



TRENDS

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THE BRAILLE TRAIL

by JANICE COLLINS ●



Walking for pleasure is a favorite family past time, within the economic reach of virtually all citizens. High up in the Independence Pass wilderness of the Colorado Rockies, twelve miles southeast of Aspen, a trail has been built and dedicated September 1967. What makes this a special trail is that it was designed for the sightless members of society, who up until now have not had an opportunity to go forth unaided into the forest to enjoy and be stimulated to creativity by the very essence of nature.

The Aspen Braille Trail came into being as a result of the imaginative efforts of Robert B. Lewis, Science Education Consultant and idealist, who first conceived the idea over two years ago. With the help of a group of Aspenites, White River Forest Service Personnel, and members of Job Corps from Colbran, Colorado, the project was brought to its successful completion. Dr. Alfred Etter, a naturalist, conservationist and Aspen resident, wrote the text for the 23 trail stations. This is truly an example of group effort in a community and it is the hope of Robert Lewis, its originator, that other communities will emulate, and even in the not too distant future, we may find similar trails in national parks all across this country.

The trail was named after Louis Braille, who did so much to teach the blind how to see through their finger tips, and this is essentially what the Braille Trail enables those following along its nylon cord strung pathway through the forest to do.

At the very beginning of the trail, as you start down the path, you are informed that no poisonous plants, insects or reptiles inhabit this tract of land. You will be experiencing only good sensations, not only through your sense of touch, but also through other senses; hearing, taste and smell. These other senses are not generally challenged when you are sighted. It is only when the sense of sight is lost that we call on our other senses to make contact with the world around us. When this happens, the wonders of the world are even more wondrous.

Blind people prefer to be as independent as possible so the trail has been designed to be self-guiding. But to design it so only blind could participate and not their families and friends, would make them feel segregated — thus the trail appeals and instructs all who would travel its path. Both braille and printed cards are provided at each of the stations.

As the blind and sighted follow the cord stretched between the trees and marker posts paralleling the trail for nearly a quarter of a mile, they explore all of the natural micro-environments of the area. To touch the bark of the various fir trees of the forest and smell the wild flowers in bloom and then to pass on down the path to the edge of the stream at one's own pace, is truly a meaningful experience. The feel of bark, leaves, flowers, ferns, mosses and lichens each has its story to tell.

● Janice Collins is on the staff of Robert Lewis, as Science Education Consultant, who was the prime mover for the Braille Trail. She was motivated to write the following article in hopes that through "TRENDS" the story of the Braille Trail would be told, explaining how it was developed by many individuals working together with one goal - "That the blind might enjoy nature alone or in the company of their sighted friends."

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Harold Dyer, President Ben H. Thompson, Executive Sec'y
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U.S. Department of the Interior, National Park Service

Stewart L. Udall, Secretary George B. Hartzog, Jr., Director
Washington, D.C. 20240

The National Recreation and Park Association

Endicott P. Davison, Pres. Conrad L. Wirth, Chairman
Dr. Sal J. Prezioso, Exec. V.P. Administrative Board
1700 Pennsylvania Ave., N.W. Washington, D.C. 20006

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Left to right: Dr. Alfred Etter, Conservationist, Consultant to Defenders of Wildlife and to the Audubon Society; the author, Mrs. Janice Collins; and Conrad L. Wirth, former Director, National Park Service and Chairman of the Board, National Conference on State Parks.

The trail has been kept as natural as possible and only hazardous objects have been removed. You can feel a variety of terrain under your feet such as stony ground, soft pine needle paths, inclines and even a portion of sphagnum bog. On September 16, 1967, thirteen blind students from the Colorado School For The Deaf and Blind were guests at the dedication of the trail. As they traveled along the trail various comments were heard, such as, "I just stepped on something cold, and squishy and gushy." Another added with humor, "Why don't they pave this trail—do they want to make cripples out of us?" Through observations such as this, the judgment to include such phenomena as a bog and wet meadow are confirmed. To see blind children and adults show such total disregard of a little water in the shoe, causes those of us who are sighted to give thought to our concern with trivia.

The sense of smell is more important to us than we realize. You may remember recalling an event of the past when your nostrils have been filled with a particular odor. As you walk along the Braille Trail, you become aware of the smells and they tell us much about our environment.

Because the blind are acutely aware of sounds, the stream which bounds the trail on one side plays a large part in the total experience. Sighted people need only to close their eyes when in the area of a mountain stream to experience the pleasure derived from the sound of the water without the distraction of their other senses. To this is added the accompaniment of the wind in the trees along with the chirping of the various species of birds and the chattering of the pine squirrel.

As the trail descends down to the water's edge, the trail station at this particular point suggests that you examine the deposits on the edge of the stream, where fine sand has been washed in among roots of grasses growing along the bank. One is encouraged to tread deeper into the stream to feel the coarser sand and gravel as it is deposited in graduated banks. Sometimes a trail traveler touches algae on the rocks and is provided with another tactile experience heretofore seldom encountered.

Many questions are posed and some are left unanswered to the imagination of those reading the texts of the 23 stations of the trail, in an effort to stimulate creativity in both the blind and sighted through the use of all the senses as one journeys along a self-guiding nature trail. May more trails be provided and more experiences be offered to those who would walk in the forest under the guidance of Louis Braille.



"Man is the only animal that laughs and weeps, for he is the only animal that is struck by the difference between what things are and what they ought to be."
Hazlitt

What would happen if there
were a glad acceptance of
the sensuous in all forms?
If we could rediscover
our hands, eyes and ears,
our tongues and noses, and
then enjoy them without
embarrassment.

-- Ben Thompson



Guest editorial -

With its passing of the Wilderness Act of 1964, Congress took the first steps directed at shaping a National Wilderness Preservation System.

The Act

- included intact, as the original units of the System, the National Forest Wilderness, Wild Areas, and the Boundary Waters Canoe Area, which had already been established administratively;
- directed that these areas be used and administered very much as the Department of Agriculture administrative regulations already provided;
- directed that within 10 years, administratively established Primitive Areas be studied as to their suitability or nonsuitability for inclusion in the System and that appropriate recommendations be made to the President and to Congress; and
- set the standards or criteria which are to govern both the administration of the System and the judging of areas being studied as to their suitability or nonsuitability for addition to it.

For more than three years, the Forest Service has been busy charting the administration of the areas already in the System according to these criteria. At the same time, also governed by the act's criteria, the Forest Service has been studying whether or not the Primitive Areas and additional undeveloped lands contiguous to some of them qualify for inclusion in the System.

The Forest Service is anxious to make sure that the National Wilderness Preservation System is large enough to be meaningful and that it will include a broad range of geographic types and vegetative cover. At the same time, it wants to make sure that the System will be administered to assure the preservation of an enduring resource of wilderness. We have learned that these are big and time-consuming jobs.

There is general agreement that the need for Wilderness in the years ahead will be much greater than that which has been included in the National Wilderness Preservation System to date. It is also generally agreed that the same pressures that will create the increasing need for Wilderness will also create correspondingly greater public needs for other National Forest uses and activities. These combined pressures will greatly complicate the problems of building and administering the Wilderness System.

Because the emphasis now is on building the System, some have been tempted to consider only the number of acres that might be added and, in so doing, to overlook their quality. This trend, this seeming willingness to increase the size of the country's Wilderness System with little or no real consideration as to its quality, is becoming an increasing concern to those who are responsible for maintaining the quality of the wilderness resource in that System, to those whose task it is to make sure that our wilderness resource will endure. As experience accumulates, both in the recognition

of areas which are suitable for Wilderness and in the administration of Wilderness already classified, it is becoming increasingly clear that both tasks must adhere to the same standards of quality. It is becoming more and more apparent that there is no place for double standards; that it will be impossible to accept one standard of quality in building a Wilderness System and hope to follow another standard in administering it.

All of us recognize that cutting corners in the quality of the foundation of a house will plague the householder in all the years he lives in or tries to maintain that house. A house built on sand will not endure. The same truism applies to the Wilderness System. The better the quality of its foundation, the better we can maintain the quality of the eventual System. The foundation of the Wilderness System is found in Section 2(c) of the Wilderness Act. Here, Wilderness is defined, and Wilderness quality standards are set.

The definition says, in part, that Wilderness is an area of Federal land "retaining its primeval character and influence...with the imprint of man's work substantially unnoticeable." These terms may be somewhat subjective and subject to interpretation now. Even so, it should be clear to everyone that by the time Congress completes its consideration of the many Wilderness proposals laid before it, these terms will have been very specifically interpreted by legislative action. In other words, the decisions made by Congress for additions to the System will firmly set the quality level criteria for the use and administration of the System after it is completed. It should be equally evident to those with a real concern for the future integrity of the Wilderness System that they must not let their zeal to include a certain favorite spot in the System blind them to the long-term effect such action might have on the entire System.

It is going to be difficult if not impossible, for example, for a stockman, a prospector, or an owner of private land inside a Wilderness (who are all given special recognition in the Wilderness Act) to accept that his occasional use of a jeep or tractor is incompatible with Wilderness-quality standards if Congress has already added to the Wilderness System land with well-worn jeep trails, or if it has agreed that other land with plain evidence of modern man's activities is suitable for inclusion in the System.

The overall quality of the National Wilderness Preservation System will, in the long run, be no higher than that of the lowest quality area added to it. If we want a wilderness resource truly representative of our primitive heritage, if we want a Wilderness System that can be used and administered with assurance that it will endure, we must consistently insist upon high-quality standards now and continually strive to keep them. We cannot afford to forget that we shall be managing our Wilderness System for a long time after we have finished designating it, and we shall be doing it under the quality standards being set now!



RICHARD J. COSTLEY
Director of the Division of Recreation
Forest Service

The Noah's Ark Children's Farm



by JOHN P. HEWITT ●



Educators in the growing megalopolis have been concerned with the diminishing numbers of operating farms where elementary school children can observe the production of food and fiber firsthand, and in some cases students have become almost total dependent on textbook information in this vital area of study. Burgeoning schools in urban and sympathetic working farmers who have the time to demonstrate their operations, and opportunities to see domestic animals and cropping practices are fast disappearing.

A number of park systems across the country are incorporating children's farms into their park interpretation programs to provide an opportunity for the classroom teacher—and the park visitor—to show our children live farm animals closeup, and emphasize the vital role of agriculture in our daily lives. Some programs augment animal displays with crop plantings, orchards, and farm machinery and equipment. With substantial lands in public ownership, some park systems are particularly advantaged in being able to offer a children's farm for the enjoyment of the park patron and as an adjunct educational facility.

The Maryland-National Capital Park and Planning Commission opened Old MacDonald's Farm in Wheaton Regional Park in 1962. A typical Maryland farm was miniaturized with barn and silo to scale, an original windmill and smokehouse, and barnyard pens featuring young domestic farm animals and fowl. Construction costs, using park force labor, were approximately \$32,000.

This project enjoyed instant success, and attracted wide coverage in the local press and on television. Twenty minutes of film were prepared by Washington's ABC affiliate WMAL-TV, and segments were run for several days on the popular local children's show "Claire and Coco". This was followed by visits from several hundred elementary school classes from the Washington Metropolitan area and Old MacDonald's soon became a leading park attraction.

● John P. Hewitt, Director of Parks for the Maryland-National Capital Park and Planning Commission joined the Commission just after World War II and was named its director of parks in 1957, with operating supervision over more than 20,000 acres of park land and community centers in Prince George's and Montgomery Counties.

He was instrumental in adoption of the new "regional" park concept in the Washington area—large well-equipped multi-purpose parks that do not duplicate the features of local parks or larger state and Federal forests and parks.

Mr. Hewitt, a native of Silver Spring, Maryland, was installed as 1968 vice-president of the American Park and Recreation Society in December 1967. He was general chairman of Governor McKeldin's Conference on Recreation and Parks in 1961 and was president of the Maryland Recreation and Park Society during 1963.

He has also served the American Institute of Park Executives and headed program arrangements for the Institute's 65th annual convention in Washington in 1963. In 1966 he again headed the Washington host committee for the first national conference staged by the National Recreation and Park Association.

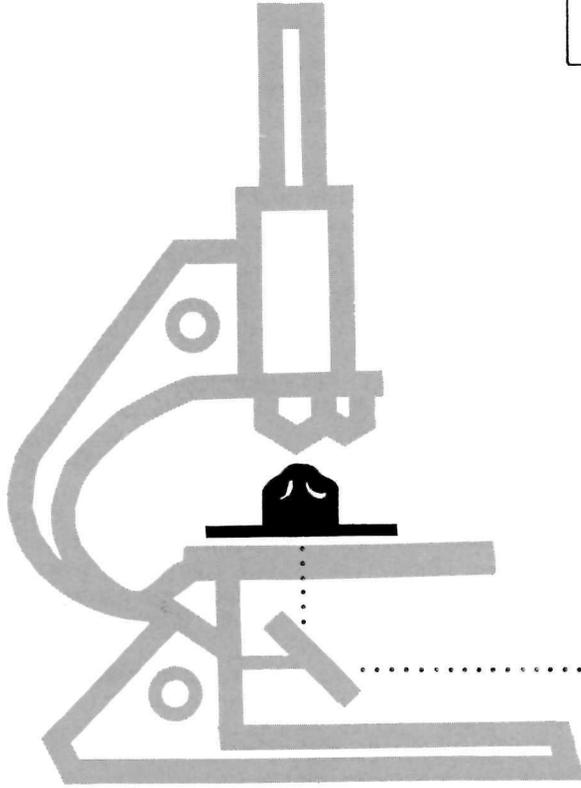
Mr. Hewitt has been awarded a lifetime membership in the National Park Service and holds a number of other awards for park, recreation and conservation achievements, including the "Service of Youth" award of the Boys Club of Silver Spring, the Charles G. Stott Award, (1958) for outstanding community service, and on January 17, 1968 at a luncheon ceremony at the Union Club in New York City, received the Bronze Cornelius Amory Pugsley Medal, awarded annually by the society for outstanding local contributions to scenic and historic preservation and park and urban planning.



To alleviate crowding and overuse of this facility, it was decided that a second children's farm should be included in the development plan for Cabin John Regional Park. In order not to exactly duplicate the Old MacDonald's Farm, the Engineering and Design Section of the Parks Department produced a plan for "Noah's Ark." This design provided for the Ark to serve as the central barn, with pens and stalls in the hull, and storage for hay and feed in the overhead superstructure. Outside exercise yards were tied to the hull with chain-link fencing for ease in handling the animals. Again, the animals presented were typical of Maryland operating farms, including calves, burros, ponies, goats, sheep, pigs, ducks, geese, turkeys, and chickens. In addition, peering from upper portholes, were "two-by-two" representative from Biblical history, including the giraffe, antelope, zebra, etc.: created in fiberglass by an Exhibits Specialist of the Park Interpretation Section. The approach to this facility is over a rustic bridge along a landscaped pathway, and the Ark is centered on a knoll shaded with a natural stand of Virginia pines. As in the case of Old MacDonald's Farm, park labor forces accomplished the detailed construction of the Ark.

At both facilities, some of the animals can be fed formula feeds dispensed from vending machines, and revenue from these devices used to offset annual feed costs. Annual feed and veterinary service bills are about \$900 for the care of some sixty animals at each location. Animals are secured through purchase and loan. Cooperating farmers, in return for seasonal care and feeding, will often provide initial stock for display during the busy park season—usually as young animals—and retrieve them for market in the early winter months. At both Old MacDonald's Farm and Noah's Ark, there is an opportunity for year-around visits, but fewer animals are displayed and carried over from December through April than during peak park months.

The sights and smells of the barnyard, and the opportunity to stroke and observe firsthand the activities of domestic animals is a unique experience for many children in urban America. There is also nostalgia for adults at a children's farm, and they deserve serious consideration in planning for park interpretation programs.



Scientific Research in National Parks

..... by KAI CURRY-LINDAHL

Zoological Department, Nordiska Museet

and Skansen, Stockholm, Sweden

National parks are indispensable to scientific research. Especially in our time, when human activities interfere in so many ways altering the face of our earth, large areas must be set aside for scientific investigations. Research in national parks may guide us towards sound economic land use in other areas occupied by man. National parks also give us significant data on the productivity of natural areas, which often is much higher than of cultivated areas, especially in the tropics. It was the flourishing situation in some national parks in tropical Africa that opened our eyes to the fact that these areas can support extremely dense populations of wild ungulates of different species without any deterioration of the environment, while originally similar areas used by cattle and goats vary rapidly break down and become a sort of landscape ruin, destroyed by grazing, trampling, and erosion.

National parks also serve as storehouses for plant and animal species, which in the future, for one reason or another, may be important to human welfare. There are already too many examples of human actions for industrial or agricultural purposes which have been complete economic failures and which have produced a landscape ruin where there was formerly a flourishing, highly productive area in a natural state.

The reason why such disastrous schemes have been launched, partly initiated, or fully developed is often dependent on the fact that biologists have not been consulted or that their advice, based on objective ecological data, has been neglected. Therefore, biological and ecological viewpoints must be taken into consideration by the governments and respected on the same level as purely economic arguments. To give this correct advice, biologists need national parks which will give us knowledge about the functioning of bio-communities.

In no way does mankind know enough of natural environments, neither his own nor those of other creatures. Ecological research, therefore, has to be intensified on a much larger scale. Few areas other than vast national parks can yield significant data.

Isle Royale National Park

NPS Photo by Jack E. Boucher



A trapper examines a beaver house. The animals will be caught, tagged, their weight and size noted, and released.

The management of natural resources is essential to the well-being of human populations, and it must be based on the modern concept of conservation of nature—a wide, long-termed utilization of nature's renewable resources (water, soil, flora, and fauna). The goal must be to reach a biological balance between man's demands on one side and nature's possibilities of a constant supply on the other. It is not only the purely economic value of nature that is necessary to man but the recreational, cultural, and scientific values as well.

How to act in order to reach an ideal bio-economic equilibrium between man and his natural environment is not a simple task. There is no general method which can be applied to all areas on our globe. One geographical region differs from another, and every habitat is in some way different from the others. In addition, a given biotope of a certain area is in no way stable. There are always, in the long run, greater or lesser changes in a biocommunity as a result of an endless chain of reactions, dependent upon seasonal and environmental conditions, as well as on the population dynamics of all organisms living in the area—and sometimes outside of it.

In this field, science needs large untouched areas in which regular investigations can be carried out. This is a scientific necessity in the interest of each nation. The value of national parks and natural reserves as a means for scientific research should not be underestimated. It must be considered of utmost importance to encourage investigations of various kinds in national parks, and the results obtained from these studies must be published not only scientifically but also in a popular form to reach a wider audience, so people may understand that national parks are not only areas set aside for nature preservation, education, and enjoyment. The fact that scientific research in national parks serves important purposes essential to the social and economic development planning of a country must be generally recognized.

If national parks and equivalent areas are to function as a smooth instrument for the understanding of nature conserva-

tion, it is essential that the same national parks not be considered by different groups of people as antagonistic to national interests. Unfortunately, such opinions are often expressed, and they are generally based on purely economic viewpoints.

We never know which problems the science of tomorrow will have to face. Therefore, it is a duty of each country to set aside national parks or nature reserves in which at least some zones are strictly preserved without any human interference. Such zones must be relatively large and preferably ecologically independent, because human activities outside smaller strict natural reserves will unavoidably influence their status. For biogeographic research, national parks serve as a kind of living archives. We can never foresee the importance such stored material will have for future research. Also, the study of evolution and speciation is favored by the existence of strictly preserved national parks.

If national parks are so important to scientific research, one may ask if long-termed investigations can be carried out simultaneously with a developed tourism in the same area. I think that that these things can be combined if industrial tourism is limited to, let us say, about 10 percent of a national park's area.

National parks also play an important role in universities' teaching of biology, because ecology is becoming more and more important as a discipline. Few areas other than national parks can so clearly demonstrate the function of biocommunities in a natural state.

In this connection, I would like to emphasize the importance of scientific research and scientific publications concerning national parks as a means of defense for the already existing national parks, especially in Africa. In negotiations with Congolese authorities in the early 1960's, the wealth of scientific documentation and publications on the Congo National Parks published by specialists all over the world had a great impact on the Congolese and contributed a great deal to their decision to maintain the national parks of the Congo and continue the traditional policy of strict natural reserves.

A Natural Science Museum Photo, Cleveland, Ohio.



Mentor Marsh, Ohio, a registered Natural History Landmark, is preserved in its natural state and is available to students and to the public for its educational, scientific and recreational values.

Mr. Brush presented this talk to the New England Agricultural Chemicals Conference held in Concord, New Hampshire on October 24 to 25, 1967.

Nurserymen and the Highways

by F. RAYMOND BRUSH ●



The highway landscape community made up of nurserymen, landscape contractors, and landscape architects, was pleasantly surprised in January of 1965 by the President's directive to the Secretary of Commerce: "I want to make sure that the America we see from these major highways is a beautiful America." This was the day we had all been hoping for.

Each segment of this community has important contributions to make. Each of the speakers has or will comment upon problems confronting them and contributions they are ready to make toward that goal. This is not to say that we have not made progress; it is to emphasize that we have not made as much progress in these areas as we could and should.



California Interstate 10, Los Angeles County, Santa Monica Freeway.

● Raymond Brush was born on August 31, 1920, in South Haven, Michigan. After graduating from Allegan County Normal, he taught in one-room country schools in the County from 1939 to 1942. In 1943, Mr. Brush entered the Army and served most of his military duty in Europe.

He attended Michigan State University in East Lansing where he earned his B.S. and M.S. degrees in Horticulture. Upon graduation in 1948, he joined the staff of the Michigan Cooperative Crop Reporting Service as a joint federal-state employee. In 1954, he worked as a county agricultural extension agent for Michigan State University and then in 1957 as an economist for the National Apple Institute in Washington, D.C.

Mr. Brush joined the American Association of Nurserymen in 1958 as administrative assistant. In November 1961, he became Secretary of the Association, the position he now holds. He has served as Secretary of the Board of Directors for the Association since 1959 and was elected Secretary of the Horticultural Research Institute in July 1966.

He is a member of the Washington Trade Association Executives, Washington Legislative Luncheon group, American Horticultural Society, American Association of Botanical Gardens & Arboretums, International Plant Propagators Society. He holds membership in the Fraternity of Alpha Zeta.

Let us take a few moments to review some of the areas of progress that have been made in highway beautification in recent years. First, it is interesting to note the number of state highway departments that have added landscape architects to their staffs. Secondly, it is interesting to note that these men are being elevated in the departments. They are being given greater responsibility, particularly in the early planning phases. Some highway departments have now established roadside development sections. Others have created positions on their state administrative staffs for landscape engineers, landscape architects, roadside development engineers, and other similar positions. It is encouraging that the state highway departments have been adding horticulturists, foresters, and agronomists to their staffs. It is encouraging that the administrators and the division chiefs are recognizing the need for men trained in the biological sciences.

An increasing number of the state highway departments are now making their contracts for landscaping, a prime or separate contract. This is an area that needs continued stress.

Highway landscaping is a very specialized technical endeavor. Whenever one is dealing with growing plant material, he is matching his skill and understanding with biological and environmental factors. While many of the biological and environmental factors are known, they are not constant. Much more attention should be given to pre-qualification of contractors to be certain that they have demonstrated the technical competence required to execute the job satisfactorily. Unfortunately, pre-qualification requirements are not always enforced as rigidly as they should be.

State highway departments are giving much more attention to the problem of roadside maintenance. As more highway landscaping is done, this is an area that is going to be of increasing importance within the department. The point that we as nurserymen and landscape contractors need to continue emphasizing in our contacts with the state highway departments is the fact that it is as cheap or cheaper to maintain a roadside well designed and planted with trees and shrubs adapted to the roadside ecology than it is to maintain straight grass borders. The trees and shrubs add variation and interest, resulting in safety for the motorist.

While mentioning maintenance, there is a problem that is going to have to be thrashed out in the future and that is, "who is going to assume the financial responsibility." At this point, the U.S. Bureau of Public Roads is making no financial allowance for maintenance beyond the guarantee period, indicating that it is strictly a state responsibility. Few state highway departments are really planning for the follow-up care that is required in the first few years for trees and shrubs. They are finding it difficult to get the budget and personnel required to maintain the new plantings once the contractor's guarantee period has expired until the trees and shrubs are fully established in the roadside.

Inasmuch as improper and inadequate care during the establishment period of plants in the highway landscape reflect unfavorably on the nurseryman, nurserymen are very concerned. Too often excellent plant material is not carefully planted and only maintained well enough to get through the guarantee period. Too many of these plants die in the first or second year beyond the guarantee period. Nurserymen support landscape contractors in their contention that the highway departments should consider two separate contracts on landscaping. The first contract to cover the selection and planting of the plants. The second contract to cover the period following planting which is best described as an "establishment period." This might vary

from two to five years, depending on the plant material and the planting site. There are two very strong arguments in favor of this proposal. First, the technical skill and equipment needed for caring for the plants during the establishment period are different than those for selecting and planting a site. The second advantage would be a monetary one in that the costs would be separated and pinpointed. The initial contract would be zeroing in on the cost of the plant material delivered to the site and planted, allowance for replacements, the contractor's administrative overhead, and his profit. The establishment contract would stress fertilizing, watering, pruning, insect and disease control and follow-up mulching, if necessary. We believe this system of contracts would assure the highway departments of a much higher survival rate, a more satisfactory landscape job, less total cost and considerably less worry and frustration for the highway department. These add up to increased satisfaction to both highway department personnel and the highway user in the highway landscaping program.

Landscaping on Route 8 north of Harwinton, Connecticut.



Landscape architects have become increasingly aware of the need for good design principles in highway layout and have emphasized this at the Hershey Conference, repeatedly at the Ohio Roadside Development Short Courses, and at other highway meetings. Highway landscape architects in this region led the way in developing the Landscape Design Guide, published in 1965. The Highway Research Board of the National Academy of Sciences-National Research Council published Special Report 88 titled "The Art and Science of Roadside Development." It is an excellent reference manual.

The annual Ohio Short Course on Roadside Development is to be commended for its contribution in these areas. The 26th annual meeting, sponsored jointly by the Department of Landscape Architecture of Ohio State University and the Ohio Department of Highways, was held earlier this month in Columbus, Ohio, from October 2nd through the 6th. I have attended seven of the last eight of these meetings, and I recommend them to any nurseryman or landscape contractor interested in roadside beautification work.

The American Association of Nurserymen continues to be very much interested in roadside development progress. Through our Newsletter items, and articles contributed to various books and magazines on the subject, we have enabled many of our members to keep abreast of the progress in roadside development. We have brought to the attention of our members key publications such as those by the American

Association of State Highway Officials. Specific publications are: the 1961 bulletin, "A Policy on Landscape Development for the National System of Interstate and Defense Highways" and the 1965 publication, "Landscape Design Guide."

In 1952, the American Association of Nurserymen cooperated with the U.S. Bureau of Public Roads in the preparation of the manual "Plant Material Checklist." It was used by the Bureau and the state highway departments. This checklist was broken down into the plant groupings: vines and ground covers; shrubs; evergreen trees; small deciduous trees; and large shade trees. An updating of this important handbook showing the plant materials now recommended for highway use would be very helpful to nurserymen and to highway departments. The revision for the northeastern section of the country has been completed. We have offered to cooperate with the highway landscape architects in other regions of the country in attempting to complete the task of revising the handbook.

For the past three years, we have mailed a copy of the "Nursery Trade and Supply Directory" to the official in each state Highway Department who serves on the Operating Committee on Roadside Development of the American Association of State Highway Officials. We have offered to make additional copies available at three dollars, the member price. The new section, "Sources of Plants and Supplies," with nearly 5500 listings will be particularly helpful to the highway departments in locating the added plant material they will be needing.

In the past year and a half we have heard a great number of complaints regarding shortages of landscape size plant material. We find that the shortage is primarily in the lack of information as to where various plants may be purchased. There are true shortages of some species of plants and in some sizes. Inasmuch as it takes up to ten years to produce some of the shrubs that are being used and up to fifteen or more years for some of the trees being planted in the highway landscaping projects, it is to be expected that there will naturally be some shortages for this program which is developing so rapidly. I will comment further on the problem of projecting needs later.

This past summer when the 1967 Trade and Supply Directory was mailed to each of the state highway departments, we asked each to notify us of any plant materials that they have not been able to locate so that we might include it on the list being mailed to nurserymen when we are preparing the 1968 Directory. To date we have only had one highway department accept our offer and furnish us a list of seven or eight species of plants that they would like to use on the highway but have not been able to find them in quantity. We are already working on our listing solicitation form for next year's directory and would appreciate any suggestions you have which you would like added to the list.

This next year the solicitation form will be computerized. To do this we have developed a numbering system which is adaptable for computer use. We are in hopes that this system will be adopted by any of the large wholesale nursery firms using computers and we see no reason why it can not also be used by any highway department which is computerizing its highway landscape operations.

The American Association of Nurserymen, the American Society of Landscape Architects, and the Associated Landscape Contractors of America are interested in discussing further standards, specifications, availability of plant material, the need for experienced landscape inspectors, establishment of a landscape council composed of representatives from the three groups, and the need for technically trained personnel. At this point, the communications have been at

the staff and board levels. We are now establishing committee contact.

In February 1967, the American Association of Nurserymen sponsored the first Technical Beautification Clinic attended by nurserymen, florists, seedsmen, arborists, university and agency representatives to discuss the problems and potentials of the National Beautification Program. Topics covered at the Clinic included maintenance, availability of plant material, design accuracy, need for landscape inspectors manuals, qualification for landscape bidders, plants and highway safety requirements and long term functions of highway beautification. A complete transcript to the "round table" session was taken and copies are available.

A month later a select panel of nurserymen and landscape contractors were invited to meet with Bureau of Public Roads and representatives of the American Association of State Highway Officials to discuss pressing problems.

Contact among these groups will be particularly important in gaining support for the pending revisions to American Standard for Nursery Stock. While the American Association of Nurserymen has been the sponsor of American Standard for Nursery Stock, in order for it to become a national standard and be accepted by the United States of America Standards Institute, related interest groups that will be affected by the standards must have an opportunity to review and comment on them. With the increasing specialization in production of landscape material, the importance of a single national standard cannot be over-emphasized.

Following the passage of the Highway Beautification Act of 1965, the AAN has kept the state nursery association secretaries posted on important happenings under the Act. Each secretary was furnished a complete list of the 1966 public hearing dates and the Bureau of Public Roads draft standards which were to be considered at those hearings. We are prepared to, and will, assist in such matters in the future.

The Highway Beautification Act of 1965 has provided Federal money to be expended by state highway departments in the areas of junk yard screening, billboard control, and landscaping and scenic enhancement along the highway. The monies appropriated by Congress will be allocated to the states for expenditure on Federally approved projects. Amounts appropriated for landscaping and scenic enhancement for fiscal year 1966 — 60.2 million dollars, for fiscal year 1967 — 65.1 million dollars and 70.0 million is projected for the current fiscal year. First priority has been for purchasing scenic and historic lands adjacent to the highway. Nevertheless, during fiscal year 1966 — 20.1 million dollars was spent on landscaping and 32.2 million dollars during fiscal 1967.

It behooves nurserymen and landscape contractors through their state associations to maintain contact with highways that will be expending these funds.

The highway departments are looking for the plant material and landscape contractors for carrying out landscape planting jobs in their states. Some state associations have established very good relations with their state highway department. Some highway departments are cooperating by making available lists of anticipated plant needs. We have urged local or substate nurserymen's associations to make official contact with the state district highway engineer and his staff. These contacts at both the state and division levels will enable both to keep better informed on the vital questions of what projects, when, and how much plant material is needed.

In addressing the 24th annual Short Course on Roadside Development in Columbus, Ohio, on October 6, 1965, I indi-

cated to the highway representatives assembled that one of the biggest problems confronting the nurserymen is anticipating the demand for nursery stock for highway landscaping. It was proposed at that time, it has been repeated elsewhere, and I wish to make it clear that the proposal still stands, that if the highway departments will prepare a "guesstimate" of their anticipated demands for trees and shrubs two or more years in advance, our association will see to it that the "guesstimates" are summarized in presentable form and put in the hands of the nurserymen specializing in the production of plants used by the highway departments. An annual report on a state or regional basis would be very helpful to nurserymen in planning their production. Such a system would be very helpful in avoiding the inefficiencies resulting from either over-production or shortages, both of which lead to increased costs and in turn to increased taxes.

With the passage of the Highway Beautification Act of 1965, nurserymen as well as landscape architects began to ask—What plants are particularly adapted to screen uses? The special national committee appointed by the AAN to review this noted that the same information needed by the highway departments in planning junk yard screening was also desired by local planning commission, zoning boards,

BEFORE photo of junkyard east of Mesa Verde, Colorado.



businessmen, and even homeowners. This publication, "Living Screens for America," is our answer to that need. Recommendations are organized by plant hardiness zones with 25 of the plants proven satisfactory for screening somewhere in each zone. They are enumerated with such additional information as the ultimate height, ultimate spread, whether it is evergreen or deciduous, whether it should be trimmed or left informal, suggested spacing for planting, the suggested minimum and maximum sizes for planting, and the length of time to maturity. The guide plants are not adapted to every community in the zone. The 25 guide plants will serve as reminders to nurserymen and landscape architects who will be able to suggest alternate plants that may be used satisfactorily in any specific location. In developing "Living Screens for America," the committee has emphasized that nurserymen are plant authorities and that they are available for information and will be happy to supply the plants.

While it has been alluded to earlier, the problem of trained personnel needs to be emphasized as one of the hurdles to be cleared if we are to meet the Beautification challenge. We need more trained professional landscape architects. There are numerous landscape architect positions in state highway departments vacant at the present time. It is suggested that the highway departments consider employing additional technical people to assist the landscape architects who are available. Technicians trained in landscape design and horticulture are needed for landscape inspection work. Men with

some training in design, horticulture, ecology, or forestry can be very helpful to a landscape architect, allowing him to concentrate on design and planning. Highway departments are also seeking technically trained men for planning and supervising maintenance work.

Nurserymen and landscape contractors are also seeking men with technical training in horticulture, design, turf management, and related science areas. We are looking to the junior colleges and technical institutes to train these technicians.

At the present, it appears that the nursery industry has its sights trained on many of the problems as well as potential problems which must be surmounted if we are to meet the objectives outlined. Improved communications and more coordination among the highway departments, the landscape architects, the landscape contractors, and the nurserymen are essential. Mr. Sidney B. Hutton, Jr., a past president of the AAN as a member of the Secretary of Commerce's National Advisory Committee on Highway Beautification and Secretary of the Subcommittee on Roadside Development, assures us that the Administration is very firm in its determination to carry out the provisions of the Highway Beautification Act of 1965 as expeditiously as possible.

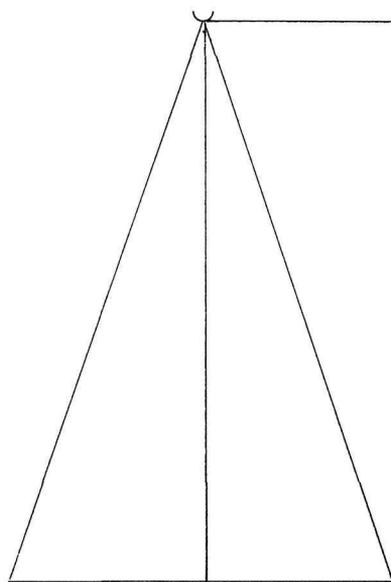
AFTER photo of cleaned-up junkyard.



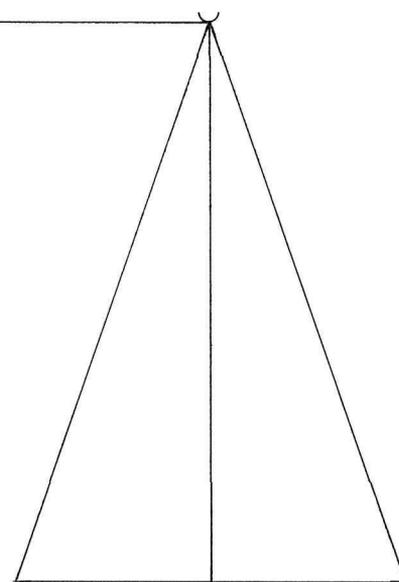
In closing, nurserymen continue to be plantsmen and are interested in plants being used to create pleasing, appealing surroundings for our homes, our offices, our churches, our schools, along the highways and in our recreational areas and parks. We believe "beautification" programs will not be successful until people in each local community desire and appreciate beautification and its benefits.

Let us not forget functional highway planting benefits are:

1. Screens blinding headlight glare, thereby reducing the incidence of head-on crashes.
2. Median plantings of shrubs provide effective crash barriers.
3. Landscaping relieves the monotony of long, straight stretches of highways.
4. Delineates curves.
5. Availability of attractive heavy use roads lessens the traffic congestion of local or community roads.
6. Living snow fencing.
7. Offers economy.
8. Stabilizes slopes.
9. Reduces noise and dust.
10. Fire control in arid areas.
11. Moisture retention in the roadside.
12. Screens off unsightly views.
13. Attractive roadside rest areas promote safety.
14. Restores natural beauty by overcoming construction scars.



*This article
is
from Mr. Gosdin's
speech
delivered
before The Congress
for Recreation Parks
held
in Miami, Florida
on
December 6, 1967.*



How Can Best Balance be Achieved in Park and Recreation Area Development ?

by W. MARK GOSDIN ●

The subject of achieving the best balance in park conservation and recreation area development is one park administrators have wrestled with, I suppose, since the advent of parks and park systems as we know them today.

It is a subject vital to the operation of any system of parks. And one which has probably involved more personal opinion and seat-of-the-pants judgment than any other in park programming, planning, development and operation.

In dealing with this subject, most of us are confronted by two camps: One being the pure park conservationists who don't want a twig broken or a tree cut in order to provide facilities for the recreationist and the other being the recreationists who don't particularly care or think about park conservation as long as the resource lasts long enough for their enjoyment.

As we try to deal with these seemingly opposing views, we become involved in a hot potato act, i.e., attending to the potato that happens to be the hottest at the moment. Naturally, decisions made under these conditions do not promote a long range balance or benefit for either park conservation or recreation area development.

● Mark Gosdin, a native Texan, was born in 1918. He received his B.S. and M.S degrees in Horticulture and Park Management at Texas Technological College.

Mr. Gosdin served thirty-seven months in the Air Force during World War II after which he served as Assistant Professor and Superintendent of Campus at Texas Technological College for fifteen years. In 1964, he was appointed Director of Park Services of the Texas Parks and Wildlife Department.

Mr. Gosdin was recently elected as a member of the board of directors of the National Conference on State Parks and has served on various committees of the American Institute of Park Executives and the Southwest Park and Training Institute. He is a charter member of the Southwest Park and Training Institute, which he helped to organize in 1955. This Institute was sponsored through the Texas Technological College and the Oklahoma Planning and Resources Board.

More recently, as Director of Park Services of the Parks and Wildlife Department, he has guided the staff in the preparation of the first Statewide Comprehensive Outdoor Recreation Plan for the State of Texas.

Present trends, at least in Texas, indicate a more systematic and mutually understanding approach to this problem.

If we are to obtain an overall balance in park conservation and recreation area development for a city, an entire state or a nation for that matter, we must first balance the scales in three primary areas:

- (1) The Administrative responsibility among the various entities supplying outdoor recreation.
- (2) The long and short range programs of acquisition within the Administrative Unit.
- (3) Internal policies of an entity concerning site planning and facility development and operation at a specific recreation area.

Failure to resolve any one of these balances leads to ultimate failure of any of the others and thus imbalance of the entire problem.

The question now arises — how does one set about balancing park conservation and recreation area development in the areas of responsibility, programs, and planning, development and operation?

Obviously I cannot tell you what the best balance is for your administrative area, but I can review how we are tackling this problem in the Texas State Park System. I believe the process we are initiating can be applied to any situation involving the necessary balance in park conservation and recreation area development.

The first step we have taken is to determine what kinds of recreational experiences we should be providing our patrons. In order to do this, we felt it is necessary to examine the entire scope of recreational activities — from the simple pleasure of reading a book to some of the more daring activities such as sky diving. Not only do we attempt to put bounds on what the activity is but we also examine where it does or can take place and where presently it is pursued by the most people most of the times. Then, from trends and studies of the kinds of people doing the particular activity now, we can project a "guesstimate" of future participation in the activity and attempt to define any shifts in where the activity will take place for the most part in the future.

In doing this, however, it must be realized that any conclusions drawn should remain flexible in order to accept additions or deletions of activities to account for new activities or an unpredicted discontinuance of present activities. If you don't remain flexible, then you don't have a balance that will last too very long.

After this analysis has been completed for each recreational activity, we are then in a position to make our decision as to what recreational experience we should provide.

Let me interject a thought here that is the key to this entire process, and that is the distinction between a recreational activity and a recreational experience. Like it or not, we are in the business of marketing experiences, not activities. Most individuals can prefabricate almost any activity he or she desires in their own back yards, save a few.

For example, a family can picnic in their back yard and that's one kind of picnic experience, or they can picnic at their city park and that's another kind of picnic experience, or they can picnic at a regional park, or state park, or national park, or in an out-of-the-way place at no park at all and each act presents the same family with a different experience. Yet the Act itself — the picnic — the actual process and definition — is the same in all cases. So we're providing experiences — not activities.

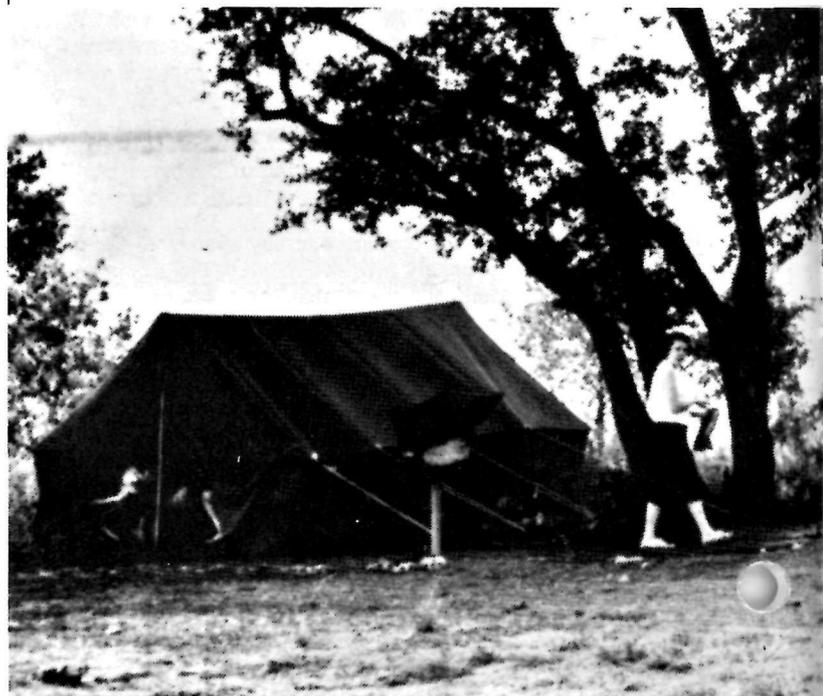
Once we decide what experiences we should provide, half of our problem is solved.

To further the example of picnicking, we find that many picnics occur at home in the form of a Texas back yard Bar-B-Q, others in descending order of participation occur within the confines of the city and then within 30 miles of the city and then 60 miles and then begin to drop off rapidly from there.

In most cases, the reason for the distance traveled for the picnic is to seek out a different type of recreational environment in which to enjoy the activity of picnicking. Why a different type of environment? Because the individual wants a different kind of picnic experience. Obviously the environment and the experience are closely tied. This is an extremely important point to realize. Define the type of environment necessary for the experience sought and you will establish the best balance in park conservation and recreation area development for that particular activity.

So at this point in our analysis of the activity of picnicking, we know the major kind of picnicking experiences people are seeking and the relative number of people seeking each level of experience. We also know with reasonable certainty the kind of environment necessary to produce the experience sought and this tells us the density of development of any one piece of land to produce the desired experience. In this latter instance, we have established the several best balances in park conservation and recreational area development for the activity of picnicking based upon several levels of experience sought. We also have an insight into where the necessary environment should be located to produce the desired experience and this, as I will discuss later, assists in defining responsibility for providing the experience.

To save time in our discussion, imagine the same process occurring for each recreational activity. The result would be the environment needs for each activity in relation to the experience sought by the participant. A summation of these environment needs, if grouped and classified, tells us the overall needs of the State for specific environment types. We also have an idea of how much of the environment is needed for conservation and recreational area development



based upon today's participation in recreation. This gives us the necessary data for short term acquisition and development programs and allows the establishment of internal policies for site planning and operation.

If you will recall, I stated at the beginning of this discussion that participation and environmental needs are projected. As these projections are made, we give due attention to shifts in environment needs as shifts occur in the levels of experience sought for each activity. This analysis yields sufficient information to establish long range acquisition programs that automatically account for the best balance due to the recreation experience analysis just reviewed. This information is also fed back into the short range programs. This allows adjustments in acquisition site planning or operation if such is necessary in light of future experience/environment relationships.

We have now arrived at the stage of determining who's responsibility it is to provide certain experiences. If this can be determined, then each governmental and private entity can define the best balance for its programs. This definition of responsibility also promotes the most effective approach to the problem of meeting the recreational needs of the people without needless duplication or conflicts among recreation suppliers.

I wish I could report that we have solved the responsibility problem in Texas, but we haven't. We at the State level have unilaterally made the preceding analysis and applied that famous seat-of-the-pants judgment concerning responsibility and have developed a 10-year acquisition and development program for State Parks, but we recognize that this unilateral approach is not enough to obtain the best balance for the State as a whole.

We are exploring various ways of mutually defining responsibility, however, and I would like to explore with you some of our thoughts. Let's again take picnicking as an example, keeping in mind that the process under consideration can be applied to any activity or any group of activities.

We are attempting an approach to this responsibility pro-

blem based upon what we have labeled a "user-mix" principle. For instance, we have found, as reported earlier, that a picnic can occur at several distinct places depending upon the experience desired. If the picnic occurs in the participants' back yard, then the user-mix is simply one family at their own premises; thus, the responsibility for providing this kind of picnic experience — this environment — lies with the participant.

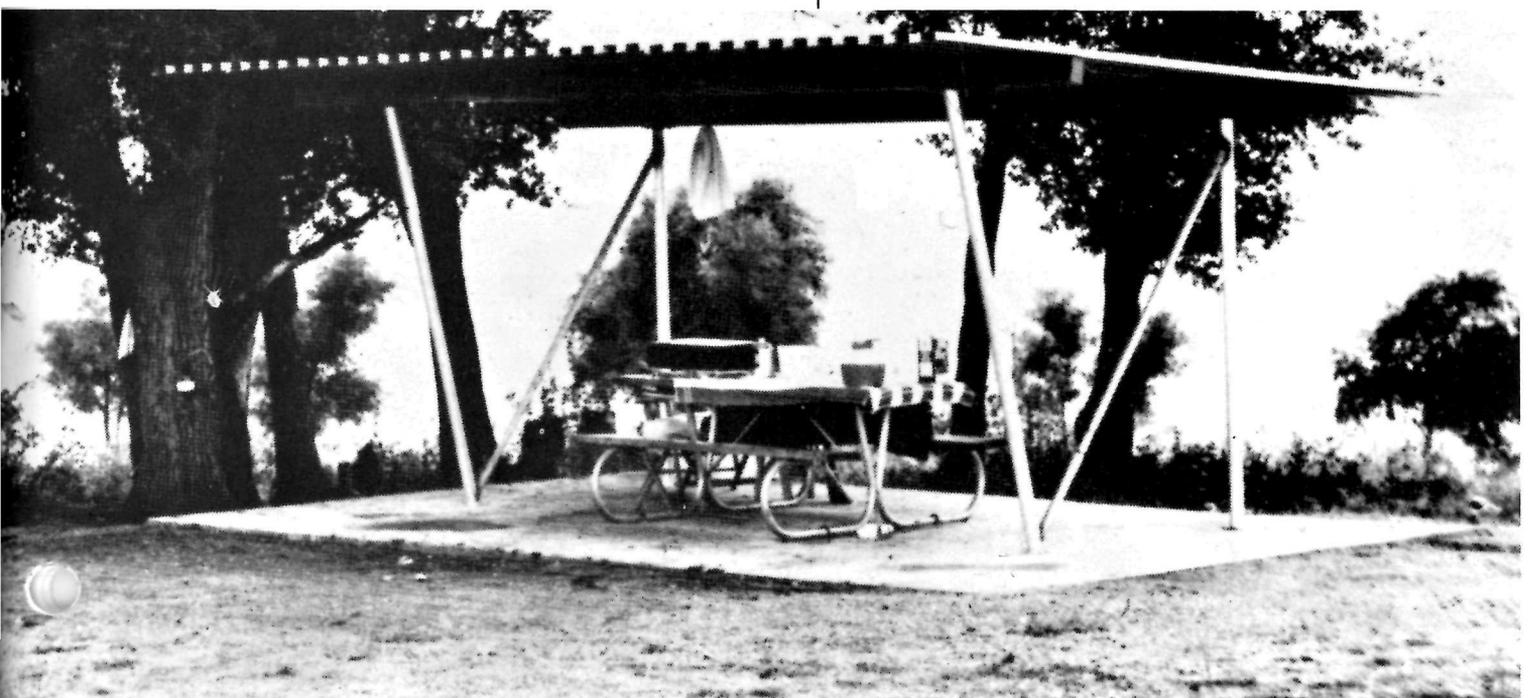
If, however, we establish a picnic area within the confines of City Y in order to provide the second level of experience for the activity, we find a user-mix of predominantly (if not totally) City Y citizens. Rationally then, the provision of this experience and associated environment is the responsibility of City Y.

The next step is to establish a hypothetical picnic area 20 miles from City Y in order to provide the third level of experience. Examination of this user-mix shows a smaller percentage of City Y citizens and varying degrees of Cities W, X and Z citizens. Analyzing this situation, we could conclude that the provision of this environment is a regional responsibility.

I think we've gone far enough with the details of the user-mix principle for us to see that as we progress to each level of experience desired, the user-mix percentage for any one city becomes smaller and smaller. And eventually, we reach a situation in which we have an inter-State user-mix. The latter would tend to indicate Federal responsibility.

As you can see, the principle itself is relatively simple. However, in applying it to various situations, we believe a distance factor must be added to better describe responsibility and render the principle workable in some of the more heavily urbanized portions of the State. We're working on this problem now and hope to have a solution in the near future.

Once we have refined the user-mix idea, we hope to sell it to a major portion of our governmental entities and set about reaching a mutual understanding of responsibility. If we can accomplish this, we will have some fairly clear



areas of responsibility for providing recreation experiences and can get to work on attaining the best balance in park conservation and recreational area development for the State as a whole.

In closing, let me point out that I have glossed over many important factors that enter into the processes I have described—primarily in the interest of time. I have also minimized political facts and financial ones, which of course are the life blood of the system. However, these factors vary so widely within a State and among States that they could not be accounted for in the process if it was to be meaningful as a possibility of achieving the best balance in your individual cases. I have also not stressed the flexibility of the system, since I primarily wanted to get its fundamentals across in the time allowed. However, the system is flexible and does account for and allow experimentation of new ideas in recreation experiences not presently known to our citizens. It simply allows experimentation on paper before going to the field and has the potential of saving a few dollars by avoiding obvious mistakes.

To summarize, the best balance in park conservation and recreation area development can be achieved if a balance is obtained in:

- (1) The administrative responsibility among governments and private enterprise;
- (2) The long and short range programs of specific recreation suppliers; and
- (3) The internal policies of a particular supplier concerning site planning, development and operation.

Achieving the best balance requires thoughtful analysis of all recreation activities sought by the people you serve and, equally important, a willingness among a majority of outdoor recreation suppliers to assume their responsibility in providing the environment necessary for a participant's realization of the experience. The two go hand-in-hand.



The following three panel discussions were presented by Arthur T. Wilcox, Louis F. Twardzik, and Leslie M. Reid, respectively, at the Annual Meeting of the National Conference on State Parks at Aspen, Colorado on September 18, 1967.

The three distinguished gentlemen, renown in the field of education, were requested to express their views on the role the university plays in relation to park, recreation and resource management.

UNIVERSITY TRAINING for PARK MANAGEMENT

by ARTHUR T. WILCOX ●

● Professor Wilcox studied landscape engineering and park planning under Laurie Cox at the New York State College of Forestry at Syracuse University. He served as draftsman and park designer with Vermont State Parks and the Akron, Ohio Metropolitan Park District. Following which he was in charge of the park management training program at Michigan State University for fourteen years. In 1960, he returned to the Akron Metropolitan Park District as director-secretary, resigning in January 1965 to become chairman of the forest recreation and park administration program at Colorado State University.

A member of the American Institute of Park Executives since 1946, he serves on numerous Institute committees. He edited a Park Management Series of publications sponsored by the A.I.P.E. and Michigan State University and authored numerous articles in other park and outdoor recreation publications.

Professor Wilcox was a founder of the Michigan Parks Association.



Our panel today is devoted to a discussion on park management as a profession. It is quite apparent that we, who are involved in parks and recreation are bound into a relatively cohesive group with common interests and objectives. It is apparent that the attainment of these objectives requires a substantial common area of knowledge which is a hallmark of professional identification.

To say, however, that we are a full blown profession having a well established and necessary field of training and pursuing well defined goals and objectives would be presumptuous. We are in fact a good example of a profession-in-the-making. Historically, as a unified group of "experts," we are new to the scene. We are still in the midst of growth pattern that has traditionally developed along two major fields of emphasis. One, closely associated with schools of health and physical education has emphasized programs and urban community recreation. The other, commonly associated with schools of forestry, resource management and landscape architecture, has emphasized land management and environmental protection and conventional outdoor recreation activities.

Recently, because of the tremendous growth in importance of our field, there has been a strong trend towards integration of the best of these two schools of emphasis, one result has been increased emphasis on training future administrators rather than technicians.

Today the relatively few leaders in the field of park and recreation education are committed to this balanced program and men trained in these schools may move with equal

ease into park and recreation jobs on any governmental or private level with the expectation of quickly becoming middle management employees.

My remarks today will attempt to show how the park administration program at Colorado State University has been developed and what it tries to do. Our program is an outgrowth of a 30-year-old program in forest recreation in the College of Natural Resources. It reflects a strong resource management base and a decided trend in graduate employment from forest and wildland oriented agencies towards state, metropolitan and local parks.

We have three major obligations inherent in our program:

1. To produce a man of culture, one who may be expected to contribute to the improvement of our society no matter where he may work.
2. To produce a man of great expectations, one with expert knowledge in his special field who has a sound enough technical background to change with the times and with his environment and develop real leadership in his chosen field.

3. To produce a man of competence, one with technical skills which will make him immediately attractive to an employer and worth his salt as a new, relatively inexperienced employee.

Our first objective is common to any university. The university by its very nature is a matchless environment in which to produce men with wide interests and deep concern for society generally. Our graduates, no matter what their specialties, will become part of our society. We hope to produce a man of culture who may be expected to fill the role of the good citizen and who will contribute his share to the advancement and upgrading of our American civilization. Culture here is more than broad knowledge, it is activity of thought in receptiveness to beauty, humane feeling and the other sensibilities we associate with the civilized man.

At the same time we hope to invest in him in expert knowledge in his special field. As the field of human knowledge expands, this special knowledge becomes more general and more basic and gives him the ground to start from and from which he can give expression to his more profound cultural understanding.

Finally, in this latter context we not only train a man to eventually become a leader in his field but also one who will be worth his wages on his first low level job. Here we have one of our greatest challenges. It is at this point that many employers show their most concern.

The increasing complexity of our lives makes it very difficult for a young man to get a sound general education and also a technical understanding of park management that may run the gamut of professional skills from architecture and landscape architecture to lawyer, accountant, and social worker. Each of these fields as well as our own is becoming increasingly complex. In some cases we feel that our best effort is to be sure that our graduates can at least talk the language of the architect, engineer, and forester, and be smart enough to know when to call in an expert or where to look for knowledge.

We regret that some of our men may not know the difference between a 20-penny and a 60-penny nail or that a 2 x 4 doesn't measure 2 inches x 4 inches, or how to mix a 5-gallon or a 7-gallon concrete batch. Considering what has happened to engineering in the past generation, we are hopeful that it is more important that he know why a 5-gallon mix should be used and the relative capabilities of air entrainment, pre-stressing, and light aggregate concrete than how to do the job itself. Increasingly we are saying that our men must know basic physics and the language of the field and then know where to get hold of the information fast, when they need it.

We are developing basic references for our students to build on as they learn. Every man must subscribe to *Park Practice*, the best publication of its kind. Every man not only subscribes but also learns something about the authors of important articles and papers, because we believe in building professional contacts early as a vital key to success.

Students make a practice of building reference lists for finding information. One of our men, Tom Walmsley, did this for selected subject matter in *Grist* and *Ira Lykes* was good enough to print it so that the entire membership can use it.

Every man of course knows standard references and how to use them: *Ramsey and Sleeper's Architectural Graphic Standards* and *Seelye's Civil Engineering* data books.

Thus one of the big differences between our program of a few years ago and now is the emphasis on basic knowledge and knowing when and how to get help rather than competence in technical skills.

Our education objective is not just the acquisition of knowledge. It is the acquisition of the art of the utilization of this knowledge for the public good. It involves the development of an endless curiosity, of judgment, of power to master a complicated tangle of circumstances, and the use of theory in giving foresight in decision making. It might be said that we are interested in developing an intimate sense of the power of ideas.

Finally, there should grow in the student the most austere of all mental qualities—a sense of style. It is an aesthetic sense based on admiration for attainment of an objective by the optimum use of every means—simplicity and action without waste. One finds this quality growing in students and that is what makes our job worthwhile. We all look for and recognize it and respect it. At this conference we are mourning the recent passing of Charlie DeTurk. He is one who has displayed an uncommon sense of style in his life's work.

To attain these objectives we have developed a curriculum which fits into the university requirements of 200 credits to attain a Bachelor of Science degree. We also have a graduate program for those who wish to continue specialization in administration, planning or interpretation.

Some indication of the problem facing us is illustrated by our staff practice of periodically discarding our required curriculum and attempting to build a new one from the host of courses offered at the University. Invariably we come up with the observation that a properly trained man needs about 400 credits of work. We then laboriously, like everyone else, fit and whittle until we are down to the 200 credits.

Our curriculum might be likened to an archway. The base, required of all students, gives emphasis to basic courses in 1) biological, 2) physical, and 3) social sciences. From this base we build a column of courses emphasizing land management—surveying, turf and wildlife management, soils, arboriculture. A second column emphasizes people management—personnel, finance, public relations, political science.

From these columns an arch is formed from each side with courses in planning and design on the one hand and recreation programs and services on the other.

The keystone which holds the arch in place might well be called the sense of style already mentioned. For us this includes a personal philosophy about parks and recreation and how it fits into our society. It might be reflected in the words of Virgil "The noblest motive is the public good".

As we continue to change and upgrade our program we see several important trends:

1. As our field of knowledge grows the requirements of general education expand, our graduates will increasingly be generalists with good sound basic knowledge and the "know-how" necessary to get answers and solve problems.
2. As demand for higher education grows there will be increasing emphasis on Junior Colleges with standardized programs which transfer easily to more specialized universities. Coupled with this will be technical short courses and two-year programs to train technicians so badly needed in such areas as recreation program leadership, turf management, horticulture, grounds maintenance, and concession management. These programs will be closely correlated with specialized senior university programs.
3. The requirements of the field for training personnel in park management are still ill defined. This is especially so on the state level. This situation is rapidly improving. While top administrative jobs in

efficient public organizations will always attract the best men regardless of technical training, there will be increasing demand and need for competently trained administrative and management personnel on lower levels.

4. Continuing education in the form of short courses in specialized training will become a standard part of in-service training. This will be true first, because of the demands of our field, its great breadth of interest to many professions and the peculiarities of public service

which continue to make retreats out of men from other fields. Secondly, because our field like others is changing so rapidly that constant upgrading of personnel will be a normal requirement of efficient management.

5. Last I see rapid growth in interest in university graduate school training as a means of giving professional competence to those from other fields who see an opportunity in public recreation, as a fast, sure way to increase one's competence in the field, and as another device to keeping up-to-date with our fast changing times.

Crowded camping conditions at the height of the camping season.



Yosemite NP

NPS Photo by Blair

THE UNIVERSITY'S COMMITMENT TO THE PROFESSION OF PARKS & RECREATION

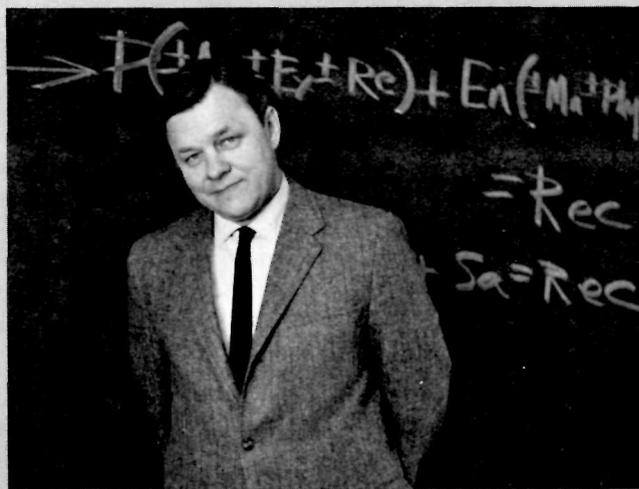
by LOUIS F. TWARDZIK ●

In bringing to you my views on how the university should view the topic, "Park Management as a Recognized Profession," I embark on a risky course. The risk is real because while I dare speak of the university in a generic sense, I obviously can only give my thoughts based on my interpretation of the profession's needs and the university's role in meeting them. But I am firmly convinced that the future of a profession in parks and recreation is dependent largely on our willingness to address ourselves to these questions.

The university has historically been seen to have various objectives but never has it deviated from the idea of furthering knowledge and teaching it. The professions generally look to the university to train their specialists. Not in every case, however, were the universities interested in, or were able, to further the professions. Indeed, the idea of serving the professions by training their specialists and thereby meeting the changing needs of the community, is relatively new to the universities, dating back to the Morrill Act of 1862.

This is the situation today. Professionals in parks and recreation are now looking to the universities to advance their cause but, the universities are only reluctantly accepting the challenge to advance the state of this field.

One of the reasons why the universities do not accord a wholehearted interest is reflected in the still incomplete evolution of the profession. It has not made a decision on the direction it wants to go; in other words, it has not defined its goals as yet. It is unlike the barber profession of days gone by when the value of specialization in surgery was recognized. This profession eventually split into two groups, one whose members became the disciples of Aesculapius, while the other group, interested in cutting and dressing hair, remained barbers. The present status of the park management profession is one of a combination of barbers and surgeons. I will not make a judgment as to how effective we are in either, but I will suggest that if the decision is not made soon, others will make it for us.



● Louis F. Twardzik is an Associate Professor of Parks and Recreation Administration in the Department of Resource Development at Michigan State University. He earned his Bachelor of Science degree at the University of Notre Dame, his Masters and Doctors degrees in Recreation from Indiana University and completed additional graduate work in Political Science at Wayne State University and Michigan State University. He served in the U.S. Marine Corps during World War II and the Korean conflict.

He has authored The Park and Recreation Commissioner, bulletins on laws, insurance and liability, and approximately 40 papers on various subjects in his field. He has held more than 40 appointive and elected offices in state and national professional societies and associations and currently serves as Chairman of the Michigan State Recreation Advisory Committee; Chairman, Professional Education Committee of the National Recreation and Park Association; Board of Directors, Society of Park and Recreation Educators and on the Social Science Committee, National Academy of Sciences. He is a consultant to federal, state and local governmental agencies, private organizations and companies.

There have been some plateaus of progress made in this process of professional evolution. The history of parks and recreation in this country has some important milestones. They include a park conceived, designed and developed for public use and administered by a professional. Of course, this is Central Park in New York City, what many considered to be the first public park, with the first professional, the co-designer and superintendent, Frederick Law Olmsted. His created profession was landscape architecture. The spread of the concept of a free local public pleasure ground spread fast, faster than landscape architecture. The people who were responsible for these areas in cities and towns throughout the country became known as "park men" or "park superintendents." As their work gained public acceptance it attracted individuals with professional, scientific backgrounds in horticulture, floriculture, civil engineering, botany, and forestry. They became designers, managers and maintainers of urban lands and waters called parks. They were dedicated to the thought that certain parts of the community should be areas of natural beauty. Although art was permitted to permeate the early parks in form of statuary and fountains, the emphasis was on greens, flowers, trees and waters. Quite often they were arranged in formal fashion indicating continental European influences but more often they followed the natural design of English parks and gardens. They served primarily as places of beauty, guarded carefully against abuse by the public. This gave rise to the "keep off the grass" signs so prevalent until the 1950's. The image of the park man's lack of concern for people wasn't diminished any by the fact that early park departments were usually responsible for the maintenance of municipal cemeteries. At the same time, in the 19th century, the National Park movement was launched with the establishment of Yellowstone. Its dominant concern for enjoyment through preservation was carried through the beginnings of state parks as another level of public recreation.

As a result of the park man's lack of interest in what the people needed or wanted in recreation, along with the evils of industrialization, crowded, dirty tenement living founded another type of professional, the recreation leader. He offered pleasurable opportunities for all people, where they lived and not limited to where they visited, during a Sunday or to those who could afford to travel. These new professionals started as volunteers caring for children, but eventually municipalities realized that their work could serve a broader social purpose. Inevitably, there occurred the confrontation between the park man and the recreation leader. The park people controlled the open, public spaces that the recreation leaders wanted to use for games, sports and playgrounds. The inability of both groups to join successfully in a common cause during the past century is largely responsible why parks and recreation was not represented by a recognized profession. It was not until last year that the nation's five major park and recreation organizations including the National Conference on State Parks joined in a common organization known as the National Recreation and Park Association.

Philosophic Differences

If it can be said that park management and recreation held similar purposes basic, then it must be admitted that at least they view them from different perspectives. The sciences that contributed to the growth and maintenance of plant life and soils were well established. The park man was able to take these sciences and make a unique contribution—instead of creating an economically useful product from natural resources, he wrought the miracle of beauty.

His ultimate art suffered only because he was expected to share the approbation of the public with his creation. But unlike any other creative person before or since, he was expected to create for people but didn't bother to check with his patrons on what they wanted. He either conceived, or was an early contributor to, the idea that "what is good for the resource is good for the people." He, of course, being the judge.

The recreation leaders found their cause in people. They did not need anything beautiful or unique in order to brighten and enrich the lives of tenement dwellers. They cleared dirty lots and made playgrounds of them. They taught people to ignore their squalor and find beauty and fun in the midst of a miserable existence. People could brighten their lives if they only knew how. An empty room, a quart of paint and they squared danced, sang and played games. Out of this social effort emerged the opposite principal of resource development, "What is good for the people is good for the resource."

The University's Interest

Similarly, as some universities picked up interest in these fields they gravitated quite naturally to the faculties of established departments. The earth science interests were usually in the Agriculture College and they first became interested in park management. Schools of Education, on the other hand, had close interest and competency in the social phases of recreation. The wise use of leisure was early a major objective of educators as was summer employment in recreation programs for many teachers and coaches.

Park management was accepted as a special curriculum in only a few universities. Although the demand for park men was equal to that for recreation leaders, the culture in which it found itself trying to survive was not as amenable to its growth as was the College of Education for recreation leaders. The proliferation of colleges and universities offering degrees in phases of recreation jumped after World War II from a few to between 150 and 200. Park management has not been seriously pursued in more than a half dozen schools over this same span of years.

With few exceptions, faculty in park management or recreation-leadership were seldom composed of more than a few full-time teachers. The situation is improving due to the increasing number of Ph.D. programs available to those who want to devote themselves to teaching or research in this field. Generally, the number of qualified teachers throughout the country remains low. For instance in one of the older and more respectable university curriculums in parks and recreation the teaching staff remains at 2 half-time teachers and 3 visiting lecturers for 50 undergraduate and 25 graduate students while the Soil Science Department in the same college has 35 staff members for a total of 65 students.

A new and significant plateau has been reached during the past decade and consummated last year in the formation of the National Recreation and Park Association. This was the merging of recreation and parks into a more understandable grouping of social and natural resource interests on a national level. By effectuating this long needed merger, the profession was able to advance some needed concepts including recognition that the professional competency of the field was in a philosophy and principles and techniques and practice of parks and recreation and not in allied fields. This was the long missing element in the search for professionalism, the one unique and significant contribution it offered. It meant that now landscape architects could practice their profession and educators theirs and foresters

theirs and the same in horticulture and all other recognized fields and disciplines who for so long were the fountainhead for university offerings in the practice of parks and recreation.

Vocationalism and Professionalism

To the scholar, vocationalism and professionalism is synonymous with specialization. Any student studying outside the humanities and the liberal arts is in a specialization. The classical scholar considers the study of a specialty as *something which could take place elsewhere than the university*. But through the Morrill Act of 1862 and subsequent legislation, land-grant colleges were established to teach skills that could contribute directly to the agricultural and industrial expansion of the country. Later private colleges and universities began to train the specialists required by a changing society.

The utility of engineering, medicine and law were obvious in a culture such as ours that needed efficiency and order. The public need for the "frills of life," outside of what could be found in the home or purchased by those of means, were a long time in coming in a society hell-bent for the effective and productive use of resources, at all costs. A long series of social, economic and political events had to be consummated before we emerged as a people who could give evidence of concern for open space, natural beauty and as to how people spend their leisure. It can be forcefully argued, however, that we had to follow this national policy in order to arrive at the place where we could afford to become concerned about these matters. But it should also be noted that today, while Congress still has before it a bill to establish a system of public trails throughout the country, Europeans have been able to pursue hiking as a favorite family pastime for centuries.

Universities often respond to demand. The days of demand for people with specialized training in parks and recreation has arrived. The difficulty with this demand, however, is that the universities have had a taste of educating specialists in this field according to professional requirements. It has left much to be desired. It is my view that the universities are becoming, or should be, reluctant to any longer offer their prestige, time and financial resources to training at the levels of professional requirements which have generally overstated their case; we can no longer justify the requirement of a baccalaureate to carry on maintenance responsibilities in a park or recreation leadership for games and sports. Fortunately there are now prospects of programs at Junior Colleges and similar institutions which provide training of technicians competent to work at these levels. I find that now the universities are advancing this view while many professionals are accepting it with reluctance. The reason for this leadership by the universities in making professional training determinations is because of the obvious failure of many traditionalists still in the profession to move ahead with changes in concepts and service for a changing society. The profession has fallen short in many phases and at all levels of parks and recreation management. The public demand for outdoor recreation after World War II caught us all flat-footed, despite the protestations of insufficient funds. Today, new federal programs bring college students without professional training to cities to discover the need to provide recreation areas and programs for minority groups to congregate and play. Similarly, the reawakening of the need for public outdoor recreation came from a variety of professional groups and academic disciplines in the natural and social sciences as did the programs for open space and natural beauty. We who consider ourselves professionals in parks and recreation played a small, if any, part in this.

Small wonder that the universities see a need to change the training for this field. The universities are no longer interested in training people for skills in park maintenance or playground crafts; and they should not be. Those are technical skills, needed skills, but to be taught elsewhere. You will be interested to know that the NRPA is undertaking a study with funds from the U.S. Office of Education, to prepare a new publication "Guidelines for Developing a Two-Year Junior College Curriculum in Recreation Program Leadership." I have hopes that this work, when completed, will be immediately followed by a companion study for a two-year junior college curriculum in park management. I now have answered the implied question of this meeting: "Is park management a recognized profession?" If park management is considered to be a bunching of techniques on how to maintain a park the answer is no, it is no longer, if it ever was, a recognized profession in the universities.

But there is a profession in parks and recreation and until someone finds a more appropriate term, it can be named, at least for the time being, Parks and Recreation or Park and Recreation Administration.

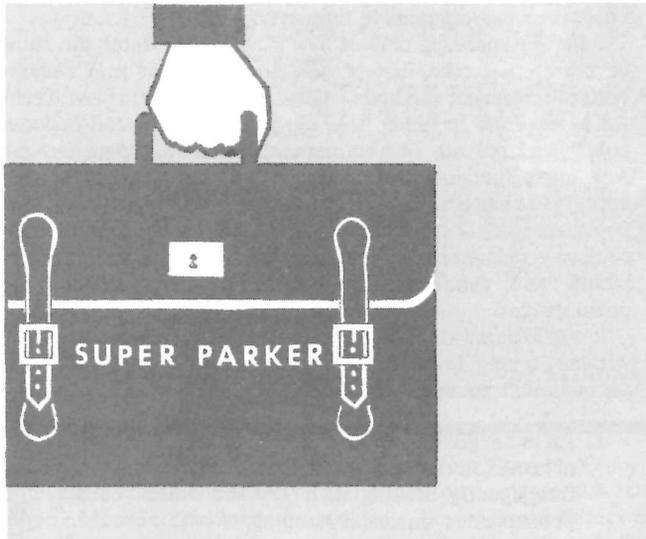
My learned colleague, Professor Charles E. Doell, Superintendent Emeritus, Minneapolis Park Commission, put it more clearly when he stated at the 1964 National Conference on Professional Education for Outdoor Recreation that "Education for administrators of total recreation services must be on the professional managerial plane with required background in recreation philosophy and an appreciation of the sciences, techniques, and skills necessary for resource development and management in the field of recreation services. There will be demand for more highly skilled technicians and recreation leaders, and better educated scientists in many fields as time goes on, but the education of the top administrator must not be ignored and left only to the vagaries of experience."

This profession should be based on its own principals which in turn should reflect a high level of intellectual pursuit and academic achievement. The park and recreation administration today need not be a trained researcher, but he should know about new research techniques and what they can do for him or how they can assist him in making his decisions. He has to understand recreation as an indispensable ingredient in man's aspiration for a quality of life and then be able to defend it as a high priority objective of public service.

To accomplish this task universities are making some progress not only in improved physical facilities, but in the number and quality of faculty. The percentage of faculty with doctorate degrees is increasing as is the breadth of their competencies and interests. The faculty is now more prepared to understand and formulate theory and sophisticated research. It does, however, retain the proper perspectives for the practical exposures and experiences which are indispensable to a student's training.

The university today, is an increasingly complex institution called upon to serve as the searcher, preserver and dispenser of knowledge in a wide variety of disciplines. It is also asked to address itself to specific social needs. One of these is the training of specialists in park and recreation administration. You can be sure that the new professional the university is aiming for is one who is first an educated person and then a specialist, a person who will concern himself with the significant and far-ranging policies and problems of a people living in a leisure age as well as with day-to-day operational responsibilities.

It is well to remember that the profession that addresses itself solely to current operations loses the basis for its future. The university refuses to train barbers.



PREPARATION FOR RESOURCE ADMINISTRATION

by Dr. LESLIE M. REID ●

It's always difficult to serve as anchor man, and third spot on this panel is especially frustrating after the outstanding job my two friends and colleagues have done. They have covered so well the assignment given us that I would like to shift my emphasis completely and discuss professional preparation from an entirely different viewpoint. Let us consider what I feel is a great need today and an even greater need tomorrow for a new kind of professional parkman. For our purposes today, I would like to call him "SUPER-PARKER".

As background, allow me to urge that you obtain a copy of the book by a noted and gifted historian, Walter Prescott Webb (University of Texas Press), entitled The Great Frontier. A major thesis of this book is that regardless of census data, the western frontier really disappeared as recently as two or three generations ago, and that our society is still making groaning adaptations to this change.

With the frontier gone and a static acreage of land, but an even increasing population, the land-man ratio in this country is falling. As population continues to climb, this ratio must decrease still further. The natural result is a sharp increase in land-use conflicts, more complex resource problems, and consequently, the need for more sophisticated resource training.



● Leslie M. Reid assumed his position as head, Department of Recreation and Parks at Texas A & M University College Station, Texas on January 1, 1966. From January, 1957 to December, 1965 he was Assistant Professor, Park Administration and Outdoor Recreation, Department of Resource Development, Michigan State University, East Lansing.

Dr. Reid received his B.S. degree in Forestry at Michigan College of Mining and Technology, 1951 Cum Laude; an M.S. degree at Michigan State University in Land and Water Conservation, 1955; and his Ph.D. in Conservation (Outdoor Recreation) at the University of Michigan, Ann Arbor, 1963.

He is the author of a number of papers and publications dealing with outdoor recreation including "Michigan Outdoor Recreation-1980," "Outdoor Recreation Preferences: A Nationwide Study of User Desires," and others, and is affiliated with the leading societies and associations concerned with parks, forests, and recreation.

Added to this is the recent abandonment of a rural, frontier-type society — a shift to a more concentrated urban society. This urban crowding has necessitated more institutions, along with more regulations and restrictions. Driving here yesterday, I was surprised to see at Vail City Ski Area an attractive condominium development. I didn't expect this in an essentially rural Colorado setting. This typified to me the shift from the private cottage — the individualist's dream of privacy and exclusive use — to the current more highly organized multiple-unit development. Our lives are becoming more and more organized.

A related aspect of the shift to an urban-centered society is, I believe, a corresponding decrease in "conventional wisdom" (or call it common knowledge) about the out-of-doors. I am convinced a people can lose touch with the outdoors and the natural environment. We constantly see examples of park visitors "taking chances" or "acting stupid" because, as we say, they don't know any better.

This complicates the park manager's job. For it means his primary concern is silently but rapidly shifting from resource management to people management. Unless we are content to some day see parks managed by "social superintendents", our park managers must adapt. They must become more sensitive to human needs, and this involves the delicate matter of balancing resource capability and human wants and desires.

In the past, our colleges have been highly successful in providing excellent training in a number of rather narrow resource specialties. Generally, conflicts arising between or among these specialties have been resolved at a higher, more dispassionate level — the policy or legislative level. But this avenue of conflict resolution can be slow and tedious, and because resource problems are dynamic, the problem often changes before a solution can be reached.

In response to the pragmatic need for a better way, a new breed emerged — the man I am calling "Super-parker", and a number of this kind of persons are here in our audience. Call him what you will — executive, resource administrator, park director — this man may well have begun his career in one of the biological sciences. But ultimately he left the security of his professional peer group. He had a desire and the courage to embark on a lonely mission — a personal crusade to do a more intelligent job of administering often competing resource programs for the maximum benefit to society.

What is this "Super-parker's" chief job? He evaluates alternatives, carefully weighs costs and benefits, husbands and disburses funds, maintains popular support, and engages in gut-fighting battles to protect and advance the resource programs to which he is dedicated.

This is not analogous to the shopworn "generalist-specialist" arguments. For I consider this "Super-parker" not as a generalist, but as a most sophisticated specialist — a specialist in evaluating, in directing, and in decision-making. If he began as a specialist in wildlife, forestry, or landscape architecture, he eventually specialized in the allocation, planning, and development of natural resources.

There is a truly critical need for many, many more "Super-parkers". Where will they come from? And how should they be trained? Some will appear, as in the past, through a selection process that thrusts some persons upward to responsible administrative positions. But I anticipate the supply will be woefully inadequate! A better, more efficient way must be found to provide "Super-parkers" equally skilled in resource knowledge and social knowledge.

Why is the need so critical? Because as visits and use pressures increase, capacities become strained. Eventually,

quality — both physical and aesthetic — erode. In this situation the need is for a resource administrator who feels an obligation to find better ways of providing recreation opportunities, while concurrently protecting the investment in resources and man-made improvements.

I am not speaking only of new methods for doing the same or traditional jobs, but of new concepts that may require entirely different methods. Allow one illustration. At Texas A & M we are probing the essential differences between public and private or commercial recreation management. Are these fundamentally different? Do identical principles apply? Perhaps a few years from now this highly artificial public-private categorization will be seen as a misconception — that there is — or should be — an interwoven mix of public and commercial elements in every major park development.

It would be unfair to discuss the need for a "Super-parker" without trying to describe one. I feel the kit of tools this person must possess includes:

1. An undergirding knowledge of natural phenomena, best obtained in our biological disciplines. This is basic for intelligently dealing with land and water resources. It presupposes an understanding of both resource capabilities and limitations, and familiarity with complex resource inter-relationships.
2. A compassionate understanding of humans — their collective behavior, desires, tastes, and their social idiosyncrasies with relation to their environment, sociology, psychology.
3. A mind equipped for logical analysis — as expressed in a working knowledge of statistics, economics and finance — in order to dissect and examine relevant benefits, opportunity costs, and consumer surpluses.
4. An understanding of law and the political process as a framework for implementing social goals and objectives, and for the equitable adjudication of resource conflicts.
5. A shrewd and frugal nature that constantly searches for least-cost combinations and more efficient resource utilization.

"Ridiculous!", you may be quick to say. "This is an idealized person — a utopian vision that cannot be expected from the limited time available for his education. I disagree. I am convinced the basics are at hand to deliver such a park man to the field. But maybe "professionalism" as practiced in the past is the worst way to get the job done — the resource administrator must escape the straitjacket of professional fences as early as possible.

I am about convinced there is no magic curriculum. Certainly there are important core areas of knowledge — Dr. Wilcox has described some of these. But equally important to me is the basic makeup of the individual. Not all university students are suited to become administrators. But some undoubtedly demonstrate the mix of behavioral traits that may eminently suit them for a career in resource management: a feeling of kinship with natural things and the out-of-doors; a questing, impatient mind; gregariousness; a faculty for risk-taking and decision-making.

Improving the quality and usefulness of natural resources is a massive undertaking. It requires an administrator who pursues not preservation, but improvement of the environment which envelops us all. My "Super-parker" immerses himself in action programs intended to cause things to happen to the natural environment. He is a mover and shaper of that environment for the benefit of humankind. He is a specialist — an expert — in social aspects of resource use.

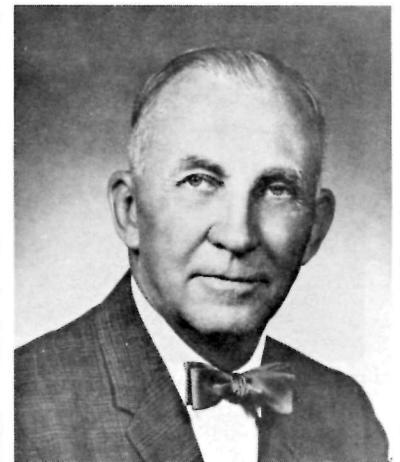
ROADSIDE BEAUTIFICATION, PLANNING, PLANTING AND MANAGEMENT

by WILBUR J. GARMHAUSEN ●

● Wilbur J. Garmhausen was born in New Bremen, Ohio. He attended New Bremen High School and majored in Landscape Architecture at Ohio State University.

Mr. Garmhausen worked as a landscape architect for J. H. Smith Landscape Consultant, as landscape superintendent for Buskirk Nurseries, and as landscape architect for Akron Metropolitan Park District and the U.S. Forest Service. In 1935, he started his career with the Ohio Department of Highways as division landscape architect, in 1947 he advanced to assistant chief landscape architect and then in 1949 to chief landscape architect, the position he now holds.

He is affiliated with the Highway Research Board (Roadside Development Committee), the Executive Roadside Committee (Highway Research Board, American Association State Highway Officials), the American Society of Landscape Architects, The American Forestry Association, the American Institute of Park Executive, Inc., Ohio Roadside Council, Ohio Civil Service Employees Association, Ohio Parks and Recreation Association, and the American Parks and Recreation Society.



The conservation and development of an appropriate highway environment for the motorist and for the community are among the objectives set forth as a statement of policy for the national system which the American Association of State Highway Officials adopted in 1961. The statement called for careful consideration of the visual aspects of highway location and design from the standpoint for the users of the highways and of the people through whose community the highways pass.

In considering roadside beautification, planning, planting and management, I will go into some detail as to how this is accomplished in the highway department and I hope the procedure will be not only interesting but new to you also.

With the invention and increasing use of the automobile the concepts of roads and roadsides had to gradually change. Necessity and economics have been the history of the development of land transportation. The North American Indian established trails for travel following many old animal paths. The wagon roads were built for low speed travel and had very sharp right angle turns. Many of these roads could be redesigned to the new faster 20 mile per hour automobile speed. In cities and suburbs the improvement and continued use of the city streets seemed reasonable and was economical. In rural areas the countryside still was clear and clean. Land for needed right-of-way was readily available and also was not expensive. The development of roadside facilities and

services for cars and passengers was taking place slowly. The primary concern was the cost of adapting an existing but outmoded traffic facility to a changed use. At that time, the need for access control did not exist and was not anticipated. There was nothing wrong with having intersecting roads, streets and railroad crossings at grade. At that time, there seemed to be no need to control the ribbon development of residences and businesses creeping outward from the cities. It seemed sensible to transport electrical energy in long skeins of overhead lines on the inexpensive right-of-way of the wagon roads now becoming highways. There seemed to be no harm in roadside advertising, to remind the traveler of the foods, drinks, conveniences, services and luxuries which were available for use. The effect of the rapid and continuing advancement of automotive engineering, and production upon our society and our highways was unanticipated.

Until not too long ago the design of a highway was a straightforward undertaking, well within the talents and training of a competent civil engineer and traditionally falling entirely within his professional province. Any well trained engineer found all of the technical problems encountered well within the scope of his abilities. For that matter, many roads just "grew" from the trails left by the feet, hooves and wheels of the traffic along country trails and many others required at the very most the talents of land surveyors to lay them out.



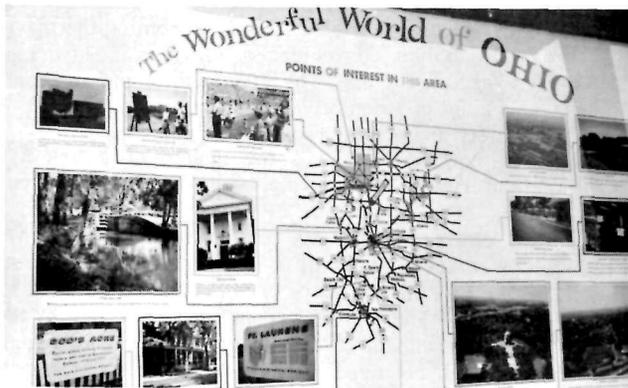
Present day road built on top of an early wagon road.



Existing trees are used in landscape plans when possible



A highway rest area



A new area board for Summit County, Ohio

As you know in the last fifty years, there has been a tremendous increase in the number of motor vehicles. The highway has grown gradually but inexorably more complex so that today it's design requires the talents not only of the well-rounded civil engineer but of innumerable specialists. Some of them sub-species of the engineering genus—specializing in soils, traffic, materials, structures, computer analysis, hydrology and so forth. Others belong to what are generally considered separate, if allied, professions—primarily landscape architects and architectural engineers.

A highway transportation system which has made use of the best that man and materials have had to offer leads to this conclusion: that engineering, necessity and economics no longer are the only factors to be considered in highway development. To these must be added the factors of aesthetics, pleasure and recreation. Within a very short period of time the economic and social structure of our country has been altered. The discovery of new forms of energy and the development of knowledge in all fields of science has been explosive. Old practices and materials have been improved or replaced, new materials are being discovered or created and new uses are being found for all of them in combination. Old patterns of habits have faded and have been replaced by newer and stronger forces. The tempo of living has changed. Life no longer is simple, leisurely and unvexed. It has become complex, rapid and at times, bewildering. Along with the advancement of knowledge in all fields has come an exploding population, and expanding economy, more material goods and more leisure time.

More of our people are now building their homes at the edge of town or out in the open country and they are demanding a pleasant drive to work and to shop. This trend in living will take more and more of our land near cities into small area private ownership, leaving less and less recreational land open to the public. More and more people are using our highways and roadside facilities for outdoor recreation. This means the highway will include more and more existing woodlands now in private ownership but adjacent to the highway.

In many instances, these changes affecting the environment of man and the use of the land have taken place so rapidly that there has been little or no time for effective planning and control of development. Adaptations have had to be made on the spur of the moment. All too often the finer, more sophisticated cultural aspects of highway location and development either were not thought of at all, were thought to be an unwarranted expense, or were considered and then added as an afterthought.

This policy is well expressed by Mr. Rex M. Whitton, former federal administrator of the Bureau of Public Roads, Washington, D.C., when he stated "Make no mistake about it. A pleasing result is a very important element in our highway program. In the final analysis, we will be judged by the appearance of our highways as much as by any other factor. In any highway improvement pleasing appearance is a consideration always to be weighed carefully along with traffic safety and structural adequacy."

It is encouraging to know that there is a growing recognition of the importance of including the needs of the pleasure driver in the development of the complete highway. Time was—and not too long ago—when all that the public demanded of the highway engineer was the pavement and structures to get the motorist from here to there. The early motorist appreciated the new highways so much that he made no demands for anything that might be considered "frills". More than that, he was unwilling to let any of his funds be spent for other than this very elemental purpose. I do not mean to suggest that the highway engineer of that time was blind

to values other than utility. Quite the opposite. Many, many years ago he was saying and practicing what is being said and advocated as something new by our most ardent conservationists today. As early as 1932, for example, a joint American Association State Highway Officials and Highway Research Board Committee issued this statement:

"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 maintenance of highways."

Normally, all of these treatments, or improvements must take place on the land within the right-of-way and there is a physical limit to the nature and extent of the available benefits because the planning and use of the land must be carefully controlled. The control of situations which develop or exist beyond the right-of-way are much more difficult to affect. There are good and bad situations. A good situation occurs when a parking overlook built within the right-of-way takes advantage of a scenic attraction which may be some distance away. Here, the visitor's appreciation and pleasure of an aesthetic setting may extend beyond the right-of-way to the distant scene, and he may, in a sense, enjoy the emotional experience of owning as far as he can see. Very often, vegetation can be cleared away and a vista can be provided so that a visitor may enjoy a scenic attraction as he moves along. Many new highways are being located in a manner that will take advantage of scenic and other values, parking facilities and vistas, these features are being designed and included with the construction drawings.

Highways designed as separate one-way roads better fit the roadways with their accompanying roadsides into the landscape. Flexibility in a pleasing free flowing alignment of widely separated roads, often at different levels, effectively avoids monotony and resultant driver fatigue. If treated as two separate roadways the design can take advantage of natural topography and landscape features and permit the conservation of existing plant material, generally resulting in a reduction of costs. The results of this variation in the line and grade of the two roadways allows for a wider median which in turn leads in a reduction of the hazards of glare from oncoming headlights, head-on collisions, and u-turns so that greater ease and relaxation is enjoyed by drivers. It also reduces excavation, snow-drifting and is easier to maintain.

Correlating roadside development with highway design is the objective of today's highway program. The practical aspects of highway development, including the location, design, construction and maintenance of the highway, are so definitely related to the aesthetic features of the completed highway that roadside development should be correlated closely with the design of the highway. This correlation should be an accomplishment that would have its inception right along with the original programming, planning and surveying, and carry on through to the completed construction and maintenance of the highway.

In order to capture the physical forms of beauty and include them in the design, the starting point should certainly come during the preliminaries of location. An inventory should be made of all the scenic points of interest which might affect location of the highway. Scenery is not restricted to majestic mountains and vast panoramas. A fine stand of trees, a small pond, a rock ledge can offer glimpses of beauty to the traveling public.

So in the course of locating the highway, the view must be kept in mind, along with grades and curves. The vistas ahead and slightly to each side are especially important. The views outward from a moving automobile are quite different from those when the vehicle is standing still. The driver's eyes



Growth inhibitor used to reduce mowing along side a drainage ditch.



Growth inhibitor used to control turf height on banks.



Trees are protected from a change of grade by tree wells.



Spraying for weed control

are focused on the road ahead and his attention centers on his driving. Only for a very quick look can he safely take his eyes from the road and these fleeting glimpses can be only a few degrees to the right or left. As vehicle speed increases, the driver's eyes focus farther and farther ahead and his angle of vision becomes narrower and narrower. At twenty-five miles per hour his total horizontal angle of vision is about one hundred degrees and his eyes focus at a point about six hundred feet ahead, but for sixty miles per hour the focus point may be nearly two thousand feet ahead, while the angle of vision has shrunk to less than forty degrees.

After all, for safety's sake we want the driver to concentrate on looking forward: We do not want to distract him too much. So, if the highway passes through an area with opportunities for breathtaking vistas and the pattern of safety-rest areas calls for one in that stretch of road, the chance to locate the safety-rest area for standstill viewing should not be missed.

In selecting a location with scenic views in mind, the location engineer must remember that the road is two-directional. He must endeavor to provide two complete separate sets of views, coming and going.

In order to make modern motoring more interesting, scenic vistas must be placed within the motorist's vision ahead of the car. In place of the long stretch of highway constantly in front of him, the driver should see roads laid out in a manner that they disappear into the landscape. This presents an attractive vista directly in front of the driver in such a way that he may view it without endangering himself or his passengers.

No deviation from the direct route should be made aimlessly, but the engineer should direct the roadway toward any worthwhile feature within reasonable range. For any given terrain it is possible to make use of some extraordinary features in the landscape to add variety to the road with only a minor increase in cost. The scenic beauty of a highway can often be improved immeasurably by even a slight deviation from the usual directness.

A rural highway is beautiful when it joins the landscape naturally, fitting inconspicuously into its surroundings. It is restful to the eye when the roadsides have been planted with grass, trees and shrubs. Aesthetic highway design pays off in added safety. Driver tension and fatigue, which are believed to be hidden causes of many automobile accidents can be relieved by interesting highways and roadside development. As highway construction technology continues to

advance, we can look forward to more and more roads that combine good looks with good service.

The roadside is the important factor between the roadway and the adjacent property interest of the community through which it passes. Adequate width of roadsides are influenced by the topography, not only to allow the pleasing flat slopes as a protection against erosion, but also to allow for functional plantings, conserve the valuable existing plant material, and make possible a pleasing transition between the highway planting and the natural slopes and trees adjacent to the right-of-way.

Clearing and grubbing operations must provide for the conservation of desirable existing plant material to preserve the bordering vegetation and to create natural effects. Selective thinning should be done to preserve the natural environment and to open views into the offscap. Trees should be left to create an informal design pattern so that an irregular skyline effect will be forthcoming and the low growing trees and shrubs will give an undulating effect.

Highway systems require great acreages of land for right-of-way-land which must be withdrawn from agricultural production or some other useful function. This land must be maintained as part of the highway facility; generally, it has no other useful purpose. A large portion of this land is needed for the direct use of traffic—the pavement, median,

Trees are moved to a new location.



Effectively display the natural beauty of the landscape from the road.



shoulders, structures and ditches. The remaining land is the roadside—the cuts, fills and areas adjacent to the road. Although the roadsides do not contribute directly to the movement of traffic, they are an integral part of the development of a highway as a complete traffic facility.

Transportation is an inseparable element of any city and cannot be considered apart from the city itself. Just as we know how urban development will determine the demands on and the efficiency of highway facilities, the planning and location of highway facilities will shape urban development and affect the lives of generations of urban dwellers. The joint development concept reflects this fact, and deals with it effectively. Another fact of life in urban areas is that there is very little usable space left in most of our cities so we must make the best, the most efficient, and the most economical use of what there is. We must realize that because of this the highway is in competition for land along with a host of other needs of our cities. We must realize that as freeways move close to or through the downtown areas of the larger cities, they take land which, till the day the demolition crews move in, has had some other vital use as a part of the city's life. It does not matter that the pre-freeway use is a wrong one or an inefficient one, that houses are small and mean, the people crowded, the industries unattractive. Neither does it matter really that the highway will bring

New all steel shelter house



stability and renaissance to a tired old area. Right then, as the right-of-way is being cleared the highway is a disruptive force on community life. And, ironically, the older and more crowded the neighborhood, the more it warranted demolition or renewal, the more disruptive is the new highway. This fact cannot be ignored. The joint development concept recognizes and responds to it.

This concept also reflects our concern with making highway transportation compatible with the environment while serving many urban needs. The highway department would need only a permanent three-dimensional easement — an air tunnel for the freeway — which it could buy for an amount equal to its appropriate share of the right-of-way costs, thus supporting the joint development concept without increase in its own planned highway expenditure. The community would then have available for other development a valuable assembly of land obtained for a fraction of the cost of acquiring it in separate items.

While the economics of land acquisition makes this concept feasible, it is the promise of more efficient land use that makes joint development so valuable for space-short cities. The considerable remaining space alongside, as well as over and under the freeway, could be developed to meet any appropriate needs of the city.

This would mean that only the space equal to one block in three would be needed for replacement housing, while two out of three blocks would be available for other development — parks, open spaces, playgrounds, swimming pools, schools or public buildings, parking, additional housing, private buildings, or stores which could be located under an elevated freeway.

Another promising possibility is called "street stretching." This involves some fresh thinking about widening urban streets. Whereas we have usually thought of the right-of-way as curb to curb, in many cases the existing sidewalks can provide room for an extra traffic lane or lanes. The sidewalks can be replaced with arcades built into the first floor of the buildings.

I have been around long enough, though, to have confidence that our highway program is not frozen by tradition, that it has not only resiliency but also the flexibility needed to respond to any new challenge. And I have confidence that its response, that your response, that the response of the highway engineer, will be more than adequate for what our nation expects and deserves — and that is a lot.

Headlight glare is controlled by functional planting.



The construction of the freeway could be coordinated with other development so that the new replacement housing and buildings would be available as construction progresses for those who are displaced.

We all know about the secondary benefits of highway improvements — how land is redeveloped and usage upgraded following the opening of a freeway. This is a chance to see and contribute to the simultaneous improvement of transportation and the urban environment without substantial increase in cost for the highway facility.

We are going to have more people in the urban areas, year after year, for as far ahead as we can see. Even today, two-thirds of our population is in metropolitan areas. At present, nearly half of the nation's motor vehicle travel occurs on city streets, although these roads account for only 13 percent of our mileage.

From these and other facts familiar to you, it appears obvious that the main thrust of all highway efforts in the years ahead should be directed to easing the plight of cities. And this means not only easing traffic congestion, but using freeways and other highway improvements as tools to build better communities.

To use a popular expression, that is where the action is, where the people are, and where the highway program must go.

In cities and the rural urban fringe, the interstate highways carry heavy traffic. Although roadside space for functional planting is limited, adequately planted borders lessen the sense of crowding of buildings against the right-of-way and insulate adjacent residential and business properties from the noise and fumes of traffic. A mixed planting of trees and shrubs can screen roadways from a paralleling railroad, adjacent freight yard, industrial siding or other unsightly or objectionable roadside condition. Trees in informal arrangement in the city scope may be desirable when set against the straight lines of frontage roads and local streets paralleling the highway. Such planting helps to insulate bordering residential property from the restless movement of traffic on urban expressways. The overall objective is to avoid monotony and tiresome sameness in such planting.

Why not make the innerbelt and outerbelt freeway system also a part of your "greenbelt" open space program? To the citizens riding in today's automobiles our highways are "open space." Driving for pleasure is considered the greatest single outdoor recreation participant activity, to these pleasure riders, the highway could and should become a thing of beauty, inspiration and gratification to their leisure time needs.

Visitors use a popular roadside picnic area





Scenic roads are marked for the pleasure driver.



Roadside Park along the Ohio River.



Lodge for tourist information

Throughout the years the Ohio Department of Highways has incorporated appropriate landscape techniques into the design and construction to provide all known features of safety and utility for safe and relaxed driving, for economy of operation and for pleasing appearance. At the same time the physical and functional character of adjacent roadside areas is improved. The new highway beautification act of 1965 will strengthen this concept by adding depth to the right-of-way. Wooded country accepts the scale of highways more easily than any other, therefore, most of the scenic easements we have acquired are of this nature. These acquisitions will help to conserve the amenities along the travelway that could not be incorporated in the normal design of highway aesthetics. A scenic easement relates to the treatment of areas beyond the right-of-way. A rural scenic easement is an interest in or servitude over wooded or agricultural land adjoining a highway by which the owner of the land continues to own and use it, but, for an agreed upon fee, surrenders his right to change the manner of use of his land. Thus, he is paid a fee — or given a bonus, as it were — for continuing to use the land and to benefit from it as he had before the scenic easement was applied. Such an easement protects the land owner by not permitting the highway engineers to use the land beyond the right-of-way for any purpose without the owner's consent. It permits the owner to continue to use his land for pasture or other normal farming pursuits, but restrains him from changing its manner of use — say from agricultural to multi-family residential or commercial.

A modified type of scenic easement is the urban scenic easement. Here, the interest or servitude relates to lands beyond the highway right-of-way in urban areas, or future urban areas, by which the owner is paid a fee to surrender his right to use the land for purposes adverse to the scenic or aesthetic character of the highway. For example, he would not be permitted to use the land for outdoor advertising, automobile graveyards, trash dumps, open borrow pits and quarries, distasteful roadside businesses, or some industrial or commercial uses that could create unpleasant odors or appearances. The purpose of such an easement would be to prevent the development of urban nuisances rather than to stabilize a rural scene.

How to make the motorist conscious of the planting or natural scenery, or even the roadside itself is difficult. The motorist, moving through the landscape on a well paved highway, presents problems not found when the traveler had more time at reduced speeds to become aware of and to appreciate the views. So the highway engineer of today bears the great responsibility of building good roads and of also

A field trip from a Short Course on Roadside Development



providing a pleasant highway offering an attractive drive through the landscape.

The challenge of this decade is to build aesthetically satisfying highways in both rural and urban areas. The view of the road should be as important as the view from the road. It is encouraging to note that there is a growing recognition of the importance of including the needs of the pleasure driver in the development of the complete highway.

Never before have people looked to highways for recreation. Public awareness and recognition for our services is probably at an all time high. Roadside rests offering shade often entices the weary drivers off of the road to rest, making them safer drivers when they continue their journey. In conjunction with the roadside rest areas, it may be necessary to provide overnight camping areas for the highway traveler. Some of our states allow camping in their rest areas others provide camping areas in other state owned and operated areas.

Today we have an expansion in highway use of a magnitude generally unappreciated except by those who live with it and struggle to solve it. With this expansion, there has been an unpublicized but never the less hard and difficult struggle to keep our roadsides well maintained.

Pesticides play a major role in the roadside development program. With increased mileage and with little increase in manpower and funds, more economical maintenance practices must be enforced. It is in the maintenance program that the use of pesticides can be of the greatest value. The proper use of chemicals will not only help to do the job but may do it easier, more economically and often better if they are used wisely which entails careful planning as well as careful application by well trained crews.

Roadsides occupy an increasing amount of highway right-of-way. There is much that can be done in the practice of modern roadside development to reduce highway maintenance costs and to develop safe and pleasing roadsides. A new type of acreage is becoming manifest in our economy, narrow strips seem to be inevitable. This long acreage is a challenge for new techniques. Still, whatever methods we employ must satisfy the basic needs of the highway department.

These needs involve the elements of erosion control and traffic safety. The best control for erosion is the establishment of turf, which we are obligated to keep free of weeds. Many states have this obligation because of the weed law which requires the cutting of noxious weeds and because of the pride in the appearance of their roadsides and the urgency for good public relations. Closely related to this problem of erosion is traffic safety demanding control of woody growth within the right-of-way particularly at intersections and inside of curves.



Weed and brush, out of control are ever present problems on the roadside acreage. A program of herbicide spraying is the most effective method of dealing with it. With the release of herbicides for several usages, a new front line was established in this endless war. Suddenly we were ushered into an age of chemical control with a new dust and liquid killers being compounded for nearly every damaging and discomforting weed pest of mankind and his crops. Keeping close pace with developments in the equipment used to apply it.

With so wide a general acceptance of the spray operation, as an aid to roadside maintenance, we must guard against over enthusiasm. This herbicidal material remains a potent and deadly force when misdirected. Application to valuable plants on the right-of-way can arouse public criticism both as to destruction and operation. Large damage claims can result if the spray reaches susceptible plants in fields, gardens or home plantings. A program of mowing the areas adjacent to the travelway, and applying herbicides to all of the weed infested areas, if properly carried out, not only means lower cost maintenance, but results in a more pleasing environment to the motorist, and serves as good public relations between the highway department and the general public.

A tree spraying program for the control of diseases and insects saves many dollars that would otherwise be spent for tree removal and replacement. Insecticides and fungicides are available to control most of the pests that invade turf and roadside plantings. The user must decide which chemical to select for the best control in his particular situation.

A knowledge of the different chemicals and their methods of application is necessary to use insecticides efficiently. Insecticides are thoroughly tested before they are placed on the market, so it is wise to follow the directions on the labels, because as you know, a great amount of research and development has gone into their preparation.

We become immersed in the day to day problems of men, money and material. We ought to remember that what we have in our care is often some of the most inspiring landscape many people ever see. Let's take a long look at our job and do it according to the best standards developed to promote the complete highway.

Change is the outstanding characteristic of the highway program today, as it is the characteristic of all aspects of our society. It is pleasant and exciting to talk about the positive things that are being done and that can be done. We are going to need additional new approaches to highway problems.

In considering new roadside development techniques a new look will need to be considered. At one time we only looked "outward" to the moon, now a new view of looking from the moon is not uncommon.

Roadside development for tomorrow certainly is a field which will challenge our ingenuity and potentiality. Let us meet it with vision, knowing that our best thinking, practice and knowledge will need to be projected into each and every situation.

In closing I quote President Johnson, who said:

"The beauty of our land is a natural resource. Its preservation is linked to the inner prosperity of the human spirit.

"The tradition of our past is equal to today's threat to that beauty. Our land will be attractive tomorrow only if we organize for action and rebuild and reclaim the beauty we inherited. Our stewardship will be judged by the foresight with which we carry out these programs. We must rescue our cities and countryside from blight with the same purpose and vigor with which, in other areas, we move to save the forests and the soil."