A HISTORICAL REVIEW OF
TRB COMMITTEE A2A05

LANDSCAPE AND ENVIRONMENTAL DESIGN COMMITTEE

By
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Landscape and Environmental Design A2AO5 is one of the oldest committees in the Transportation Research Board (TRB). The year 1992 marks the 60th anniversary of this very active Committee that started with the name, "Roadside Development". Numerous publications in the Board library indicate this Committee has been one of its most productive and innovative units. A number of current TRB committees are rooted in this Committee where they started as task forces or sub-committees.

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. The Highway Research Board (HRB) was urged by the American Society of Landscape Architects 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 on roadside development of AASHO and HRB.

The Committee was appointed in 1932 and Luther Keith of the Connecticut State Highway Department was named Chairman. Several years later, Roy W. Crum, 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. There the Committee wrote a definition of roadside development, which, I think, is a masterpiece. "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 see that the following 1992 Scope of the Committee is very similar to the original 1932 definition. "This committee is concerned with the design parameters that relate to the protection, conservation, restoration and enhancement of the natural environment and man-made elements of transportation systems and their surroundings. The factors of interest include: aesthetic and scenic quality and visual integration of facilities into their environment; conservation of natural elements; preservation of cultural and historic resources; identification and preservation of scenic opportunities and quality development of roadside facilities to enhance travel experiences".
The original joint committee had eight members, four from the HRB and four from the AASHO. 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. 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 1944 Carl Izzard converted his drainage subcommittee to a full committee on surface drainage of highways. 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. The committee structure contained three divisions and eleven subcommittees. Some were: 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.

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. 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 design of parkways and urban freeways.

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.
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.

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 contains 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 on, "Correlating Roadside Development with Highway Design". Circulare 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 Circulare 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 Contractors and Engineers Monthly, who became chairperson of the subcommittee on Publications.

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 to provide transportation service to highway users broadened 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 report on aesthetic considerations in the design of noise abatement features.

The Committee usually sponsored 2 program sessions and often had 3 business sessions at the annual meeting. Over half of the time, the business sessions were devoted to "show and tell" presentations by various members, who showed slides and presented case studies of roadside research and other related activities.

For 60 years the Committee has been in the design area of Board activities. However, for the first 30 to 40 years, it had to cover the gamut of roadside development until the work in certain subcommittees became so prominent as to require separate committees in HRB and later TRB. One such area was roadside maintenance. The Committee presented and published many papers on roadside maintenance practices, equipment, materials, economics, public relations, control of litter, and outdoor advertising. Roadside Maintenance became a separate committee in 1969.

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 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.

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, Highway Roadsides for the monograph, Turf Grass Science, for the United States Department of Agriculture.

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. The three-day mid-year meetings are filled with committee activities, which constitute a very beneficial experience for all that attend. One day is always set aside for a field trip to see projects including: rest areas, information centers, scenic highways, erosion control, wetland recreation projects, bikeways etc. Proceedings are 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.

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.

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, that was performed by Utah State University.

With the signing of the National Environmental Policy Act, the Committee became more and more involved with natural environmental features such as wetlands, 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 Environment Design".

The Committee kept abreast of all aspects of the Highway Beautification Act. They 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 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), they participated in a jointly sponsored session on current practice and problems of acquiring less than fee interest on 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 environmental work and not to have it done by pseudo-environmentalists. 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.

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.

During the first several decades the Committee had numerous subcommittees. The records show 11 in the 1940's and as many as 9 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, along with adhoc subcommittees or task forces when the need is identified. Goals and objectives were established for the Committee and each subcommittee and a schedule established for updating every 5 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.

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.

1982 brought a new Chairman to the Committee, Robert L. Jacobsen of the Federal Highway Administration in Denver, Colorado. He appointed Barbara Schaedler of New York as secretary. She continues as secretary to the present day. 1982 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 Task Force on Environmental Design of the Highway Subcommittee on Design to proceed with the updating process. The Task Force welcomed assistance from Committee A2A05 in writing, graphics, and photographs. Eleven Committee members authored a new Guide. Several new subjects were added to the Guide, for example, 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. The Guide was published in June 1991.

The Committee's Research Needs Subcommittee has always been very active in identifying needed research. They have 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.

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.

David H. Fasser of the New York State Department of Transportation became Chairman in 1988. Scenic highways were mentioned throughout the history of the Committee but now greater emphasis was placed on the subject. By the mid-year meeting, 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.

Greater emphasis was also placed on wildflowers. Wildflowers occur naturally in many areas but it is another thing to have them grow and flourish on highway cuts and fills. 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.

A number of times during its long history the Committee co-sponsored sessions at the TRB Annual Meeting with other committees. 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 whom attend.

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. Currently, four foreign countries are represented on the Committee: Canada, Great Britain, Australia, and Belarus.

The Committee was gifted through the years with outstanding TRB staff representatives such as Frank Wray, Larry Spaine, Pat Ring, and Frank McCullagh. Committee members are very appreciative of their guidance, assistance, and friendship over the years.

The Committee is now 60 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 College Station, Texas from August 2nd to the 5th, 1992. Past Committee and TRB staff representatives are being contacted and urged to attend. Plans for the future will be on the program in addition to reviewing past accomplishments. Collectively, the research publications and hundreds of fine papers published by the Committee fill many volumes. Committee A2A05 can be proud of its past 60 years of dedication to producing transportation facilities complete with safety, utility, economy, environmental compatibility, and beauty for all to enjoy.
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