

Suggested Activities for Future Roadside Development Research

F. S. POORMAN and R. E. CHAMBERLIN, respectively, Deputy Secretary and Chief Engineer; and Chief Division of Roadside Development, Pennsylvania Department of Highways, Harrisburg

•IN THE PLANNING, and particularly in the actual establishment and use of safety rest areas on the National System of Interstate and Defense Highways, numerous aspects are developing with prime reference to their function. Studies of the areas already in operation indicate definite trends of public opinion with regard to services which are acceptable and those which are demanded. Paramount in public acceptance are those features relating to facilities and services. As the motoring public, primarily through direct use, is becoming better acquainted with these areas, an unfavorable reaction is beginning to be felt with respect to a lack of adequate facilities and services. Motor club officials and others feel that the lack of adequate facilities is taking away much of the pleasure these modern highways should provide. Fear of breakdown or mechanical failure (especially at night when patrolling may be virtually nonexistent) is providing motorists with an uncomfortable feeling. In spite of the availability of safety rest area facilities, the lack of service stations, food and lodging accommodations, and even recreational areas, is being questioned.

In Pennsylvania, the Department has been aware for some time that the 1958 AASHO policy on safety rest areas, which was originally followed as the basic State policy, will neither meet public acceptance nor adequately serve the purpose for which safety rest areas are being established. The following, although not officially established as a policy, represents current views regarding safety rest areas on the Interstate System in Pennsylvania.

SITES

Location and Spacing

The Department has prepared a statewide map showing locations, in general, for proposed safety rest areas. These locations are spaced approximately 25 to 30 mi apart along each roadway. Site location follows AASHO policy in that they are located either opposite a site along the opposing lane, or in advance of such a site. Proposed plans call for 71 sites on about 1,200 mi of Interstate highway.

The Department holds to the view that safety rest areas are a functional part of Interstate routes, and greater spacing with intervening dependence upon chance service establishments at interchanges does not reflect reasonable service needs on the Interstate System. In consideration of dual usage of sites for rest and information, attention is being given to locating sites as close as feasible to State lines on incoming lanes, and on approaches to metropolitan areas, and on approaches to intersections on Interstate and primary routes that serve areas of special attraction. These considerations, however, are within the framework of 25- to 30-min spacing.

Size

The actual use area as designed is approximately 4 acres. Such specific limitation of size, however, is considered unrealistic in view of the need to protect rest areas from adverse abutting development. The lumbering off of contiguous wooded areas on

the remaining part of a severed property has seriously affected one site. It is contended that provision for expansion, future septic tank fields, protection of water supply, as well as the creation of a buffer area, should be considered. Property severance boundaries and natural boundaries should also be considered in determining site area.

The area of each site, therefore, should be determined on basis of appropriateness to site conditions, need for protection, and possible future expansion, rather than on a prescribed maximum acreage. Safety rest areas, where land has already been acquired, should be reviewed with the object of increasing the area if feasible and necessary.

Factors in Selection

Factors in site selection as per AASHO policy 1958 are being used in addition to those pertinent to utilizing the site for dispensing information.

LAYOUT AND DESIGN

General features in design as suggested by the 1958 AASHO policy are being followed, and a standardized design, which is believed to be generally satisfactory, is being used. Topography often interferes with acquiring the depth necessary to provide a separate parking area for trucks, as has been done in Ohio. On approximately one-half of the sites selected, however, this could be done. This provision should be considered where feasible along with the possibility of incorporating truck weighing scales.

FACILITIES

It is contended that facilities for safety rest areas, as an integrated part of Interstate highway travel need, must be considered for 24-hr, year-round use. Although not yet provided for in proposed plans, such rest areas would require the following basic items: heated building, flush-type toilets, lighting, and full-time attendants. Telephones and facilities to dispense information, as well as the usual picnic facilities, are considered essential.

ADDITIONAL SERVICES

The Department is aware of a growing dissatisfaction on the part of motorists because of the present need to leave Interstate routes for food and fuel. The Pennsylvania Department of Highways contends that this is unrealistic in terms of a motorist's needs and the concept of rest stops for safety in terms of additional traffic and turning movements.

Although recognizing opposition to a provision for business establishments on Interstate routes, the Department contends that growing dissatisfaction could change present policy, or at least modify it. It believes that planning of safety rest areas should consider such changes, even if they appear unlikely at this time. In keeping with this concept, it is not too difficult to visualize the need for two or three different types of safety rest areas. These might fit into the following general categories:

The first safety rest area after crossing a State line could be an orientation point for tourists. Space required for truck weighing or control might well be located here. This area must be adequate in all respects, including flush-type toilets and other modern facilities. Dispensing tourist information in one form or another should not be overlooked. The size of this area would be 10 to 12 acres in order to provide complete service developments like those now in use on the Pennsylvania Turnpike. Similar, but smaller, areas would comprise a second category located near the more important Interstate intersections. A third type, perhaps known as an intermediate type, but not all inclusive with respect to tourist information and other features, would be located between the other two types.

Such a modification in policy might also consider advances made in dispensers of food, coffee, etc., and perhaps gasoline on an emergency higher-price basis so that it would not be competitive. The additional incentive thus provided to stop and take a break would encourage stops for rest and safer driving. This has been demonstrated

on the Pennsylvania Turnpike, especially during night hours when truckers in great numbers stop for coffee. This, of course, applies to all motorists. The availability of toilets and picnicking facilities will not provide the incentive necessary to stop for a rest.

It is anticipated that the increased use of safety rest areas in the future will require full-time attendants. This would cost close to \$1,000,000 per year in Pennsylvania. A modification in existing policy to permit sales, as outlined above, would help to defray the cost of full-time attendance.

The proposals described constitute, in general, the position of the Department in regard to safety rest areas. It may be necessary to attain the more complete developments in stages; however, the Department firmly believes that safety rest areas on the Interstate System must aim for lofty standards if they are to meet the motorists' needs and demands.

In order to develop a degree of nationwide uniformity in safety rest areas from the standpoint of available facilities, the need for Federal financial participation for water, toilets, shelter, lighting, etc., must not be overlooked. It is somewhat difficult to visualize the public accepting the lack of modern facilities in some States after using and enjoying such facilities in other States. After all, a modern and complete highway built to certain uniform standards, and taking into consideration safe vehicular operation, should be complete in all respects, regardless of the State where the national highway may be located.

It is fully realized that this may sound like an ambitious program. Frankly, it is. Its impact, if studies merit even a portion of its adoption, will be great and will require considerable modification in existing policies both at State and Federal levels. As more and more mileage on the Interstate System is opened to traffic, it becomes imperative to begin studies of the desirability of providing for modifications of this vital part of the highway system. Since legislation probably will be required to permit the establishment of service stations with necessary accommodations, it is recommended that this and other matters outlined above be given consideration. A greater degree of uniformity in the establishment of these necessary facilities in the various States appears highly desirable.

Another proposed roadside development research project worthy of consideration concerns the use of functional plantings for noise abatement. Although a significant amount of data has already been accumulated, and reports have been compiled by special task committees of the Highway Research Board and others, a difference of opinion as to the degree of noise abatement that can be achieved with buffer plantings still exists among engineers and acoustical experts. It is, however, generally agreed that if predictable results can be guaranteed, property values and settlement costs will be considerably affected. Even if the noise factor is not completely eliminated, the effect of it will be minimized psychologically as a result of a planted barrier.

Since present day techniques and instruments apparently permit recording, measuring, and reproducing all degrees and intensities of sound, would it not be possible to initiate a study involving the recording of noises of different origin, which would be reproduced in situations influenced by existing vegetation, topography and other physical features that might affect the flow of sound waves? This sort of a before-and-after study would permit the presentation of results in tabular form, thus enabling engineers to interpret data and recommend solutions within reasonable performance limits. If such a study is feasible, consideration must be given to topography as related to depressed and elevated roadways, buffer walls, mounds of earth, the different types and densities of vegetation, and the degree of noise permissible in different areas with allowances for local sounds, already characteristic of the area.