history of the Committee’s Mid Year meetings. This Guide has provided members and potential members with current relevant information on the Committee all in one document.

**TRB Annual Meeting and Formal Papers**

An important function of the Committee according to TRB’s Information and Operational Guide and of the Committee’s main goals is to sponsor paper, poster and conference sessions at the TRB Annual Meeting held each January in Washington.
The Committee usually sponsored 2 program sessions and often had 3 business session presentations at the annual meeting.

During its long history, Committee A2A05 has sponsored individually, or co-sponsored with several other TRB Committees, many sessions at most TRB Annual Meetings.

The 1993 Annual Meeting of the Committee was dominated by scenic byway presentations from Scenic America, academics involved in scenic evaluation and the national scenic byways program. One session consisting of three papers was presented at the 1993 TRB Annual Meeting dealing with Highway Aesthetics and the Enhancement Provisions of ISTEA: Looking to the Future and Lessons from the Past. In February 1993, TR Record 1363, Scenic Byways, was published and included papers from the Committee’s annual meeting session.

Two sessions were sponsored at the 1993 Annual Meeting. Session 194 dealt with Scenic Byways from a Public/Private Perspective and Session 226 dealt with the Implementation Progress of the Enhancement Provisions of ISTEA.

Two papers were published in the 1994 TR Record and one session was planned for the 1995 Annual Meeting. The session focussed on Noise Walls and Design in the Urban Environment and featured presentations on:

- Noise Wall Aesthetics: New Jersey Case Study
- State-of-the-Art in Noise Wall Design and Materials
- View of Roadside and Driver Stress in Urban Environments
- Understanding the Public's Sense of Beauty in Ordinary Landscapes

Nine formal papers were received by the Committee for review in 1995 dealing with aesthetics, noise walls, erosion control, and right-of-way runoff quality. Five of the papers were recommended for publication. One session was hosted at the 1996 Annual Meeting consisting of six presentations.

In 1996, Eighteen abstracts were submitted to the Committee, fourteen for formal papers and four for presentation. Two sessions (Session 391 and Session 410) of the 1997 TRB Annual Meeting resulted from papers submitted through the Committee. The sessions were focused on Scenic Byways Planning and Economic Benefits. There were a total of eight presentations at the two sessions. Four papers were published as a result of the formal papers review in TR Record No. 1549 titled Transportation Aesthetics.

For the January 1999 Annual Meeting, the Committee reviewed several papers and hosted one session with four papers on erosion technology. Topics of interest included erosion control, wet ponds, management of native plants and slope stabilization. One of the presentations discussed the need to revise FHWA publication HEC-15, the standard for the design of Temporary Flexible Channel Linings. Presentations at the 1999 Annual Committee Meeting included I-75 Corridor Plan for Visual Quality and Outdoor Advertising by Friend of the Committee Jeff Caster (FL) and an update on the National Scenic Byways Program by Friend of the Committee Elizabeth Fischer of FHWA.
At the Annual Meeting in January 2000, Committee A2A05 co-sponsored three well-attended sessions on Context Sensitive Design with the Geometric Design Committee, A2A02, and the Environmental Analysis in Transportation Committee, A1F02. The Committee also created a Context Sensitive Design Task Force, chaired by Committee member David Fasser (NY) to deal with the widening interest in the subject and to help focus our energies on issues related to flexibility in design and context sensitive design.

At the 2001 TRB Annual Meeting, Committee A2A05 and Committee A2A02 (Committee on Geometric Design), co-sponsored two sessions dealing with Context Sensitive Design. Interest in the subject matter continues to be high with attendance at each of these sessions around one hundred people.

At the 2002 TRB Annual Meeting, Committee A2A05, Committee A1F02 (Environmental Analysis in Transportation) and AASHTO co-sponsored a full day workshop, which was attended by over one hundred and fifty practitioners. The workshop, W 34, was titled: Next Steps for Transportation Environmental Stewardship Through Context Sensitive Planning, Design, Construction and Maintenance.

Also at the 2002 TRB Annual Meeting, Committee A2A05 and Committee A1F02 co-sponsored conference sessions on The Road Ecology Book. Session 187 dealt with Road Ecology-Science and Solutions Part 1: Roads, Roadsides and Wildlife. Session 229 dealt with Road Ecology-Science and Solutions, Part 2: Water, Landscape and Transportation. Committee A2A05 also sponsored Session 579 on Context Sensitive Design, which was well attended with over one hundred and twenty-five practitioners and a standing-room-only gathering.

Finally, Committee A2A05 and Committee A2A02 (Committee on Geometric Design) co-sponsored Poster Session 316, Case Studies in Context Sensitive Design.

**Mid Year Meetings**

During the first half of the Committee's history, most of the members were from east of the Mississippi River and they attended annual HRB meetings in Washington, D.C. in large numbers. The meetings included field trips during the 1960's conducted by the Virginia, Maryland, and District of Columbia highway departments and The National Park Service. As the membership became more evenly distributed throughout the country and travel budgets dwindled, Mid Year meetings in various states attracted the largest attendance.

Mid Year meetings became commonplace for the AASHO Roadside Development Committee, the HRB Roadside Development Committee and the Ohio Short Course on Roadside Development. Mid Year Meetings were held by one or more of these Committees each year and in some cases, the meetings were co-sponsored by AASHO and HRB. The format for the present-day Mid Year meeting evolved sometime around the late 1960’s or the early 1970’s and during this time many of the Mid Year meetings were co-sponsored by AASHO and HRB primarily because many members were common to both Committees.
The three-day Mid Year meetings are filled with Committee activities, which constitute a very beneficial experience for all who attend. The three-day format has remained constant to this day with Day One set up as the main conference day ending with the Committee’s business meetings. Day Two is always set aside for a field trip to see projects of the host state representing state-of-the-art work in issues current and topical with the Committee and its members. Day Three concludes with a full or half-day conference, keynote luncheon speaker and the presentation of the appreciation plaques. Proceedings are normally published after each meeting. In 1969 at the Mid Year meeting in Lincoln, Nebraska, Governor Norbert T. Tiemann personally welcomed the Committee to the state.

Summer Mid Year meetings attract excellent attendance by the members and many states send other representatives. For example, in 1978, sixty-eight representatives from 21 states and South Africa were present at the meeting in Scottsdale, Arizona. At this meeting a long time friend of the Committee, Frederick “Bill” Cron, a retired FHWA Design Engineer, addressed the Committee on “Highway Aesthetics in the Rural Setting”. The Committee also heard its first presentation on solar energy.

Occasionally, at Mid Year meetings Committee A2A05 meets jointly with other TRB Committees with similar interests. The 1991 Mid Year meeting in Cody, Wyoming brought together Landscape and Environmental Design, Environmental Analysis, and Roadside Maintenance. Joint meetings of this type are well attended and a very full agenda of interesting topics proves very beneficial to all who attend.

The 1994 Mid Year meeting was co-hosted with Committee A3C07 in Philadelphia, Pennsylvania. The sessions featured Urban Highway Mitigation, Building Controversial Highways Within an Urban Corridor, Urban Highway Maintenance and Research, Wetland Mitigation, Urban Forestry Mitigation and Scenic Byways.

The 1995 Mid Year meeting was hosted in Phoenix by the Arizona DOT. Sessions from the Mid Year Meeting included; Historic Preservation, Sustainability in the Built Environment, the President's Executive Memorandum on Landscapes and FHWA's Implementation, Heat Island Formation, Urban Freeway Landscapes, State Highways in Forest Lands, Partnering, National Scenic Byways and Corridor Management Plans.

The 1996 Mid Year meeting was hosted by the Iowa DOT in Dubuque, IA and included sessions on Visual Quality Perception, Redesigning Pennsylvania Avenue, Community Visioning, Volunteerism and Partnerships, Rest Area Privatisation and Highway Aesthetics.

The 1997 Mid Year Meeting was hosted by the New Mexico Department of Transportation and held in Santa Fe. Attendees were treated to New Mexico's Scenic Byways Program, presentations on Public Art on Scenic Highways, Wetland Restoration Projects, Enhancement and Reclamation Projects in New Mexico. A presentation on The Comprehensive Design Plan for the White House by Committee member James McDaniel was also part of the agenda.

The 1998 Mid Year Meeting was hosted by the Ontario Ministry of Transportation and represented the first time the meeting had moved outside of the United States in its sixty-six year
history. The forty-two attendees to the business program were treated to a broad spectrum of design issues including: Accountability for Public Safety, ISO 14000 Compatible Environmental Management Plan, Tourism and Scenic Value Assessment in Route Planning, Multi-disciplinary design approaches in Minnesota and Texas, Ontario's Electronic Toll Highway and a Lights, Colour and Action presentation of TxDot's work in El Paso.

The 1999 Mid Year meeting was hosted by the FHWA and held in Washington, D. C. The Mid Year Meeting presented informative and timely topics of interest on TEA 21, the National Planning Capital Commission, the Washington Monument Restoration, the Woodrow Wilson Bridge/Interstate 95/495 Design, the Metropolitan Washington Long Range Transportation Plan, Washington Parkways - History and Present Day Issues and Aesthetic Traffic Barriers. In addition to the above agenda, Maryland SHA staff discussed Flexibility in Design/Thinking Beyond the Pavement and a status report on Context Sensitive Design. One of the field tour's highlights included a visit to historic Middleburg, VA and a presentation by the mayor, chief planner and chief economic development officer on Traffic Calming for Virginia's Rural Route 50.

The Committee’s 2000 Mid Year Meeting was hosted by the Oklahoma Department of Transportation and was held in Oklahoma City. Sessions of interest to the attendees included:

- Partnerships for Highway Art
- The Future of Design: Impact beyond the Pavement, a brainstorming exercise where Committee member Jack Crowley (GA) led a session on the future of transportation planning
- Oklahoma City: Streetscapes and Trails
- Hefner Expressway Wetland Mitigation Project
- Consensus Building on the Interstate 40 Realignment in Downtown Oklahoma City
- Innovative ISTEA/TEA 21 Projects and Partnerships in Oklahoma
- Route 66 Preservation Program
- Zion National Park - New Approach to a Transportation System
- Visual Interstate Enhancement Work - Oklahoma City Viewscape
- The Oklahoma City Bombing Memorial - The Design Process

The Committee’s 2001 Mid Year Meeting was hosted by the California Department of Transportation. Sessions of interest to the attendees included:

- Transportation Renaissance in California; ‘Enlightened’ Interstate Reconstruction
- Context Sensitivity in the 21st Century
- Caltrans’ Visual Impact Assessments (VIAs)
- Caltrans’ Research In Textured Barrier Surfaces
- Environmental Stewardship/Advocacy in New York State
- Water Quality In Lake Tahoe Basin
- Roadside Management for Maintenance
- Caltrans’ Wireless Licensing Program
- International Border Crossings
- Mn/DOT’s Aesthetic Initiative Measuring System (AIMS) research
Also at the 2001 Mid Year Meeting in San Diego, CA., the AASHTO Rest Area Conference focussed on the new AASHTO Guide for Development of Rest Areas on Major Arterials and Freeways, prepared by the AASHTO Task Force on Geometric Design. The combined conference drew a total of over seventy practitioners.

Committee A2A05 and Committee A1F02 (Environmental Analysis in Transportation) have agreed to co-host a joint Mid Year Meeting in North Carolina in 2003.

Committee A2A05 and Committee A1F05 (Historical and Archeological Preservation in Transportation) have tentatively agreed to co-host a joint Mid Year Meeting in Rhode Island in 2004.

**Research Needs**

The Committee's Research Needs Subcommittee has always been very active in identifying needed research. The Committee investigates and encourages research needs continually. Committee A2A05 has produced numerous research problem statements, established priorities, and distributed them to all states with encouragement to undertake needs with higher priorities. For example, in 1986 one problem statement resulted in a NCHRP project, *Identifying, Measuring, and Evaluating the Benefits of Safety Roadside Rest Areas*.

Research needs were well identified with the publication in 1991 of TR Circular 389, which identified and prioritized the Committee’s efforts to identify new research needs.

In 1994, a Research In Progress database using AASHTO and RAC information was prepared and distributed by the Committee.

In 1997, the Committee received 56 responses from various state and provincial transportation agencies indicating related research was either underway or recently completed. The Committee also received 108 responses of research needs still pending. Most of the research responses tended to be local or regional in nature and tended to fall within the traditional areas of the Committee's scope, that being the protection and preservation of natural elements. The Committee did find that several new identified research needs fell within areas of a less traditional nature. Those areas were aesthetics and the use of new technologies.

The result of the triennial solicitation produced the following prioritised research needs:

- Physiological effects of landscape design, visual patterning and architectural treatments on driver behaviour. A companion statement to this is the effect of roadside distractions, such as billboards, signage, unusual structures or surprising scenes or vistas, on driver behaviour.

- Develop and implement a nation-wide survey to determine; the public's definition of aesthetics, the importance of aesthetics to the travelling public, aesthetic features being implemented in transportation projects nation-wide, and costs associated with
implementing aesthetics in projects versus “non-aesthetic” projects

- Evaluate the practical applications for the use of GIS, GPS and roadside resource/inventory mapping as a roadside design and management tool.
- Research current, state-of-the-art visual simulation technology and its use by transportation agencies, especially in the preparation of visual impact assessments.
- Develop an enhanced system for the technological transfer of research findings to working professionals in the realm of landscape and environmental design.

The Committee's research needs were published in 1997 in TR Circular #469, Environmental Research Needs in Transportation.

At the end of 1999 the Committee adopted the overall research need concerning Context Sensitive Design. This culminated with the posting of four problem statements on the TRB Web site in 2000. The problem statements all dealt with aesthetics and visual quality as a toolkit for Context Sensitive Design.

The problem statements were posted in April 2000. The problem statements were identified as:

- Development of a Model Community and Place-Based Project Development Process That Successfully Incorporates Visual Quality and Aesthetic Concerns
- Linking Research on Human Aesthetic Perception of the Landscape to Transportation Concerns and National Forum on Aesthetics in Transportation
- Quantification of Benefits of Aesthetic Considerations in Transportation Facilities
- Best Practices in the Aesthetics of Transportation Facility Design

In 1991 and again in 1996, National Transportation Environmental Research Needs Conferences were conducted. Each of these conferences brought together transportation and environmental specialists to develop prioritized research needs statements. In March 2002, a Third Transportation Environmental Research Needs Conference was convened to update the work of the previous conferences, this time with a multimodal perspective. The conference will culminate in the publication of a report containing top priority research needs statements. With broad-based input into the definition of these research needs, the intention is to encourage crosscutting research as well as that which is required for particular modes, organizations, or situations. Committee A2A05 is a co-sponsor of the 2002 Transportation Environmental Research Needs Conference and two Committee members; Barbara Petrarca (RI) and Harlow Landphair (TX) did moderate sessions.

What’s Next
The Committee is now seventy years old and enthusiasm is as high as when the first group
gathered in 1932. An anniversary celebration is planned for the Mid Year meeting in Topeka,
Kansas from July 27 to July 31, 2002. Future Committee directions as well as past
accomplishments will be reviewed during the program. Past Committee and TRB staff
representatives are being contacted and urged to attend.

Collectively, the research publications and hundreds of fine papers published by the Committee
fill many volumes. Policies and processes of TRB have changed substantially with the advent of
computers, email, Internet and Web sites. While this new technology is now firmly entrenched
in our daily work routines, many of these advances are less than a decade old. The Committee
has embraced the new technology both as a communications tool and as a design aid to further
the original 1932 Joint Roadside Development Committee’s mandate statement to:

“conserve, enhance, and effectively display the natural beauty of the landscape
through which the highway passes, as well as provide safety, utility, economy, and
recreation facilities by means of proper location, construction, and maintenance of
the highways”.

As we move into the twenty-first century, the Committee has re-vitalized its membership,
developed a Web Board for the exchange of information, ideas and communication and is poised
to continue to: investigate and encourage research and ensure the high quality of research on
issues and needs that are related to the Committee’s areas of interest. The Committee will also
share the results of these endeavors through improved communications, liaisons, sponsorships,
publications and postings.

Committee A2A05, all of its current and past members and friends, can be proud of its seventy
years of dedication and concern with the design and implementation of transportation systems
and facilities to ensure that their form is in harmony with the surrounding natural and man-made
environment. The Committee continues to promote cost-effective, efficient, and buildable
design solutions that enhance the traveler’s experiences while promoting careful stewardship,
wise planning and artful design that supports responsible development, restores and conserves
natural resources, respects cultural heritage and improves the quality of life.
### Table of Committee A2A05 Chairs

<table>
<thead>
<tr>
<th>Year</th>
<th>Chair</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1932-1936</td>
<td>Luther M. Keith</td>
<td>Connecticut DOT</td>
</tr>
<tr>
<td>1936-1953</td>
<td>Harold J. Neale</td>
<td>Virginia DOT</td>
</tr>
<tr>
<td>1953-1958</td>
<td>Frank H. Brant</td>
<td>North Carolina DOT</td>
</tr>
<tr>
<td>1958-1964</td>
<td>Wilbur J. Garmhausen</td>
<td>Ohio DOT</td>
</tr>
<tr>
<td>1976-1982</td>
<td>Lawrence E. Foote</td>
<td>Minnesota DOT</td>
</tr>
<tr>
<td>1982-1988</td>
<td>Robert L. Jacobsen</td>
<td>FHWA, Denver, CO</td>
</tr>
<tr>
<td>1994-2000</td>
<td>E. LeRoy Brady</td>
<td>Arizona DOT</td>
</tr>
<tr>
<td>2000-2003</td>
<td>Barbara Petrarca</td>
<td>Rhode Island DOT</td>
</tr>
</tbody>
</table>

### Table of Committee A2A05 Mid Year Meeting History

Note: Prior 1964, AASHO, HRB and the Ohio Short Course on Roadside Development all held various summer meetings as pre-cursors to the Committee’s Mid Year Meeting. From 1964 until the mid 1970’s, AASHO’s Committee on Roadside Development and HRB’s Roadside Development Committee held joint Mid Year meetings. Some of these were documented, some were not. The frequency, location and duration of these meetings also varied and there is not much documentation available to definitively tie down the year, location and host.

<table>
<thead>
<tr>
<th>Year</th>
<th>Location</th>
<th>Host</th>
<th>Number of Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1967</td>
<td>Ames</td>
<td>Iowa Department of Transportation</td>
<td></td>
</tr>
<tr>
<td>1968</td>
<td>Baton Rouge</td>
<td>Louisiana Department of Transportation</td>
<td></td>
</tr>
<tr>
<td>1969</td>
<td>Lincoln</td>
<td>Nebraska Department of Roads</td>
<td></td>
</tr>
<tr>
<td>1970</td>
<td>Santa Fe</td>
<td>New Mexico Department of Transportation</td>
<td></td>
</tr>
<tr>
<td>1971</td>
<td>Oregon</td>
<td>Oregon Department of Transportation</td>
<td></td>
</tr>
<tr>
<td>1972</td>
<td>Madison</td>
<td>Wisconsin Department of Transportation</td>
<td></td>
</tr>
<tr>
<td>1973</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1974</td>
<td>Denver</td>
<td>Colorado Department of Transportation</td>
<td></td>
</tr>
<tr>
<td>1975</td>
<td>Minneapolis</td>
<td>Minnesota Department of Transportation</td>
<td></td>
</tr>
<tr>
<td>1976</td>
<td>Asheville</td>
<td>North Carolina Department of Transportation</td>
<td></td>
</tr>
<tr>
<td>1977</td>
<td>Biloxi</td>
<td>Mississippi Department of Transportation</td>
<td></td>
</tr>
<tr>
<td>1978</td>
<td>Scottsdale</td>
<td>Arizona Department of Transportation</td>
<td>68</td>
</tr>
<tr>
<td>Year</td>
<td>Location</td>
<td>Host</td>
<td>Number of Attendees</td>
</tr>
<tr>
<td>------</td>
<td>-----------</td>
<td>----------------------------------------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>1979</td>
<td>Newark</td>
<td>New Jersey Department of Transportation</td>
<td></td>
</tr>
<tr>
<td>1980</td>
<td>San Antonio</td>
<td>Texas Department of Transportation</td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>Bangor</td>
<td>Maine Department of Transportation</td>
<td>62</td>
</tr>
<tr>
<td>1982</td>
<td>Hot Springs</td>
<td>Arkansas Department of Transportation (50th Anniversary Meeting)</td>
<td>45</td>
</tr>
<tr>
<td>1983</td>
<td>Seattle</td>
<td>Washington Department of Transportation</td>
<td>60</td>
</tr>
<tr>
<td>1984</td>
<td>Collinsville</td>
<td>Illinois Department of Transportation</td>
<td>47</td>
</tr>
<tr>
<td>1985</td>
<td>Albany</td>
<td>New York State Department of Transportation</td>
<td>64</td>
</tr>
<tr>
<td>1986</td>
<td>San Diego</td>
<td>California Department of Transportation</td>
<td>52</td>
</tr>
<tr>
<td>1987</td>
<td>Bellaire</td>
<td>Michigan Department of Transportation</td>
<td>67</td>
</tr>
<tr>
<td>1988</td>
<td>Lincoln</td>
<td>Nebraska Department of Transportation</td>
<td>36</td>
</tr>
<tr>
<td>1989</td>
<td>Warwick</td>
<td>Rhode Island Department of Transportation</td>
<td>48</td>
</tr>
<tr>
<td>1990</td>
<td>Duluth</td>
<td>Minnesota Department of Transportation</td>
<td>75</td>
</tr>
<tr>
<td>1991</td>
<td>Cody</td>
<td>Wyoming Department of Transportation</td>
<td>85</td>
</tr>
<tr>
<td>1992</td>
<td>College Station</td>
<td>Texas Department of Transportation (60th anniversary meeting)</td>
<td>42</td>
</tr>
<tr>
<td>1993</td>
<td>Rapid City</td>
<td>South Dakota Department of Transportation</td>
<td>40</td>
</tr>
<tr>
<td>1994</td>
<td>Philadelphia</td>
<td>Pennsylvania Department of Transportation</td>
<td>65</td>
</tr>
<tr>
<td>1995</td>
<td>Phoenix</td>
<td>Arizona Department of Transportation</td>
<td>30</td>
</tr>
<tr>
<td>1996</td>
<td>Dubuque</td>
<td>Iowa Department of Transportation</td>
<td>42</td>
</tr>
<tr>
<td>1997</td>
<td>Santa Fe</td>
<td>New Mexico Department of Transportation</td>
<td>28</td>
</tr>
<tr>
<td>1998</td>
<td>Toronto</td>
<td>Ontario Ministry of Transportation</td>
<td>42</td>
</tr>
<tr>
<td>1999</td>
<td>Washington</td>
<td>Federal Highway Administration USDOT</td>
<td>38</td>
</tr>
<tr>
<td>2000</td>
<td>Oklahoma City</td>
<td>Oklahoma Department of Transportation</td>
<td>40</td>
</tr>
<tr>
<td>2001</td>
<td>San Diego</td>
<td>California Department of Transportation</td>
<td>47</td>
</tr>
<tr>
<td>2002</td>
<td>Topeka</td>
<td>Kansas Department of Transportation (70th Anniversary Meeting)</td>
<td></td>
</tr>
</tbody>
</table>