A Concept for Interstate System Rest Areas

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•THE American Association of State Highway Officials Committee on Planning and Design conducted preliminary studies in 1957 leading to formulation of a uniform policy for rest areas along the Interstate System. Two types of service areas were considered: safety turnouts and rest areas.

Since there are marked similarities between these two types of service areas, particularly in regard to the ramp and parking area design, final action by the States on April 30, 1958, combined the two classes into one designation--safety rest area. Subsequent developments have proved the wisdom of this action since, in the majority of cases, the States are constructing rest areas with complete service facilities.

To a large degree, much of the current rest area policy stems from the knowledge and experience gained from the operation of roadside parks, the forerunner of rest areas. Although this procedure was logical and helpful during the first stage of the Interstate System, present developments have shown a marked difference between a rest area and a roadside park. They are separate and distinct service areas. Some of the difference stems from the fact that the Interstate System is limited-access, which is restrictive in driver behavior. This occasions a heavier usage than is true of roadside parks along uncontrolled access facilities. Since many motorists do not wish to leave the freeway, the need for rest areas becomes increasingly important. Rest areas attract greater trucker patronage than do roadside parks, and in addition, they are designed and intended for day and night use on a year-round basis.

Perhaps no single factor can have a greater bearing on the care and policing of rest areas than the attention and study given to site selection and design features. Many difficulties may be avoided if the designer recognizes the potential troublesome administrative problems which are certain to arise from a lack of careful analysis during this period. For instance, in the case of roadside parks, it was thought desirable to select sites where abundant shade existed. There was much merit in this policy as far as roadside parks are concerned. However in the case of rest areas, heavily-wooded sites may tend to discourage patronage, particularly at night. In support of this contention, a rest area survey conducted in Michigan during the summer of 1961 found that 61 percent of those interviewed stated that they would not use a rest area if it were unlighted. Dense woods would similarly influence the 39 percent "Yes" response to this query. A few well-formed shade trees provide a restful environment, but an over-supply acts as a use-retardant. It has been observed that the restful feature of a rest area is a well-maintained lawn. This becomes difficult to establish in a densely-wooded area. Likewise, the mosquito problem is aggravated in heavy woods and site aeration is lessened to contribute to a damp and rather dark situation. Woodlots are often poorly drained, particularly in agricultural areas. With regard to rest area design as related to administrative factors, a location should be selected where the use of lands adjacent to the site is regulated by some form of zoning. Incompatible developments located adjacent to rest areas create difficult administrative problems. Commercial enterprises, for instance, can seriously interfere with economical rest area maintenance.

Generally speaking, it is desirable to select sites for rest areas which are a reasonable distance in advance of sizable urban centers and important trunkline junction points. Such locations allow the motorist to stop and refer to maps before continuing

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his trip, or possibly telephone ahead to make arrangements while still traveling. Referring again to the Michigan rest area study, it was determined that 50 percent of the motorists interviewed expressed the opinion that rest areas should be spaced from 40 to 60 mi apart along each side of divided highways.

The normal shape of a rest area should be rectangular with a long axis of 1,200 to 1,400 ft parallel to the main highway with a depth dimension of 200 to 300 ft, extending beyond the normal right-of-way. From an administration standpoint, the relatively shallow depth permits easier viewing of the entire area by passing patrol vehicles.

All things considered, a site having topographic grades approximating those of the roadway will be found most economical to maintain. Slightly undulating sites will not unduly increase construction and maintenance costs, but sites necessitating excessive cuts and fills should generally be avoided.

With respect to positioning service facilities in the rest area grounds, it will usually be found advisable to place both truck and car parking relatively close to the main roadway. Angle parking of trucks and cars has been found to be the most satisfactory parking pattern. Figure 1 is a plan layout of a typical design incorporating this arrangement.

The toilet structures should be easily accessible and normally in close proximity to the parking area. Winter maintenance is more economical, and the toilets are more quickly reached during rainy weather.

The well should be located according to health department regulations, and again should be placed where easily reached.

Locations for other facilities such as a bulletin board and telephones should be in keeping with the rule of least inconvenience.

All buildings and grounds should be adequately lighted—the "On" and "Off" switch being actuated by a photoelectric eye.

An internal system of sidewalks should be provided so that all interior units are joined with the parking area.

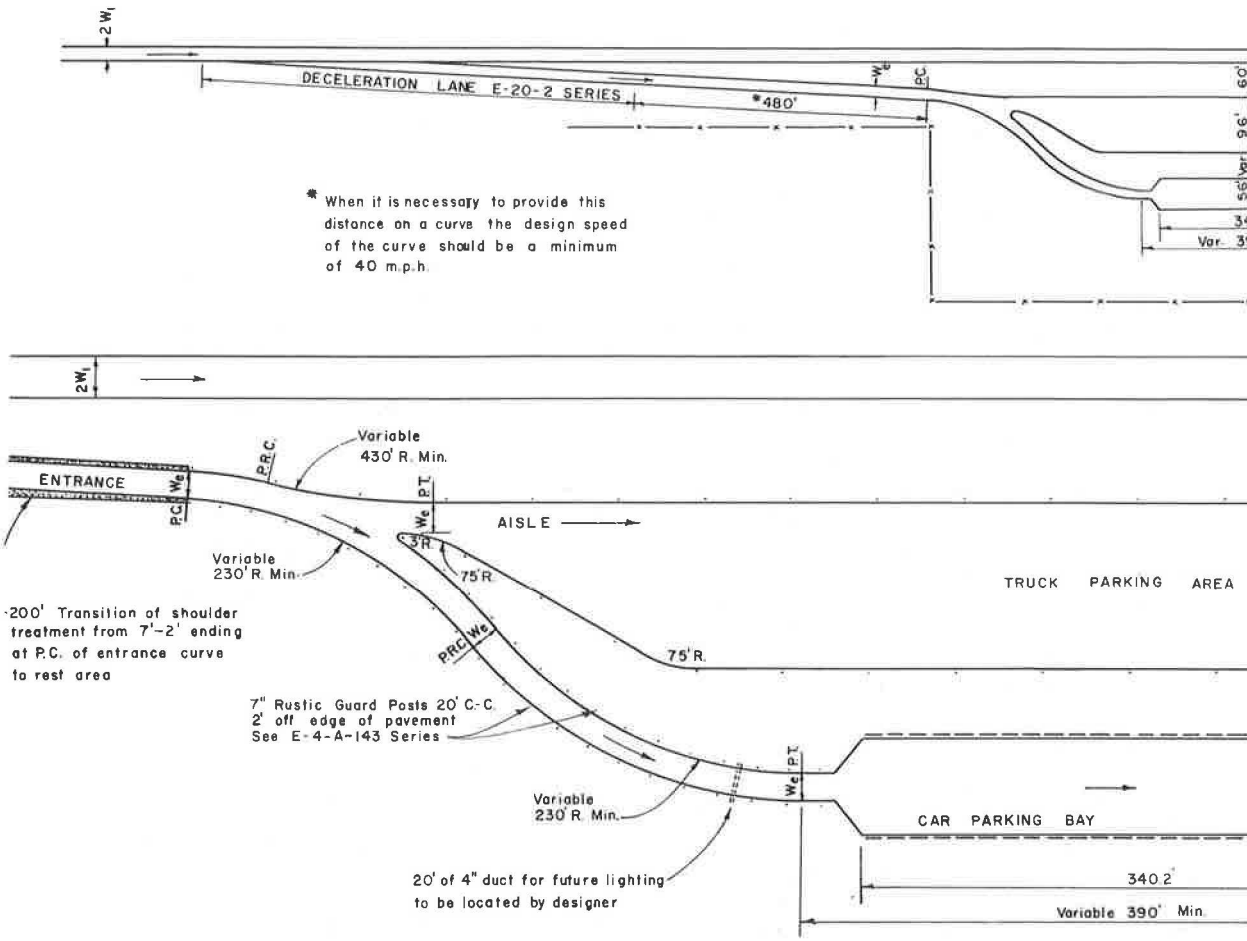
An ample supply of refuse barrels should be provided and appropriately marked to encourage their use.

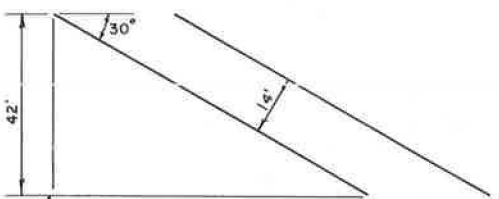
Landscaping the rest area grounds should follow as a final refinement to create a homogenous park-like atmosphere throughout the area. As previously indicated, no attempt should be made to screen the toilet structures.

The main theme of the planting should be one of simplicity, utilizing plant materials for accent purposes and general interest.

Having fulfilled the desirable design considerations, the next concern is for policing the area once it is opened for public use. At the outset it must be emphasized that a high standard of maintenance is mandatory. Neglect begets neglect and mis-use on the part of the public, with the final result being excessive vandalism and loss of respect.

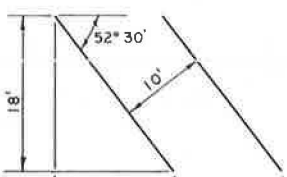
The study, previously referred to, further revealed that 43 percent of the persons who stopped at rest areas used the toilet facilities first. The next most popular service was resting—23 percent; drinking water—20 percent, picnicking—4 percent and 9 percent used telephones, bulletin boards and trash cans. Since almost 50 percent of rest area users stop because of the need for toilet accommodations, the first item of maintenance concerns the attention given these facilities. Regardless of the type provided—pit, chemical, or flush style—there can be no half-way measures insofar as maintenance is concerned. Toilets must be maintained in a continuously high degree of cleanliness. Usage volumes will dictate the degree of maintenance and manpower required to attain a satisfactory standard of sanitation. Design of toilet structures plays an important part in adequate sanitation and ease of maintenance. Buildings must be well ventilated, amply lighted both day and night, and the facilities positioned so that reasonable interior privacy prevails. Interior walls should be finished with varnish impregnated with a material such as clean sand to discourage obscene and disfiguring markings. Insect control should be included as part of installation. Hinged doors should be omitted in favor of stationary screen walls. Floors should be of cement-concrete construction and coated with a sealant material to prevent permanent staining. In flush-type facilities, a design which provides for fixtures attached to walls rather than





TRUCK STALL

Length of truck parking area is the product of the number of stalls desired and 28'.



CAR STALL

Length of car parking bay is the product of the number of stalls desired and 12.6'.

The orientation of the parking areas and the thereto may be changed to fit the location.

A minimum of 24 truck parking stalls shall b of townline 12 north and a minimum of 12 stalls north

When the number of truck parking stalls provid position are less than 24; i.e. 12, they should be situ exit from the rest area.

If the orientation of the rest area is changed, t stalls should be so situated as to keep the length of

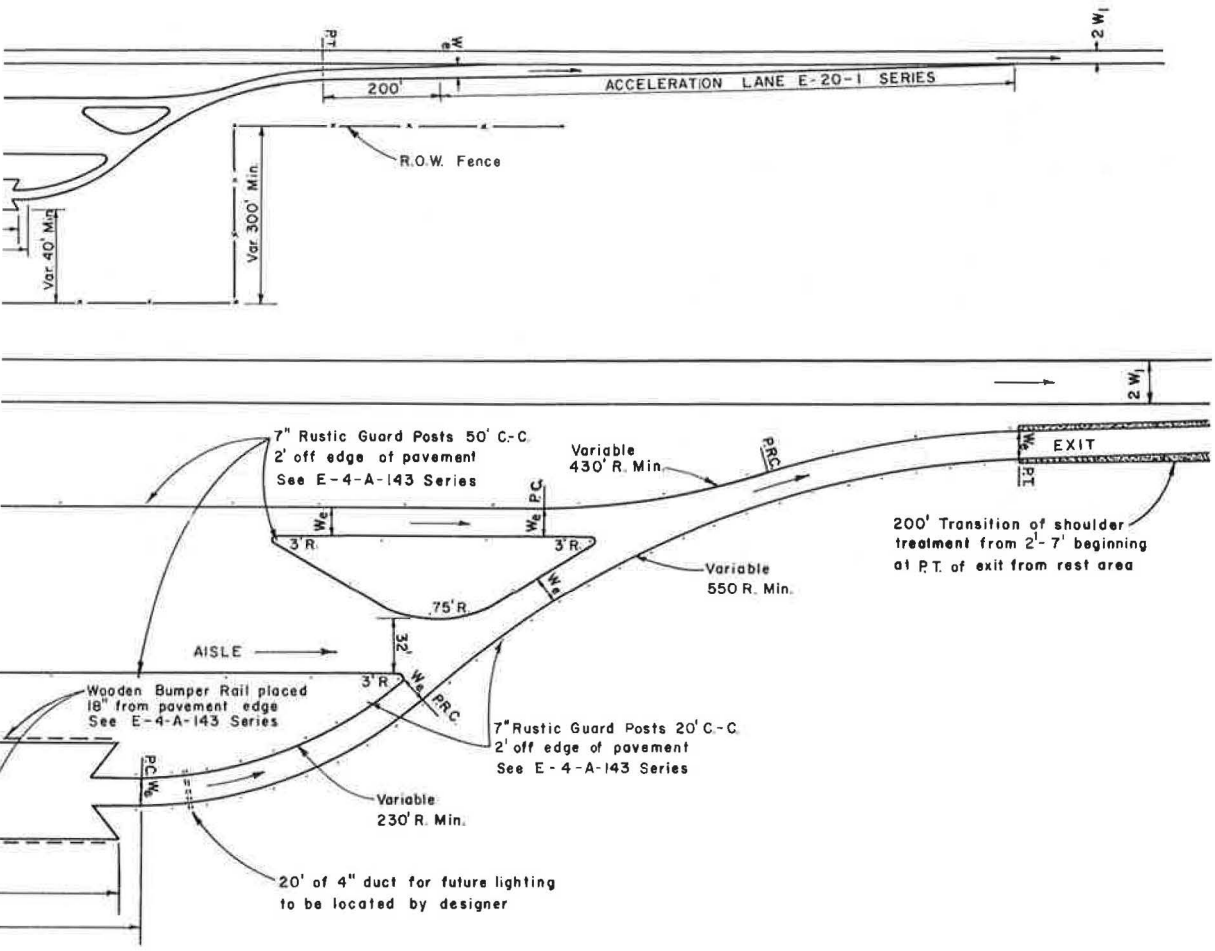
Surface generally to be as follows: 18" subbase, 130 lb. bituminous leveling course, 120 lb. bituminous c

Pavement may be concrete in the event that th included in the contract with the main roadways and bituminous concrete in the contract.

Curves are not to be superelevated.

Use 3' valley ditch where no subase is required. is required, drain with edge drain where outlet is av use minimum ditch to drain subbase on the inside of ea and approaches. Use 3' valley ditch on outside.

Figu



GENERAL NOTES

Use 4' shoulders of native soil or subbase material with top soil surface and seeding.

Information board, telephone booths, well, toilet buildings, and walks to be located as directed by Chief Forester.

Rest area is to be landscaped as directed by Chief Forester.

Allow a lump quantity for top soil and sod for use as directed around information board, telephone booths, well, and toilet buildings.

Provision for outlet for pump overflow to be made as directed by Chief Forester.

Prior to completion of plans, check to determine whether information board, telephone booths, well, or toilet buildings are to be included in the contract.

R.O.W. fence as per standard.

Ramp width (W_e), 16' minimum

W_1 Normal lane width used on freeways (usually 12')

Pavement marking as directed by Traffic Engineer

A minimum of 54 car parking stalls shall be provided.

MICHIGAN STATE HIGHWAY DEPARTMENT
STANDARD DESIGN GUIDE FOR

REST AREA

THIS DRAWING TO BE USED AS A GUIDE FOR DESIGNERS

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the floor permits more economical maintenance. Concealed valves are less subject to vandalism. Fixed glass-block windows are likewise desirable in rest area toilet buildings. This, of course, necessitates ample ventilation of the toilet rooms.

Grounds maintenance should include a liberal number of refuse barrels strategically placed. One 50-gal drum should suffice for 3 picnic tables. One or more barrels should be placed within easy reach of the truck-parking area for truckers who add motor oil during their stops.

Wherever possible provisions should be made to water the lawn. As previously mentioned a well-maintained lawn produces a restful relief from eye strain resulting from extended periods of driving.

It would be difficult to attempt to prescribe a specific pattern of maintenance. Under normal conditions, it will be adequate to police a site once during the morning hours and again in late afternoon. This should be considered a minimum and range upward to the assignment of a full-time caretaker. If estimated traffic volumes along the Interstate System prove accurate, it may be assumed that by 1975 the assignment of a full-time attendant will be necessary. At such time, a uniformed attendant should be employed.

Where modern comfort station facilities are available, periodic night-time visitation by law enforcement officers should be provided. Information reveals that 92 percent of the persons interviewed indicated that rest areas should be open 24 hr a day all year.

From the experience to date, rest areas are an essential and integral part of the Interstate System of Highways. The quality of service provided in these areas must be in keeping with the high standards being incorporated into this system of freeway facilities.