Parking Turnouts
And Rest Areas
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Summary and Report by Project Committee on Parking Turnouts and Rest Areas
Presented at the Thirty-First Annual Meeting Highway Research Board

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ROADSIDE DEVELOPMENT

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PARKING TURNOUTS AND REST AREAS

INTRODUCTION

Sixty years ago the first automobile appeared on a street in Springfield, Massachusetts. A year later, in 1893, four motor vehicles were registered in the whole United States. Today there are more than 50 million motor vehicles in use, and the problem of where they can stop safely along the highway is a serious one. To help solve this problem, which naturally increases with increasing traffic, a number of state highway departments have successfully designed and developed turnouts and rest areas.

It is recommended, therefore, that provision for such turnouts and rest areas be included in the initial stages of all new highway planning.

PURPOSE OF REPORT

For several years the Project Committee on Parking Turnouts and Rest Areas of the Highway Research Board Committee on Roadside Development has studied such facilities on highways in some twenty-seven states, in engineering literature, and in plans and estimates submitted for highway construction. It is now possible to summarize this study, with the following objectives in mind:

1. To describe and, as far as possible, illustrate trends in turnout and rest-area design on recently constructed highways in all regions.

2. To classify turnouts and rest areas in relation to types of highways and kinds of traffic and driver services provided.

3. To list vital factors in the selection and acquisition of turnout and rest-area sites in open country in various regions.

4. To list and evaluate basic principles governing adequate design, construction, and maintenance of off-road parking spaces and rest areas.

Conclusions are drawn and recommendations submitted for a suggested policy for consideration by state highway departments to provide adequate well designed parking turnouts and rest areas on new and reconstructed highways in open country in all regions.

DEFINITIONS

Two types of roadside areas are defined:

Turnouts for bus loading, mail delivery, scenic outlook, and other purposes are, or should be, designed to provide space, usually surfaced, for one or more vehicles to park safely outside the traffic lanes and shoulders but within the normal highway right-of-way width. No facilities, or only very simple ones, are provided. Other names used to describe this type of area are safety turnouts, mailbox turnouts, parking turnouts, and picnic areas, depending upon the purpose for which the areas are used.
The Committee recognizes the vital need for bus and other service turnouts, particularly along suburban highways, but considers the design details for such traffic facilities outside the province of this report.

Rest Areas usually provide parking space for several or many vehicles, as well as tables, benches, fireplaces, water and toilets, fencing, footwalks, and other facilities needed for the safe and convenient use of the area by the public. Other terms commonly used for such areas are roadside parks, waysides, wayside rest areas, picnic areas, and picnic grounds.

A hybrid between the "turnout" as previously defined and the "rest area" exists in many states in the form of a simple parking place, sometimes gravel surfaced, with space for one or more cars, and one or two tables and benches. One state reports about 3,000 of these picnic turnouts. Five or six states have from several hundred to 1,500 of such turnouts.

Diagram of three types of turnouts.

BACKGROUND OF THE PROBLEM

The history of the turnout problem appears to follow a general pattern in all localities where highways have similar traffic character and density and similar types of adjacent land use. Traffic on main roads, outside suburban areas where curbs and sidewalks are installed, tends to turn out wherever there is a reason for stopping a vehicle or a safe place to leave the roadway and park.
Diagram of typical rest area facilities.

As main highways are relocated or reconstructed, and traffic increases, turnouts at bus loading points, overlooks, and the like begin to be designed with islands separating moving and standing traffic. The modern parkway or controlled-access expressway should be provided with either (1) adequate shoulders stabilized for all-weather use, or (2) turnout space at selected sites for vehicles which are forced by breakdowns or other emergencies to stop along curbed roadways. Where this principle has been disregarded, such highways have failed to carry heavy traffic safely and at full design capacity.

The first rest areas were simply large turnouts located on sections of abandoned road or on widened shoulder or road fills. The next step provided tables, benches, fireplaces, and other simple facilities. Turnouts at springs and wells were developed as rest areas. Groves of trees, attractive shoreline areas, historical sites, and striking views were conserved for public use, with picnic facilities, water supply, and toilets. In some cases, shelter buildings have been included when combined with other essential services under a single roof. Good design and regular maintenance are essential in all rest areas to prevent damage by both pedestrians and vehicles. (See No. 1, Selected References, on page 52.)

TURNOUTS, REST AREAS, AND TYPES OF HIGHWAYS

In this study of turnouts and rest areas under great variations of climate, topography, prevailing land use, and traffic on primary roads of different regions, one point soon became clear. Somehow a logical formula must be found for determining where turnouts and rest areas should be located to the best advantage of the traveling public. The search for such a formula began with a study of three general types of highway in every region of the country.
Suburban Highways. The typical suburban highway is a main entrance to a large town or city, sometimes without adequate shoulder space, and often with curbs and sidewalks. Traffic moves on such highways in high morning and evening tides, followed by periods of relatively light traffic. During rush hours, when a bus stops on the traveled way, or a single vehicle is disabled, an instant pile-up of traffic begins.

Safety and bus-loading turnouts are essential under such conditions; to be effective they must be placed at locations selected for their traffic-service value. In contrast with essential bus and emergency turnouts, rest areas on suburban highways are, as a rule, impractical.

Heavily Traveled Rural Highways. Beyond the suburbs of any large city, the system of major highways tends to form the familiar "spokes-of-a-wheel" pattern. Each of these radial highways carries heavy traffic which gradually merges into local traffic at various distances from the city. For a long distance outside any major city, weekend and holiday traffic moves in a series of tides—rising to high tide outward into the open country at the beginning of the holiday period, dropping away, and then rising to high again in the returning direction at the end of the holiday period. On such highways, truck and trailer traffic is usually heavy.

Service turnouts are needed at main intersections. As the traveling public gets out into the open country, it begins to look for places to stop and rest. Throughout the heavy-traffic zone, rest areas are likely to be used to full capacity not only on weekends but throughout the week. One of the characteristics of this dense traffic on primary rural roads appears to be heavy use of both turnouts and rest areas by trucks and trailers that enter and leave the cities in late evening and early morning.

Light-Traffic Rural Highways. At a point still more remote from major cities, another change in the driver-service problem occurs. Turnouts can be more widely spaced in this light-traffic zone. But, by contrast, rest areas are needed, and are desirable at points of scenic interest where the public tends to stop in large numbers.

All of these trends are relative, and vary in different regions. For example, at the outskirts of some far western cities, the light-traffic zone may be a half-hour's driving time from the center of the city. In the Boston, New York, Philadelphia, and Chicago regions, light traffic on primary highways is seldom encountered less than two or three hours' driving distance from the cities. Near smaller cities and towns, suburban types of traffic may not exist beyond the built-up center of the community. In certain small heavily industrialized states, no light-traffic zone exists on primary rural highways.

SITE SELECTION

Turnout Sites. The selection of sites for turnouts on suburban and rural highways seems to be largely determined by two factors: (1), traffic density and proportions of commercial to passenger vehicles; and (2), types of adjoining land use and related land values.

Traffic studies followed by conferences between highway authorities and operators of school and passenger buses are necessary for a systematic policy of bus-turnout site selection. In open country, secondary-road intersections and groups of mailboxes call for surfaced turnout locations. On both heavily and lightly traveled primary roads outside suburban areas, turnouts for
emergency use are seldom needed if good stabilized road shoulders are provided. The location of scenic turnouts on rural highways can often be determined by the "drawing power" of shade trees, lakes and streams, and views of hill and mountain scenery as observed from the highway. The best turnout sites are often selected by the public itself.

Rest-Area Sites. In the selection of rest-area sites, use of traffic-study figures to determine numbers and proportions of commercial and passenger vehicles is necessary. Types of present and potential land use should also be considered. Highway departments now operating state-wide systems of rest areas on primary highways have learned much about rest-area site selection. The following principles generally prevail:

1. Rest-area sites should be 10 miles or more from the limits of municipalities. Sites within residential areas, present or potential, are not desirable.

2. Sites should be kept to minimum size, commensurate with topography and number of people to be served; ½ to 2 acres are generally considered preferable; smaller just outside suburban areas, and larger when remote from centers of population because of relatively low land values.

3. Sites where long clear sight distance exists or can be provided economically at entrance and exit points are essential.

4. Sites high in scenic quality, with shade, water, and other interesting natural features which warrant conservation, are desirable. Such sites are often selected because the public has begun to use an area before any facilities were provided.

5. Sites where heavy grading is not required to provide access are generally favored.

6. Sites should have good natural drainage.

7. Sites adjacent to orchards, nurseries, and intensively developed crop areas are undesirable from the landowner's point of view.

8. Sites immediately adjacent to roadside restaurants, gas stations, and other private business development are not desirable.

9. Sites in arid country should, if possible, have good well water available within a reasonable depth. Stream crossings and spring areas where groves of trees are growing or can be grown are good sites. In fact, the occurrence of any natural features rarely available in a locality may indicate an exceptional rest-area site.

The key to good site selection lies in a thorough study of all potential rest-area sites over a whole route between major control points, such as large towns or mountain passes. Rest areas should be located at "climax points" (the very best natural rest-area sites available) of each primary highway route. Also, as with most other highway problems, study of traffic
and of motorists as they travel and stop along the roadside is of great advantage in locating rest areas. If large-scale topographic maps of the best alternate rest-area sites can be prepared, they aid the designer to estimate total costs of development as planned. Final selection should depend, among other considerations, upon estimates of cost of a rest area in terms of the cost of services provided per visitor accommodated.

ACQUISITION OF TURNOUT AND REST-AREA SITES

When turnout sites are within normal right-of-way widths, as is usually the case, acquisition is no problem.

The cost of land outside normal rights-of-way is frequently "the straw that breaks the camel's back" as far as acquisition of rest-area sites is concerned. Suburban types of development, including gas stations and restaurants, usually follow highway construction or relocation. Land costs increase by several hundred percent. On old unlimited-access highway sections within the heavy traffic zone, it may be impossible to acquire the best rest-area sites by any practical means. The time for the most economical purchase of rest-area sites is when the original right-of-way for highways is being acquired.

To a questionnaire covering acquisition of sites for roadside rest areas, which was circulated in 1951 by a committee of the AASHO, 34 of the 48 states replied. Of this number, 25 states said that they acquire rest-area sites by various means, including purchase, gift, and long-term lease. Some of these states may not purchase land for rest areas. Some may purchase land but rely upon gifts by individual and organized donors. Some few states develop leased sites for rest purposes. A number of states cooperate with state and Federal agencies in obtaining sites for rest areas on state or Federally owned land.

The following points should be considered in forming policies for a state-wide system of roadside rest areas:

1. Good rest areas may be acquired by gift. However, few heavily populated states can rely on this method for acquiring an adequate system of rest areas.

2. Acquisition of rest areas by long-term lease is generally not recommended, if avoidable, since it means public expenditures on privately owned land. It may, however, be justified for development of land owned by a municipal, county, state, or Federal agency and leased to highway authorities.

3. Years of experience in a number of states have demonstrated that it is desirable to acquire rest areas by purchase. However, one well populated eastern state, with special funds authorized to purchase and develop a state-wide system of roadside rest areas, cannot get most of the best sites on some of its old primary highways in open country at a reasonable price. This emphasizes the importance of acquiring rest-area sites along with original highway right-of-way, wherever possible.

DESIGN OF TURNOUTS AND REST AREAS

Turnout Design: Objectives. In general, turnouts should be designed with the following objectives in mind:
1. Safety. Turnout locations which in any way increase traffic hazard should be avoided. Factors which make for traffic safety include but are not limited to:

(a) Clear sight distance at both ingress and egress points.
(b) Avoidance of steep grades in entrances and in driveway design.
(c) Adequate curbs and guard posts where necessary.
(d) Adequate traffic islands separating standing from moving traffic.
(e) Adequate provision for acceleration and deceleration of vehicles.

2. Convenience and Free Traffic Movement. Turnouts are designed for convenience as well as safety of vehicles; thus turnout design may well include:

(a) Driveways of adequate width. (See AASHO standards for driveways.)
(b) Adequate turning radii for heavy commercial as well as passenger vehicles.
(c) Adequate length in turnout parking space for one or more vehicles of the largest type being used. Present truck trailers may be from 60 to 70 feet long. A space 10 feet wide and 20 feet in length should be provided for each passenger vehicle.

3. Provision of Essential Traffic Services. Among typical essentials are:

(a) A place to enter or leave a vehicle safely.
(b) A place to load or unload.
(c) A place for emergency repairs or to fill a boiling radiator.

Rest-Area Design: Objectives. The general objectives of good rest-area design are as follows:

1. Essentials for safe and convenient use by vehicles as outlined for turnouts. Parking space will generally be governed by the number of persons for which facilities are provided.

2. Essentials for safe, convenient, and sanitary use by the traveling public. These are:

(a) Water supply
(b) Toilet facilities
(c) Tables and benches
(d) Fireplaces
(e) Signs and markers
(f) Fences and barriers
(g) Shelters and other incidental structures
(h) Planting, seeding, and other operations to provide shade and protect the entire area against erosion.

3. Protection and necessary improvement of existing natural
features of the rest area, including but not necessarily limited to:

(a) Design of parking space, driveways, and footwalks to prevent compaction of soil around grasses, ground covers, trees and shrubs.
(b) Proper selective removal and pruning of trees and shrubs that interfere with sight distance, desirable views, etc.

REST-AREA DESIGN DETAILS

Typical fundamentals to be considered in the design of turnout and rest-area facilities are given on pages 24-30. Based on photographic studies and notes taken in the field, these design details and the photographs cover some of the turnout and rest areas in states from Maine to California and from Washington to Louisiana. The ideal or perfect turnout or rest area is still to be designed and constructed.

CONSERVATION OF NATURAL FEATURES IN REST AREAS

Unlike the turnout, which is essentially an extension of the traffic surface, a rest area includes natural undisturbed areas that require protection against vehicles and pedestrian use. Fine trees and turf and other natural growth, marsh and shoreline areas, and streams within or next to the rest area must be preserved or the area loses much of its interest to motorists.

For the most part, natural vegetation requires "leaving alone" to keep it healthy. Anything which changes natural growing conditions tends to impair growth. Once rest areas are being used by motorists, measures should be taken to avoid:

1. Compaction of soil. Compaction of soil over tree-root areas or under growing turf or shrub growth will destroy vegetation. Proper curbs, bumper rails, and barriers will confine vehicles to drives and parking areas. Well defined gravel or stone walks will keep pedestrians from compacting soil.

2. Harmful Materials. Wood ashes, for example, when continually dumped over tree roots are deadly to good shade trees. Keep wood ashes cleaned up and away from vegetation. Drainage from fireplaces will destroy many plants such as rhododendron and certain types of ground-cover growth that require acid soils.

2-4-D, 2-4-5-T, and related weed-killing compounds kill many other plants besides weeds. If used in rest areas, their application should be carefully controlled.

3. Fire. Ground fires will kill natural vegetation in a matter of minutes. If fireplaces are carefully located, and if areas of gravel or stone surround fireplaces, fire will not spread.

One of the reasons for roadside rest areas in forested regions is the need for confining cooking fires to well designed and controlled fireplace locations.

Many turnouts and rest areas are located to take advantage of fine views of mountains, lakes, or distant towns and villages. In forested areas,
the location of parking space, tables and benches, and shelter buildings must be considered in order to give the public such views. If heavy clearing is required to open a fine view, periodic selective cutting and tree pruning may be necessary to keep that same view open. Care in turnout locations or in the design of features of rest areas from which fine views are seen can decrease subsequent tree pruning and young-tree removal.

WATER CONSERVATION

Clean unpolluted water is essential to humans and wildlife. Wherever possible, keep tables and fireplaces at a reasonable distance from stream and lake shores—far enough to discourage dumping of ashes or garbage or tin cans. Proper location of toilets with respect to water is also essential.

Any areas disturbed by turnout or rest-area construction should be mulched and seeded immediately following grading to prevent siltation of streams and lakes.

Rest-area development which contributes to water pollution or siltation is a danger to public health and constitutes a public nuisance.

MAINTENANCE OF TURNOUTS AND REST AREAS

The importance of regular and thorough maintenance of rest areas cannot be overestimated. Unless these areas are kept neat and sanitary, they soon lose their appeal to the traveling public.

The general problem of protecting the natural features upon which the site selections were originally based, and the routine maintenance of drainage systems, driveways, and parking turnouts are well understood by maintenance crews. However, there are a number of maintenance items in every rest area which present difficult problems, particularly for maintenance crews in states where the rest area is a relatively new highway operation.

The experience of a number of states operating rest areas over the past twenty years clearly demonstrates that it is essential to enlist the cooperation of the public in keeping the areas well maintained. Bulletin boards, preferably under glass, are a big help. A series of brief clearly worded regulations governing the use of the area has been found very effective.

Regulations asking for the cooperation of the public in the use and maintenance of rest areas cover such matters as:

1. Parked Vehicles. Vehicles to be parked only in designed parking space. Overnight parking or camping is not usually permitted. Sometimes a time limit for night parking is posted.

2. Use of Areas and Facilities. Regulations request the public to cooperate toward:

(a) Protection of trees, grass, etc. by confining fires to fireplaces; refraining from cutting trees, etc. To aid in obtaining this cooperation, firewood salvaged from clearing work and tree-trimming operations can be piled at points convenient to the fireplace. Sale of charcoal by gasoline stations in the locality may be encouraged, to help in this fuel problem.
Clean-up of tables and fireplaces after use, and placing of rubbish in trash containers. The presence of a friendly member of the maintenance organization on weekends and holidays aids in this clean-up problem.

Extinguishing fires with water or earth after use is particularly important during the spring, summer, and fall fire seasons.

c Clean toilets. A small percentage of the traveling public tends to be very messy in its habits, which often creates a serious maintenance problem. This minority can best be controlled by keeping toilet facilities scrupulously clean. Children and some grown-ups learn more rapidly by example than by reading notices. If the toilet rooms are designed to permit flushing of the whole interior with a hose, they can be cleaned quickly and easily.

3. Vandalism. Posted regulations usually quote penalties for vandalism. As a rule, destruction of rest-area facilities is as likely to be caused by carelessness and mischief as by deliberate intent. The greatest aids in preventing vandalism probably lie in the installation of facilities designed to make vandalism difficult. For example:

(a) Tables and benches may be chained or cabled to a heavy concrete block or "deadman."

(b) Fireplace grates may be set in masonry or, if loose, may be chained to a staple set in masonry.

(c) Windows in toilets should be above average reach, if possible. Screens set on the outside of the windows, or wire-reinforced glass in windows, aid further in preventing breakage.

(d) A rough interior wall finish tends to discourage objectionable writing and drawings on toilet walls.

Most of these problems are readily solved by proper supervision which is necessary particularly during weekend and holiday periods when traffic is heaviest. This may eventually lead to the elimination of separate table, bench, and fireplace units scattered along primary highways in favor of occasional well designed rest areas with multiple facilities in one area. This is a policy adopted by the National Park Service on its park roads some years ago.

Where scattered picnic-table turnouts exist, it is well to rotate or "rest" such areas for a season or two. Otherwise, without water supply, toilet and trash-disposal facilities, these picnic spots tend in time to become objectionable and a public nuisance, wherever traffic is heavy.
PROBLEMS FOR FURTHER STUDY AND RESEARCH

Experience has not yet demonstrated the design relationship between density of traffic and number and capacity of rest areas and of turnouts for both commercial and recreational types of traffic.

Much work is needed in the proper design of facilities for rest areas. Existing wayside facilities designed by some twenty state highway departments should be studied further, along with those on National Park roads and metropolitan parkways.

CONCLUSIONS AND RECOMMENDATIONS

As traffic on primary highways outside suburban areas grows in density and increases in speed in every region and locality, it becomes evident that highways must be designed not only for the moving but also for the standing or parked vehicle. If highway lanes are to carry traffic safely and to their full capacity, service, emergency, and safety turnouts are needed at selected places, particularly if adequate shoulders are not available. A large percentage of motorists, among them those who drive commercial trucks and trailers, need and welcome a place to stop along the highway for a brief rest. Too, a weary driver is a potential hazard to traffic.

The turnout is an essential traffic service. The rest area is a turnout plus the essential driver services needed by the motoring public on heavily traveled highways in open country.

The location and design of traffic-service and safety turnouts should be governed largely by traffic and adjacent land-use study on entire routes terminated by major cities. The location and design of rest areas should, to a large extent, be based upon the occurrence of "climax point" areas of special service and restful quality—the actual drawing power of a place itself.

The Committee on Roadside Development holds that no highway is complete without systematic provision of turnouts and rest areas to meet existing conditions of traffic and adjacent land use. This implies that such facilities should receive the same careful consideration as facilities for moving traffic receive. As with other phases of complete highway development, the turnout and rest-area program requires the continuous cooperation of highway engineers and landscape architects.
Heavily traveled urban, suburban, or rural highways do not carry traffic effectively unless adequate shoulders or frequent surfaced turnouts are provided for use by disabled vehicles. Here, on the Henry Hudson Parkway, emergency turnouts were provided when it was found that the road would not carry traffic to its full capacity without them.

Scenic highways in open country require safety turnouts where tourists stop to look at the view.
Small picnic turnouts are provided in many states. Experience indicates that constant maintenance is required to keep these areas clean. Multiple picnic-table units in rest areas are favored by some states as easier to maintain, and more readily kept in sanitary condition.

A scenic turnout on a spur road along the North Shore of Lake Superior in Wisconsin.
The first rest areas were on sections of abandoned highway. This streamside rest area is heavily used by Wisconsin motorists on weekend holidays.

A Minnesota rest area in a grove of pines in the Chippewa National Forest. Cooperation between highway departments and State and National Forest and Park agencies has made possible many fine wayside rest areas in many states.
A typical Ohio rest area or roadside park, provided with essential driver services. This rest area is clean and pleasant and can be kept that way.

A rest area in Texas. A circular drive leads to individual parking spaces and a table-and-bench unit for each vehicle.
A pleasant rest area in Pennsylvania mountain country. These areas will increase in beauty and value to the public as present second-growth oak woodlands increase in height.

In a Southwest rest area, where irrigation water is available, shelters roofed with thatch or a vine furnish shade in a treeless country.
Entrance to a scenic turnout on a southern New Jersey highway. Note low-type guard rail of creosoted timber, and pond formed by borrow-pit excavation.

Entrance driveway and parking space at the Carter Wayside in Virginia.
Entrance to a Louisiana rest area in hill country. Location is at the top of a long ascending grade, with good sight distance in both directions.

Pump and shelter in a Louisiana rest area. Note solid construction with no timber in contact with the ground.
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

STANDARD DETAIL
OF
TYPICAL WELL INSTALLATION
WITH
FLAGSTONE PLATFORM

PLAN

SCALE 1/4" = 1'-0"

SIDE VIEW

SCALE 1/8" = 1'-0"

SECTION

SCALE 1/8" = 1'-0"
Stone fireplace in a Pennsylvania rest area. Note simplicity and economy of design, with grating set in masonry and height of firebox about 6 inches to conserve fuel and encourage small efficient cooking fires.

Simple toilet structures in a rest area. These are provided with concrete vaults and a concrete-slab foundation, with no untreated timber in contact with ground surface. Design of interior with smooth concrete floor, central floor drains, and rounded corners to permit flushing out with a hose is one of the effective tricks of toilet design.

Shelter building in a large rest area or wayside park, completely equipped with water and toilet facilities. Of timber and brick construction, with columns resting on creosoted blocks over a concrete porch floor, this shelter will require no painting or other maintenance.
Good signs are of great value in providing driver services to the motoring public. At left, an advance-warning sign.

Below, the sign is repeated at the rest area 1/2 mi. away.

The bulletin board is an important rest-area facility. Here the public is informed regarding use regulations, traffic conditions on approach highways, etc.
A crowded rest area without evidence of professional landscape design. Such areas cannot be kept clean, and trees soon die because of soil compaction over their roots. Note lack of well controlled parking space, with vehicles and pedestrians scattered "all over the place."

**TYPICAL WAYSIDE PARK**

Plan of a typical wayside park or rest area, showing location of essential driver-service facilities. Vehicles are confined to a central parking space. Professional landscape design pays well in terms of increased public-use values and low-cost clean-up operations in Ohio as in many other states.
Monday morning clean-up of a Minnesota rest area. The State takes pride in these beautiful well kept waysides. The public responds with pride in its State Highway Department. Good public relations like these are worth more than the relatively small cost of a few roadside parks.

The traveling public on American highways appreciates pleasant clean rest areas perhaps more than any other service provided by highway departments. Their cost is small. Their public-relations value is very great.
TURNOUT AND REST-AREA DESIGN DETAILS

The Project Committee on Turnouts and Rest Areas makes the following outlined suggestions, based on field analysis of turnouts and rest areas now in use in some twenty-seven states.

Changes and improvements in these facilities are to be expected over the coming years; these suggestions represent our best experience to date. Therefore the design details which follow should be considered not "the last word" but rather as the foundation on which the excellent rest areas of the future may be built.

Safe Driveway Design for Turnouts and Rest Areas on All Classes of Rural Primary Highways. Driveway design, turnouts and rest areas, to provide:

1. Sight distance at entrance and exit points equal to minimum passing sight distance suggested by AASHO for design speed of highway. Exception permitted, roads with stop-light control.

2. Acceleration lanes on improved stabilized shoulder of minimum length provided by AASHO standards for design speed of road.

3. Driveway widths 20 to 22-foot minimum for two-way, 16-foot for one-way entrance traffic.

4. Traffic island separating standing and moving traffic of minimum 60-foot length to accommodate heavy commercial vehicles. Island width 10 feet or greater to permit ready growth of seeded or planted ground cover.

5. Driveway grades not exceeding about 3 percent and as easy as practicable in all cases.

6. Driveway surface on heavy-traffic highway equal to that of traffic lanes on main road but preferably contrasting in color and texture. Gravel or stone surfacing permissible in light-traffic zone.

Curbs, posts, or barriers: Curves at driveway entrances and exits with adequate radius for both commercial and passenger vehicles.

All vehicles confined to driveway and parking space by appropriate curbs, timber or stone barriers.

Footwalks: Appropriate surfaced footwalks at turnouts for school or passenger bus stops, in suburban and heavy-traffic zone. Gravel walks in light-traffic-zone rest areas.

See No. 6 in Selected References, page 52.
## DESIGN FOR TYPICAL TURNOUTS

<table>
<thead>
<tr>
<th>Traffic Zones</th>
<th>I Suburban</th>
<th>II Heavy-Traffic</th>
<th>III Light-Traffic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic types served</td>
<td>(1) Buses and heavy commercial</td>
<td>(1) Buses and heavy commercial</td>
<td>(1) Trucks and passenger vehicles</td>
</tr>
<tr>
<td></td>
<td>(2) Emergency turnouts—occasional if no shoulder is available</td>
<td>(2) Emergency turnout on shoulder</td>
<td>(2) Emergency turnout on shoulder</td>
</tr>
<tr>
<td>Type surface</td>
<td>Concrete or asphalt, equal to highway traffic lanes</td>
<td>Concrete or bituminous equal to traffic surfaces</td>
<td>Gravel or crushed stone</td>
</tr>
<tr>
<td>Traffic island</td>
<td>Seeded or planted ground cover</td>
<td>Seeded or planted ground cover</td>
<td>Island sometimes omitted</td>
</tr>
<tr>
<td>Suggested type parking</td>
<td>Parallel to center line</td>
<td>Parallel to center line</td>
<td>Parallel to center line</td>
</tr>
<tr>
<td>Number of vehicles parked</td>
<td>At least 3 passenger vehicles or 1 truck-trailer or 2 buses</td>
<td>At least 3 passenger vehicles or 1 truck-trailer or 2 buses</td>
<td>At least 1 bus or heavy truck</td>
</tr>
<tr>
<td>Barriers</td>
<td>Heavy concrete or stone curb</td>
<td>Concrete or stone curbs or guard posts</td>
<td>Native stone curb or log bumper, rail or guard posts</td>
</tr>
<tr>
<td>Driver service facilities</td>
<td>Paved sidewalk for bus passengers</td>
<td>Surfaced footwalks for bus passengers</td>
<td>Gravel or stone footwalks if needed</td>
</tr>
</tbody>
</table>

### NOTE:
Turnouts usually at long intervals on highways in light-traffic zone. Emergency turnouts usually on shoulder on primary rural highways.

1/ - See No. 6, pp. 8-10, second chapter, in Selected References, page 52.

## PARKING-SPACE DESIGN FOR REST AREAS ON PRIMARY RURAL HIGHWAYS

<table>
<thead>
<tr>
<th>Traffic Density</th>
<th>Heavy</th>
<th>Light</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic served</td>
<td>Commercial and passenger</td>
<td>Mainly passenger</td>
</tr>
<tr>
<td>Type surfacing</td>
<td>Equal to traffic-lane surface in bearing strength</td>
<td>Gravel, crushed stone, or better</td>
</tr>
<tr>
<td>Parking space</td>
<td>For parallel, diagonal, or 90-degree parking as required by site</td>
<td>For parallel, diagonal, or 90-degree parking as required by site</td>
</tr>
</tbody>
</table>
### PARKING-SPACE DESIGN FOR REST AREAS ON PRIMARY RURAL HIGHWAYS (cont'd)

<table>
<thead>
<tr>
<th>Traffic Density</th>
<th>Heavy</th>
<th>Light</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of vehicles parked</td>
<td>Space as required for capacity of tables, benches, fireplaces provided</td>
<td>Space as required for rest facilities provided</td>
</tr>
<tr>
<td>Barriers, fences, etc., of design appropriate to locality, using local materials</td>
<td>To confine vehicles to parking space. To protect area against cattle. Stone or concrete curbs or log or stone bumper rails to outline parking space. All cliffs, streambanks, etc., provided with fencing at points of danger to public</td>
<td></td>
</tr>
<tr>
<td>Pedestrian facilities</td>
<td>Footwalks (gravel or crushed stone) as needed.</td>
<td></td>
</tr>
</tbody>
</table>

1/ - See No. 6, p. 10, "A Policy on Highway Types" (Geometric) in Selected References, page 52.

### DESIGN OF STOVES AND FIREPLACES FOR REST AREAS

<table>
<thead>
<tr>
<th>Types of stoves suggested</th>
<th>Simple fireplaces of concrete or native stone, with firebrick lining where necessary.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials recommended</td>
<td>Native stone, if suitable, usually in masonry with mortar. Concrete with firebrick lining. Avoid brick or stone not heat-resistant. Movable grates of mesh steel, wrought iron, etc., chained to prevent vandalism, or Solid or fixed grates set in sleeves in masonry to allow for heat expansion without damage to stone.</td>
</tr>
<tr>
<td>Size</td>
<td>Design for economy in use of wood or charcoal. Height of grates preferably not more than 6 to 8 inches above bottom of firebox.</td>
</tr>
<tr>
<td>Location of fireplaces</td>
<td>Keep away from desirable trees. Fireplaces should be located so that smoke or ashes blown by prevailing wind do not cross table and bench location.</td>
</tr>
<tr>
<td>Number of fireplaces</td>
<td>In proportion to size of area and to number of persons to be accommodated. One fireplace desirable to each table and bench unit serving an average of from 4 to 6 persons.</td>
</tr>
<tr>
<td>Desirable adjunct to fireplace</td>
<td>Areas of crushed stone or clean gravel or flagstone paving around fireplace as insurance against spread of fires.</td>
</tr>
</tbody>
</table>
DESIGN OF STOVES AND FIREPLACES FOR REST AREAS (con't)

Remarks

Avoid barbecue pits, multiple stove design, and other cooking facilities to serve large crowds of people.

See No. 7, p. 79, in Selected References, page 52.

DESIGN OF TABLES AND BENCHES FOR ROADSIDE REST AREAS

<table>
<thead>
<tr>
<th>Type table, benches</th>
<th>Portable types of heavy smooth-finished hewn timber or sawn lumber; weight should prohibit ready moving by less than two persons. Tables permanently set in ground are considered less desirable by many states.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials recommended</td>
<td>In humid regions, use decay-resistant timber—i.e., cedar, cypress, white oak, etc. In dry regions, any good local timber may be satisfactory. Stone or concrete makes table or seat too heavy to be readily shifted by maintenance men. Unless permanent table position is desired, use timber in table and bench units.</td>
</tr>
<tr>
<td>Type of table finish</td>
<td>Smooth surfaces, oiled or stained rather than painted. All sharp edges, corners, beveled to protect clothing. Consensus favors leaving 1/8 to ¼-inch space between surface planking to prevent water standing on tables or seats.</td>
</tr>
<tr>
<td>Size of table, bench (units)</td>
<td>May accommodate 4 to 8 persons. Banquet tables not desirable.</td>
</tr>
<tr>
<td>Location of tables</td>
<td>Consensus favors points where table can be screened from toilet facilities, noise of traffic, etc., by topography or by existing or planted growth. Tables should be reasonable distance apart to afford some privacy. Table location should be considered in relation to fireplaces and stoves to avoid smoke and dirt blown by prevailing wind. One objection to table and bench units in small turnouts is lack of protection against noise and dust of traffic. Shade desirable at table and bench location. In dry or treeless country, pole shelters or arbors sometimes desirable.</td>
</tr>
<tr>
<td>Number of tables</td>
<td>As determined by size of rest area, topography of site, capacity of parking space, etc.</td>
</tr>
<tr>
<td>Remarks</td>
<td>Flexibility in design, materials, and arrangements should be permitted to designing and operating personnel, to make best use of local materials at individual sites.</td>
</tr>
</tbody>
</table>

See No. 8, pp. 57-69, in Selected References, page 52.
DESIGN OF WATER-SUPPLY FACILITIES FOR ROADSIDE REST AREAS

Types--Water supply from driven or drilled wells preferable. Spring developments are very satisfactory where sources of water can be completely protected against pollution and contamination. Streams seldom supply potable water. Simple hand-pump equipment usually preferred. Deep-well-type pumps needed in northern climatic regions or at higher altitudes.

Open-type pump shelters—stone or concrete floored—maintainable without painting.

Pump location—Protection of well against ground-surface drainage water or other source of contamination paramount in location.

Central location of water with respect to tables and benches, and parking space also important.

Number of pumps—Single pump with pump shelter, usual. Several drinking fountains sometimes provided where safe flowing wells or springs are source of water.

Remarks—Permanent protection of clean water supply essential. Chlorination or other treatment of water supply seldom practicable in rest areas.

Any source of water subject to pollution from outside rest area or by users inside rest area questionable.

State laws regarding inspection, installation, maintenance, etc., should be major factor in design and operation of water facilities.

Consultation and cooperation with the State Health Department essential to insure safe water supply.

See No. 3 in Selected References, page 52.

GENERAL DESCRIPTION OF TYPICAL TOILETS

<table>
<thead>
<tr>
<th>Traffic Density</th>
<th>Heavy</th>
<th>Light</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of facility by public</td>
<td>Regular—heavy, Some during week</td>
<td>Occasional—light, Mainly weekends</td>
</tr>
<tr>
<td>Type of toilet</td>
<td>If with running water, single structure economical</td>
<td>Without running water, two separate structures</td>
</tr>
<tr>
<td>Character of structure</td>
<td>Frame—timber, Concrete foundation, Flush toilets desirable though not essential</td>
<td>Frame—timber, Concrete foundation, Chemical toilets</td>
</tr>
</tbody>
</table>
### GENERAL DESCRIPTION OF TYPICAL TOILETS (con't)

<table>
<thead>
<tr>
<th>Traffic Density</th>
<th>Heavy</th>
<th>Light</th>
</tr>
</thead>
<tbody>
<tr>
<td>General floor dimensions*</td>
<td>One 12 x 14 feet</td>
<td>Two 8 x 8 feet</td>
</tr>
<tr>
<td>Disposal facilities</td>
<td>Septic tank</td>
<td>Concrete tank for chemical treatment</td>
</tr>
<tr>
<td></td>
<td>Tile field</td>
<td></td>
</tr>
<tr>
<td>Exterior</td>
<td>Shingle roof—stained and varnished siding</td>
<td>Shingle roof—stained and varnished siding</td>
</tr>
<tr>
<td>Interior</td>
<td>Concrete floors</td>
<td>Concrete floors—floor drains</td>
</tr>
<tr>
<td></td>
<td>Ventilator</td>
<td>Screened doors, windows</td>
</tr>
<tr>
<td></td>
<td>Screened doors, windows</td>
<td>Single window sash</td>
</tr>
<tr>
<td></td>
<td>Single casement window</td>
<td>Seats and covers</td>
</tr>
<tr>
<td></td>
<td>sash, each compartment</td>
<td>Design of rest rooms should permit easy flushing of whole interior with hose and water</td>
</tr>
<tr>
<td></td>
<td>Flush toilets and seats</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Drains in concrete floor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and rounded smooth finished corners to permit easy flushing of rest rooms with water</td>
<td></td>
</tr>
<tr>
<td>Special equipment</td>
<td>Electric pump and pressure tanks usually required to operate water system</td>
<td>No special equipment</td>
</tr>
<tr>
<td>Remarks</td>
<td>Water systems not operable winter months under usual conditions in northern states</td>
<td>Chemical-type toilets can be operated 12 months of year</td>
</tr>
</tbody>
</table>

**NOTE:** Some rest rooms have shelter buildings in which both water and toilets are installed. See No. 8, pp. 199-210, in Selected References, page 52.

*These typical "guide specifications" are a composite of a number of toilet structures, some small, others larger.

### DESIGN OF WALLS, CURBS, AND BARRIERS

Features of turnouts and rest areas in open country which warrant more attention than they have received are curbs, walls, and barriers to control motor vehicles entering and leaving driveways and parking spaces.

In suburban traffic zones, concrete curbs and retaining walls are usually acceptable and satisfactory. In open country, the cost of concrete may not always be justifiable or necessary, and the appearance of such urban material may not be appropriate. Local materials, including stone and timber, are preferable and have been most frequently used in rest areas on highways in open country.

**Timber:** In forested localities, timber has always been preferred for posts and bumper rails in parking areas. Guard posts of durable woods...
such as locust and cedar are effective, but have risen sharply in cost in recent years. Untreated log rails for bumpers or curbing are not durable in humid localities generally. Good untreated rails are now most difficult to obtain in the East. In dry climates with abundant local sources of straight round timber, log bumper rails are standard and may be more satisfactory. As a rule, in the more humid East and South, it is believed that timbers that can be readily creosoted or otherwise treated are best for guard posts and bumper rails. In the dry West, some kinds of cedar, larch, and pines of the yellow pine group are favored for rails and posts which are in contact with the soil.

**Brick and Concrete:** These materials have always been used in wayside areas to some extent, particularly in low walls and curbs. In rest areas in light-traffic zones, they normally are not necessary. In bus turnouts and other intensively used parking spaces, concrete curbs are standard installations.

On some parkways in New Jersey, a combination of concrete posts, made with forms of rough lumber, and a creosoted red-oak or pine bumper rail have proved to be attractive and economical.

**Stone:** Where durable stone is available, stone masonry is favored for walls and other barriers in rest areas and scenic turnouts. Low curbing supported at the back by graded earth makes an effective, economical, and maintenance-free bumper rail.

Large-boulder types of guard fences have been used on highways in mountain regions and in National and State parks. Such barriers are effective but are believed too likely to damage the somewhat delicate bumpers and metal of modern motor vehicles to be entirely satisfactory for use in roadside rest areas.

When available in types usable in dry masonry, stone is particularly suitable for walls and barriers in rest areas on open-country highways. Where available locally, good stone for masonry in mortar can also be used to advantage.

Reference is here made to items of the F. P. 41 Specifications for "Construction of Roads and Bridges in National Forests and National Parks," dealing with the various classes of masonry turnout useful in rest areas on highways in open country.

See also No. 8, pp. 33-36, in Selected References, page 52.

**DESIGN AND USE OF SIGNS AND MARKERS**

The use of appropriate signs and markers in roadside rest areas is essential. A number of types of wood and metal signs are used for various purposes, such as:

1. Advance warning signs, to tell the motorist when he is within about one-half mile or a mile of a roadside rest area.

2. Signs of a characteristic uniform shape and large-sized lettering at main entrances to roadside rests.
3. Historical signs and markers, drawing the motorist's attention to interesting historical facts concerning the area.

4. Incidental directional markers for guiding the public to the facilities and features of the rest area. These smaller signs should be as simple, legible, and unobtrusive as possible.

5. Printed or typed notices, for guidance of the public, on bulletin boards in rest areas.

Experience indicates that decay-resistant woods, such as cedar, cypress, or hard woods with interesting grain, are most satisfactory for signs exposed to weather. Lettering can be incised with simple electrical routing equipment, or raised letters can be produced by sand blasting or the use of the blow torch combined with stencils.

The choice of type of lettering and design of signs is best covered by photographs or drawings. (See page 21)

See also No. 8, pp. 28-29, in Selected References, page 52.

TURNOUTS AND REST AREAS IN NATIONAL PARKS

Conrad L. Wirth, Director
National Park Service

The National Park Service considers that adequate turnouts and rest areas are needed on every park road. We have been building them for years, watching them operate, improving them; we have a good many yet to build before we are through meeting the demands of more and more visitors.

It is usually unsafe, and always uncomfortable, to stop on the pavement of any road when the next car along may be that man in a hurry or that driver engrossed in the scenery. Too often, perhaps, the attention of a motorist on a park highway may be divided between his driving and "sonny", in the back seat, who has just spotted a Kaibab squirrel. In the parks, as you know, we do not strive to build roads for high speed. Then, too, our road design standards are often lower for reasons of mountainous terrain. Rough topography and preservation of the natural scene usually mean narrower road shoulders. For safety and for comfort, the place to stop is definitely to the side in an area provided for the purpose.

Locating and spacing these stopping places is a complicated problem. We must, above all, take human nature into account. If around the bend of the road a park visitor has his first good look at a glacier, it is fairly certain that he will wish to pause while he regains his normal breathing. Most likely he has come a long way to see this sight and he should be permitted some leisure in viewing it. Chances are good that he will wish to draw aside whenever there is a dramatic thing to see or a change of scene. It may be a change in the off-scape or a change in the forest cover. The appeal of certain things is universal, and we who plan the park roads can build for these. But when the thing which arrests the visitor's attention
happens to be a meadow where the bears are feeding—well, this may be no place for a "safety" turnout at all.

We find that the tourist is interested in road tunnels in the parks, in the viaducts, and bridges. He wonders at the engineering feat, or he is a photographer and sees how to frame a picture. Historic sites, places of legend, the boundary lines of states and territories, geologic phenomena, or simply the shade of a tree on a warm day are among the many reasons for a turnout in the National Parks. They are little different from those things which cause motorists to stop along other highways. In the parks there are simply more of them, partly, perhaps, because we do not have so much competition with gas stations, hot-dog stands, and other private roadside developments.

I can think of nowhere where we have built too many turnouts. This is a circumstance for which we claim no particular credit; the budget has had its limiting effect through the years. But there are examples of where we built elsewhere than in the best place. I think of a situation on the Blue Ridge Parkway. For safety's sake we provided a parking area a quarter mile down the road from a certain curve where one first comes on a dramatic view. Site distance at driveways was better ahead; there was a relatively flat piece of ground where parking could be provided easily; and the view itself at this farther point seemed better. But the tourist reasoned differently (or perhaps not at all). He only had the impression of a grand view, applied the brake, pulled to the shoulder, and stopped. We tried guardrails. We tried signs about no stopping, but the result was foregone. We came back later and built as safely as we could as near as we could to where the tourist had demonstrated that he wished to stop. This is the acid test.

We can learn most about turnout location by observing the tourist's own behavior. Most times there is a safe way to please his whims. Once having satisfied the demands of safety, it is equally important to maintain the conditions which appealed to the visitor in the first place. I have seen, for example, well-designed parking overlooks fall into disuse because we have failed to maintain the once grand vista by means of judicious selective cutting and pruning of foreground trees.

It is interesting that a number of mountain folk in the Blue Ridge, with their native flare for Elizabethan phrases, call the parking overlooks along that roadway a "balcony" and refer to the parkway itself as "the scenic."

Each turnout deserves careful study as to capacity before it is sized. We have built them to accommodate one car, and others to hold several hundred cars. The power of the area to attract people and its power to hold their interest over a long period of time are basic factors. Some of the finest stopping places we have built involve a short walk to a point of interest. This, of course, requires time and reduces the turnover of cars in the parking spaces. In general, we find that parking areas on spur roads attract fewer patrons but are likely to be the most rewarding among the inspiration points. Here visitors remain for many minutes at the scene. Conversely, the parking area in view from the park roadway (separated from it only by an island) will often attract many in-and-out-again visitors with a rapid turnover of cars.

There are wholly practical reasons behind some of the locations for turnouts. For example, there is the long, hard climb to the summit of the
mountain range. Even the latest-model car begins to heat at high altitudes, and a pulloff by a flowing spring or water course with a bucket handy for ready use is a welcome thing. On some non-park highways with minimum shoulder, turnouts for emergency repairs to autos are sometimes provided by an occasional widening of the shoulder. But in the National Park areas we rely mostly on such grade points as result in normal construction. We maintain them clear of plantings or other barriers so that they are available for emergency use. We have felt that, unless there is a direct line of communication (unknown to us) with Lady Luck, there is no way to locate turnouts for the chance breakdown. Turnout areas provided at reasonably close intervals do serve this additional purpose.

A "rest area", as distinguished from a "turnout", implies that certain facilities are provided in addition to an attractive setting or a view. In CCC days, I believe, the NPS was first to suggest such facilities and we called them "waysides." We urged their development as a part of the complete American highway, as an extension of highway services to meet a demonstrated need for safety and conservation of attractive areas.

The rest area or wayside often features tables and benches and possibly fireplaces for that American institution called the picnic lunch. Ideally, there is available that drink of clear, cold water. Equally necessary is the comfort station which we hope will be kept both clean and sanitary. The wayside or rest area is best developed in an expansion of the highway right-of-way. There should be a surfaced driveway leading off the traveled way. There is space between you and your picnicking neighbor. These rest areas are larger than the simple turnout we have talked about. They naturally occur less frequently on the roadside. On the other hand, we consider in this panel that the rest area or wayside is part of the roadside, as distinguished from the large central developed camp grounds or tourist centers in our larger parks and in the usual county or state park.

You will further understand that the rest area is maintained in a somewhat incidental fashion during the routine tours of park maintenance crews. Rest areas pose a problem with us just as every public facility does. Proper sanitation and policing require both well trained maintenance crews and public cooperation. Lack of these is a sure way to lose friends for a park department; I'm sure the same would be true of a highway department.

The National Park Service, out of long experience, favors fewer rest areas but larger ones (say 15 or more picnic units). First, where the number of areas to be maintained in a given stretch of road is less, they are not so likely to be overlooked. Adequate supply of water and installation of proper comfort facilities become justified as you increase the number of visitors accommodated in the area. In picnic grounds, as elsewhere, there is a certain strength in numbers. The visitors police and "educate" each other. The availability of water, incidentally, reduces the forest fire hazard, which is a large consideration in the Parks located in wooded regions.

Roadside picnicking sometimes creates a problem of supplying firewood. The natural windfall may be insufficient and the roadside picnicker sometimes takes matters into his own hands to the detriment of the natural woods surrounding the picnic ground. This is a thing to be watched but it has been solved by thoughtful maintenance people who pile cordwood at such places when it results from clean-up along the highway. I've known alert managers who have suggested to nearby gas stations that they stock charcoal or wood for sale, and I've seen it work too.
The Service has followed with considerable interest the experience of a number of highway departments which have provided for roadside picnicking, and it appears that there is much opinion in favor of a reasonable concentration of picnic activity. Experience seems to show here, also, that we can build better in the larger area and reduce per capita maintenance costs. I do not mean, by the way, to recommend such a concentration of picnic or other park facilities as would wear out a natural area and result in its despoliation. The pendulum can easily swing too far that way as well.

These things which I have mentioned are to some degree generalities. There is no hard and fast science of the turnout and the rest area or wayside. We are designing areas for use by human beings, and I take it that the designers themselves had better continue also to be human. We of the Park Service have learned that there is no substitute for careful study of each turnout and rest-area site combined with professional competence in design, construction, and maintenance.

PARKING TURNOUTS AND REST AREAS FROM POINT OF VIEW OF STATE PARKS

Russell B. Tobey
Recreation Division, State of New Hampshire

After accepting the assignment to participate on this panel, I took the liberty of inquiring of the states east of the Mississippi as to their methods of providing roadside services to the traveling public. I wish gratefully to acknowledge the response from nearly everyone of these states and express a special appreciation of the responses of some which were in great detail and highly informative. Without this information, it would have been possible only to treat the subject academically and from limited experiences in our own small state of New Hampshire. I cannot say that the volume and variety of information received clarified or made simple a discussion of parking turnouts and rest areas from the point of view of state parks. But this information has greatly broadened and stimulated my consideration of the matter and I appreciate the assistance that each of these state officials has extended.

Information from these various states indicates that roadside services to tourists are demanding greater consideration, and the need for their development is continually more pressing. Most states have only recently embarked on this program. Nearly all states have concluded that these services are essential. Nearly all testimony indicates that the public acceptance is immediate, fully justifying the thought and attention we now give individually and collectively to these matters. This session is timely and, I trust will be productive of programs and policies which will result in more adequate fulfillment of the needs of the traveling public.

So anxious are the various states to supply these needed roadside rest facilities that one gets the impression they have gone "helter skelter"—by a variety of approaches and through a variety of agencies—to reach a solution. I say this not critically, for it is highly commendable that we be sensitive to supplying needed public services.

The impression is gained, however, that in their desire to provide these facilities there has not been full consideration by some agencies of the subsequent need for additional and continuing services, of the precise
services to be performed, nor the maintenance problems, nor of the relationship of these service areas to others of similar character such as historic sites, scenic areas, scenic vistas, and state parks. These points are brought out with the hope that, in future planning, combining and complementing these similar services may lessen the headaches and inadequacies of past experiments.

There were no suggested formulae for the spacing of parking turnouts and roadside rest areas. Presently, they seem to have been located through expediency, such as by virtue of land left over from highway projects. While this is good economy, combining the public interest of a scenic spot—a historic spot, or unusual vista, and such—with rest facilities would lead to greater economy and more pleasing results. Such a combining would also serve a larger public interest. While we may not be prepared now to suggest a spacing factor, it is obvious that such conclusions will soon be required because of the heavy public use the present areas receive.

In the words of other states, the traveling public has come to expect more of our highway systems than merely a good route for vehicle travel. They expect, with some justification, provisions for comfort, rest, and a little recreation as well. Although the primary consideration has been to provide areas for "rest and comfort," the added possibilities of interest and passive recreation may well be considered in future planning. For example, the interests provided by a vista, a historic spot, an unusual forest cover, a geographical phenomenon would seem naturally to complement the primary consideration of rest and comfort.

As to recreational facilities, consideration of these should be limited to passive recreation only. Such limit would provide for the enjoyment of a view by the provision of benches; the opportunities for photography provided by a scenic spot; the opportunity to "stretch a leg" through a forest grove, about a historic site, exploring a geographic phenomenon. Consideration of any facilities other than the necessities, such as toilets, tables, benches, shelters, fireplaces, should be ruled out at once.

The general and specifically pressing problem of maintenance of these areas is a concern to all states. Testimony as to the lessons learned from experience were from some states amusing and from other states tragic—tragic since in some instances attempts to provide these roadside services bogged down, the program ceased, and future consideration was discouraged because adequate maintenance had not been or could not be provided. The extensive discussion of maintenance problems from several states indicates that "attempts to provide these facilities should not be made until this continuing and important requirement has been provided." I can state this as a truism—an accepted conclusion of state park people. This is true in the state park field not only because a large part of our chores are on the problems of maintenance, but also since, in state park work, one of our prime considerations is that of providing rather intimate and extensive public services and durable facilities.

When we were young in the state park field the bogey of maintenance in state parks overtook us as it now has overtaken highway people in their rather recent entry into these roadside facilities. Park people now recognize that maintenance is a factor to be reckoned with at the outset. It affects each phase—the acquisition, the design, the development, and the operation of state parks. We have found from sad experience that the provision
of any facilities for public rest or recreation bring with them the immediate and continuing obligation of maintenance. We have concluded that maintenance must be considered and provided for not only at the inception of a state park plan but continued throughout the life of the development.

The maintenance factor begins with the acquisition of an area, whether it is a minor roadside or a large multi-purpose state park. If the prospective area is not in itself attractive, the public respect and use will be more limited than in an area with pleasing natural features. Maintenance affects the location and arrangement of parking areas, paths, and service buildings which, if not planned with a view to convenience of use, will require higher maintenance during the life of an area as a result of the public's trying to find a more convenient way. If signs, buildings, barriers, foot bridges, drinking fountains, and such are not attractive or designed with a durability which commands respect, they will be abused and cause high maintenance. Essential services and even non-essential conveniences should be provided. Among these are durable and practically irremovable rubbish containers; an indication by dignified and durable signs that the area is for public use under the supervision of a public agency; provision of drinking water, where possible, by some durable and foolproof device.

In operating practice, if damaged doors, windows, signs, etc., are not immediately repaired or if the pick-up and clean-up services are not adequate, the public is apt to express its disgust or disregard in every offensive way. The converse is also generally true. It is our own practical experience that good design and good maintenance beget good behavior and appreciative use.

Remarks from some states indicate a concern as to how extensive a roadside area should be in acreage, development, and service. There is concern that roadside areas could become, by sheer growth, a roadside park, and a roadside park might grow to become a minor state park unless ultimate limits are set at the outset. The size of existing roadside areas seems to vary from state to state and even within states. They include the extremes from a pulloff area for a single car to areas of several hundred acres with quite complete recreational facilities, including swimming, picnicking, and a full-time maintenance staff. One concludes that at present there is no precise limit as to size, nor perhaps can there be anything but a rule-of-thumb. Consideration of service indicates that ultimately spacing will be at frequent intervals to make available some kind of roadside service. The particular size and type will depend somewhat upon the availability of land or the opportunity to obtain suitable sites. The nature and character of the site would seem to be a highly important factor. Where the highway is largely for pleasure travel and a scenic route, roadside areas should not become a blight on the landscape. This might be avoided by an entrance off the highway to an area screened by natural growth. The economy of combining turnouts and rest areas with good natural scenery, unusual vistas, and historic sites might also be a determination as to location. It seems generally concluded that the car capacity of roadside areas might well be limited to relatively few — that more areas of smaller size rather than larger areas more widely spaced would achieve a better and more useful pattern. Suggestions for maximum accommodations vary from a dozen to twenty cars.

Aside from services needed by family groups, some consideration should be given to the needs of those traveling by bus and for trade drivers, though these might be less frequently spaced.
As to the relationship of roadside areas to state parks, it would seem at the outset that the one complements the other in public service. State parks are usually rather extensive, providing multiple recreational facilities for day use. They differ from roadside rest areas since they are not located or designed to provide tourists' off-the-road needs for rest and comfort. They are, rather, an objective to which he goes for a large part of the day because of their scenic attractions and recreational facilities. This would seem to indicate the difference, for roadsides are provided specifically for the transient needs of rest and comfort of the off-the-road tourist. When they become an objective for prolonged recreational use, they are in a different category. However, the strong similarity in the basic concepts of the development, maintenance, and operation of state parks and roadside areas shows them to be closely related public services. The difference in these concepts is a matter of degree—their location with respect to highways, size of area, and the services to be provided.

In some states the need for roadside rest areas and the development of them were first seen and provided for by the highway departments. In other states, state park departments first provided and now maintain roadside areas. Thus experience is divided. However, the nature of the problem suggests that roadside facilities are more closely akin to the concept and operation of state parks than to highway systems. They are problems which are met in varying degree in the daily chores of state park people. Their experience and techniques of introducing recreational facilities into the landscape, their experience with durable and acceptable design of facilities, their consideration of and provision of intimate public services are sometimes not found readily in the personnel of highway departments.

There were some indications, in responses from some states, that the engineering, design, construction, and maintenance of roadsides were but a minor and irritating concern to highway departments. However, acknowledgment should be made of the successful to commendable experiments by highway departments in many states. Whoever provides the roadside facilities, we are assured of their use by people who need and appreciate them. The common desire of highway and park people to fill these needs may result in the best public services if they cooperate, leaving the particular emphasis and responsibility upon that agency in each state most suited through interest, initiative, and experience.

REST AREAS ON A STATE HIGHWAY SYSTEM

Wilbur J. Garnhausen, Chief Landscape Architect
Ohio Department of Highways

Ohio roadside parks, as we know them today, are a modern innovation, but the principle behind them is as old as the history of man. In fact, countless centuries ago, there were roadside parks of a sort, even before there were roads.

During the early stages of civilization, in Arabia, North Africa, and Asia, caravan trails were routed in such a way as to connect a series of oases. Here, at these water holes, the traveler exhausted after a trip over the scorching desert sands might find surcease from the blinding sun under the shade of green palm trees. Here he might quench his thirst and repair his body in preparation for another journey over the trackless wastes.
From records left to posterity by the Greek historian Herodotus, it is known that a great road was built in Egypt over which material was transported to be used in the construction of the pyramid of Cheops. Herodotus also records that along this ancient road temples were erected for the convenience of travelers desiring to rest and worship.

When Julius Caesar ruled his vast empire, the traveler was furnished with a list called an "Itinerarium" which designated the locations of relief stops along the roads. Taverns and inns provided for the physical comfort of the traveling public in the "stage-coach days," while railway stations fulfilled this function in the earlier day of travel by rail.

Like the watering places on the ancient caravan routes of the East, Ohio's roadside parks are modern oases for tired tourists of today. These parks are outstanding among the nation's highway rest areas in that they provide complete facilities for the convenience and enjoyment of the public. Built solely in the public's interests, Ohio's 283 parks are open, without charge of any kind, to those who choose to use them.

Our first roadside park was built as an experiment in 1935. The original purpose behind this initial endeavor was to afford an opportunity to the weary motorist to pull out of traffic for a few moments' rest and relaxation. However, the public's enthusiastic acceptance of parks of this type has been responsible for more elaborate facilities than were originally planned.

Ranging in size from one to two acres, Ohio's roadside parks are situated mostly in rural sections along highways all over the state. No two parks are identical, but all have much in common.

All land upon which the State of Ohio builds its roadside parks is obtained without cost. Most of this land is donated by civic-minded individuals. Ravines and areas which are unfit for agricultural or commercial purposes are ideal for park sites and the owners are usually glad to donate such property and be relieved from further taxation upon it.

Occasionally, the relocation of a road results in the formation of a parcel of land satisfactory for the building of a park. Whenever a road is relocated, the area is scanned for a possible park site. Many attractive places along old canals and in state forests have been created by transfer of title, through the cooperation of the State Department of Highways, Public Works and Natural Resources.

Park sites, though obtained free of charge, are nevertheless very carefully selected. Parcels which do not lend themselves to park development, as well as those which cannot be made accessible to the public without the expenditure of considerable money, are refused.

The fact that no commercial products of any kind are allowed to be sold or advertised for sale in any roadside park further limits the availability of many otherwise appropriate areas. Sites within the corporation limits of a city or town are not accepted. Even sites close to a municipality are studied thoroughly and generally rejected, unless they have particularly desirable natural advantages.

In spite of these numerous restrictions, the State Highway Department has been successful in procuring many fine, attractive roadside-park
locations. Of these spots the majority are wooded, a few feature streams or small lakes, while others command impressive views of picturesque countryside.

Upon completion of each roadside park a formal dedication is held, at which time the donor is recognized. If the site has been given in memory of some member of the family, then proper recognition is made, usually in the form of a simple bronze plaque. Post-war "living memorials" to our honored dead are treated in a similar manner.

After a park site has been accepted, development plans are prepared by trained Landscape Architects who endeavor to utilize to the fullest degree the natural advantages of that site. A system of paths is devised, and toilets, storage shed, well shelter, parking areas, and overlooks are placed where they will best serve their respective purposes. In considering a proposed roadside park site, and again when the plans are prepared, the park features are given the following priority: parking, toilets, tables, well, ovens, shelter, and additional features such as walks, fences, bridges, and plantings.

Park structures, such as well shelters, storage sheds, toilets, fireplaces, tables, and overlooks, are built in accordance with expertly designed standardized drawings. By the use of such drawings some degree of uniformity throughout the state is assured, and money is saved by the elimination of costly drafting which would be necessary if each feature were individually designed. Variations from these drawings are allowed where local conditions warrant them. To insure progress and improvement, the drawings are constantly subject to revision and to the introduction of new ideas.

The first consideration for parking in the roadside park is safety when designing ingress and egress with relation to the parking area. There are separate parking areas for cars and trucks. We find it highly desirable for the parking area to be separated from the berm by means of a barrier or grass strip.

Most of Ohio's roadside parks are in the country and cost prohibits the construction of sanitary sewers. For that reason we use well designed privy-type toilets, with watertight vaults, throughout the state. Experience has shown us that they must be placed close to the parking area, but at a safe distance from the water supply. Special emphasis is placed upon keeping the toilet facilities neat and clean. They are regularly disinfected and accessories supplied as needed.

Sturdily constructed picnic tables with benches of simple design and ovens with an adequate supply of wood provide facilities for picnickers who like to cook their meals in the open amid pleasant natural surroundings.

Recognizing the importance of furnishing pure drinking water in each of its parks, the State pays particular attention to water supplies. All sites upon which parks are to be built are carefully inspected by State Department of Health sanitary engineers to make certain that possible water sources will not be contaminated by seepage from barn yards or sewers. In some parks located close enough to city water lines, drinking fountains are installed; but in most cases, wells are drilled and water must be pumped by hand. The standard two-post well shelter is used as the trademark of Ohio roadside parks, and is conveniently located near the parking area.

Monthly water samples taken at each park are sent to the State Health
Department where thorough laboratory tests are made of them. When samples thus tested show the slightest trace of pollution, the wells from which they were procured are immediately condemned and the handle is removed from the pump to insure that the water supply will not be used. Measures are taken to stop the infiltration of obnoxious bacteria. Regular tests safeguard health and guarantee safe drinking water to the traveling public.

The Ohio taxpayer gets his money's worth in the roadside parks. By the practice of rigid economies and the use of relief labor, the State Highway Department has been able to build its roadside parks at a very low cost. In the beginning, labor for park construction was usually furnished by the various work agencies, chiefly by The Works Progress Administration and The National Youth Administration. Thus, these agencies were able to give worthwhile employment to their men which resulted in inestimable benefits to the public.

In order to cut costs today, salvaged materials are used in park building whenever possible. Benches and tables are often constructed from old guard rails which have been planed down and dressed. Post and rail fences as well as guard posts and bumper rail are constructed from salvaged utility poles. In some parks, native stone found at the site is used to build fireplaces, shelters, and sign standards. A similar use is made of brick salvaged from old roads. We feel it is cheaper and more efficient to prefabricate most of the park structures. Shelter houses, storage sheds, toilets, well shelters as well as fireplaces and fence rails are completely finished under cover during inclement weather. One of our goals is to make our structures durable and permanent. All construction beneath the ground is of concrete. It can be used for table bases, walks, guard posts, and fence posts. Lumber, pressure-treated with pentachlorophenol, is used next to any concrete surface. All of the rest of the lumber used in construction is dip-treated with pentachlorophenol, after all cutting and drilling of holes have been done. Salvaged I-beams have many uses, such as supporting the roof in the well shelters, etc. Old pipe makes good posts for roadside park signs. Our tables are now made at the Ohio State Penitentiary.

Conferences held once or twice a year at my office in Columbus are attended by all of the Division Landscape Architects. At these conferences ideas concerning design and means of reducing construction costs of roadside parks are enthusiastically discussed.

Every effort is made during construction operations to prevent the destruction or impairment of desirable existing growth so that the parks may be as natural as possible. Obnoxious weeds and plants such as poison ivy are, of course, removed.

Planting in roadside parks is purposely kept simple, serving only to partially screen toilets and storage shed and to augment existing vegetation. Great care is taken to keep all planting in character with surrounding growth; formality of arrangement is studiously avoided. Hardy native trees and shrubs requiring little attention after planting are generally specified on landscape plans.

The work of mowing grass and weeds, keeping toilets clean, replenishing firewood supplies, and emptying refuse cans is done by caretakers who are held responsible for the condition of the parks. The position is a very important one for the reputation of our parks. The public will respect a clean, well kept park, and by the same token litter and abuse a dirty, ill kept one.
Vandalism occurs in some of the roadside parks, and the elimination of this evil depends ultimately on the education of the public in a better appreciation of the value of the parks. It is kept at a minimum by a two-fold plan. The State Highway Patrol keeps the parks under surveillance; the Highway Department repairs any damage at once and strives always to keep the roadside parks neat, clean, and inviting.

Ohio's roadside parks are inspected each week, and reports covering the condition of each one, and to what extent it is being used, are compiled and sent to the Central Office.

People from all over the country use Ohio's roadside parks. At each park a register is conspicuously displayed and visitors are invited to sign their names upon it. From an analysis of registers collected from every park in the state in 1950, it was determined that out of every 100 persons using the park, 39 were from outside the state.

Those who register are estimated at between 10 and 40 percent of the total number of actual visitors. That attendance during this year is well over the 8,000,000 mark is attested by the fact that each of the parks in the state had an average daily registered attendance of 82 persons.

We feel that our standard roadside-park sign is attractive and as familiar to motorists in Ohio as other directional signs. It is a distinctive green and white inverted triangle with "Roadside Park" lettered in green. Below these words is a green tree, symbolic not only of shade and rest, but of Ohio's cordial invitation to the public to use the park.

An approach sign is placed along the roadside, calling the traveler's attention to the fact that one mile ahead he will find a roadside park. A number is placed on the sign standard at the park to designate the individual park.

When Ohio road maps, compiled by the State Highway Department, are published for the year, the 283 roadside parks are shown on them. Distributed without charge, these maps are used by many motorists who plot their courses in such a way as to take full advantage of the parks. Thus, in an all-day trip over Ohio, it is now quite possible to eat breakfast in one roadside park, lunch in another, and supper in still another.

That the public enjoys its roadside parks is proved by the letters of praise which reach the State Highway Department. Letters of this sort have been received from many who do not even live in the state. Verbal praise has also been forthcoming, and communities which have no roadside parks close by clamor to have one built.

If crowded roadside parks demonstrate anything, it is this: that these parks are no luxury; they are a necessity in this motor age. Their tangible benefits are manifold, but their intangible values cannot be adequately appraised. Above all, they allow people who live in cities a chance to escape for a few moments or hours from noise and confusion into a tiny world of leafy trees and peace.

Ohioans, as well as those from outside the state, are urged to use Ohio's roadside parks. In the last analysis, it is the public's enthusiasm for parks of this sort which has made them possible. It is the public's
attitude toward them which will determine their future, not only in Ohio, but in other states as well.

In addition to Ohio's, shall I say, nation-famous roadside parks, we also supply three other types of supplementary rest areas along our highways. They are roadside tables, scenic overlooks, and turnout rest areas for truckers.

Roadside tables are located at a shady area, usually under a tree, if a safe pullout and parking area can be provided. Only a table and refuse can are placed at each roadside-table location. These areas are maintained and kept clean by the road section crew, who include this maintenance in their daily inspection of the roads. Again I want to stress that maintenance cannot be over-emphasized. A spot that is desirable is clean and free of litter.

Parking areas are constructed at scenic spots along the highway, where the motorist may stop, not only to relax, but also to appreciate the beauty of the scene presented. Sometimes a table may be provided at such a spot.

Truck turnouts are for the truckers' convenience, to stop and rest or, in case of trouble, to provide a place to make necessary repairs.

We feel that by this method of providing the traveling public with roadside parks, roadside tables, scenic overlooks, and truck turnouts, we have made driving on Ohio's highways safer and more pleasant. Tourists from beyond the boundaries of Ohio who have used and enjoyed the rest areas along its highways eventually "spread the gospel," and in time to come travel in every state in the Union may be made safer, easier, and more comfortable by myriads of these modern oases.

ROADSIDE REST AREAS AND THE TRAVELING PUBLIC

Burton W. Marsh
American Automobile Association

If I may take the liberty of representing the motoring public on this panel, I want to begin by strongly commending the leadership furnished by the Committee on Roadside Development under Chairman Neale in the field of highway and roadside improvement over the past years. My commendation also extends to the Project Committee whose report you have heard today. This is an excellent report from the point of view of a service to the road user, which, while not dramatic, is basically of high importance.

We are going through a period of change. Our way of living has been changing greatly in this Motor Age. Traffic volumes have skyrocketed; commercial traffic has become a very prominent part of the traffic stream. More and more people have gravitated toward living in urban and suburban areas. These and other changes have made necessary a reexamination of our objectives in the entire field of highway transportation—a reappraisal of what we really want in our highways.

Development of the roadside and the special facilities along our highways has not been given adequate attention. The Association which I represent has shown its interest in this matter by producing a booklet on "Road-
side Protection" about a year ago. It is probably familiar to most of the members of this audience, and it includes much of the subject matter that has already been reported upon here.

This increased attention to the roadside is one of the most healthy signs of progress in this whole study of highway transportation needs. We did, I think, for a while go too far toward thinking of just those two lanes of concrete as being what we call a highway. "Getting somewhere" is an important part of highway transportation but it definitely is not all of it. Not only must we get there but we want to get there in reasonable comfort and with a whole skin—and these factors have not been given enough consideration in the past.

One word of caution is necessary. Roadside rest areas, to win and retain motorist approval, must be of small acreage. I do not believe that the public will support the use of highway funds to provide parks in various parts of the country. When I say this, you must understand that few people are more interested in parks than I am. Appreciation of good parks is in my blood. But parks are public facilities to be planned, purchased, and operated by other than highway departments. I was delighted to note in this panel discussion the many ways in which economy in roadside areas was emphasized—economy in first cost, and economy in maintenance.

There have been instances where the motorists have not been pleased with the state of sanitation and cleanliness of some rest areas. Cleanliness and sanitation with economy should be major objectives in all rest-area programs. Fundamental also is close supervision by the highway department. Good supervision and maintenance cannot be over-emphasized. Size of rest areas is closely related both to effectiveness of supervision and to cleanliness and sanitation. You will remember that Mr. Garinhausen particularly emphasized economy and good maintenance. The Project Committee report does also. The public support needed for more and better rest areas will build up more rapidly if these things are kept in mind.

Another point: In going over the report I found that I had a decidedly inadequate understanding of the extent to which these roadside developments have been carried out in many states. I had seen some excellent rest areas in Virginia, Ohio, and other states, but I had no idea of how extensively this idea had spread. You have not kept the public sufficiently informed, however well you have made progress in the field.

You would presumably say that you want to see a "low-pressure sales approach." That is sound, but I believe that the traveling public would be favorably impressed were they to know how many of these rest areas have been installed and how economical and serviceable they are.

The traveling public wants all that it can get for its road taxes. But let us not be "mouse-trapped" by this phrase: "The public wants it." We are in a dilemma and, as the last speaker emphasized, we need more money for every phase of highway development. We haven't the dollars for the improved highway facilities we need for safe and economical transportation. Yet here is a type of desirable development that will use at least a few nickels out of those highway dollars which are available. Of course, the public wants both better pavements and better rest areas, but it doesn't like to pay more than it has to. A major task in all highway development is to keep the public informed as to highway facilities needed and their cost.
The public must understand far better what can and cannot be accomplished with available road funds, and how much can wisely be spent on each phase of better highway development. If they really favor roadside rest areas—and I believe those who are informed properly will favor them—they will be willing to pay for them, on an economical basis. Involved is a job of public education that we cannot expect the highway officials to accomplish alone. My organization is helping direct attention to the roadsides, and ladies in this audience represent organizations which are also serving the public in this regard. The job of public information and education regarding highway transportation has been neglected too long! I submit that a better job of public education is needed as to roadside development.

It would be interesting to know, for example, what percentage of the highway dollar is going into roadside development. I know it is small—but how much is it? How much is this percentage in the road budgets of Virginia, Ohio, and the other states that have or are developing numerous roadside rest areas? There is always demand for more money in this highway field. Therefore, there must be selectivity in the use of road funds. Too much money, we believe, is being spent today in improving secondary roads at the expense of vitally needed work on more important primary highways. However, even with restricted road budgets, there will be public support for modest funds for roadside rest areas if the public is properly informed.

Now a comment on where rest areas should be located. Mr. Wirth, and the report, brought out that rest areas are most needed at the "climax points of the route." Observation of traffic—of the behavior of drivers, as the report says—will often demonstrate places that make good rest areas. This use of the public in locating turnouts and rest areas is sound. It represents study of human nature, a most essential area of study in the whole field of highway development.

The public wants adequate advance information as it approaches rest areas. Slides shown at this session have included some excellent signs to inform motorists of roadside picnic and rest areas. It is my impression that more attention is warranted to this matter in various places.

Somewhere in this report it says that the picnic area is a hybrid. That might give the impression that you professionals do not favor picnic areas, or wish to "play them down." It is my belief that the public is greatly interested in picnic areas. True, there is a real problem of keeping them clean and sanitary. But that should not be too great a task for highway maintenance crews properly instructed and supervised. I would hope that you would "play them up" more. Perhaps a third classification beside turnouts and rest areas is warranted.

The public also wants to know if the water is potable. A little sign isn't good enough. A good big sign that is easily read should certify that the public health authorities have checked and approved water which is suitable for drinking. And if water is NOT safe for drinking, that fact should be doubly emphasized, if indeed a rest area is even advisable at such a location. Sometimes the public hasn't had this kind of information in rest areas I have seen.

Above all the public wants clean places. This is odd and perhaps "human nature in the raw"; they want clean places but they (the public) are not always cleanly in their own habits. This is a main point emphasized by
Mr. Garmhausen. He asks his maintenance crews above all to keep rest areas clean. This leads to some other matters. For example, toilets should be so designed that they can be kept clean by the kinds of cleaning that a maintenance man will do.

Another example about which not much has been said is the furnishing of proper rubbish receptacles.

The idea that all such facilities should not be too costly is one that I hope will continue to be stressed. This will help to develop and assure public favor for these newer features of highway development which I am convinced will increase in the years ahead. The public can be brought solidly behind sensible roadside development and sensible design standards that we are now groping for or moving toward, as the report clearly shows.

Needed legislation is another matter which warrants more specific treatment by your group, it would seem.

Let me now summarize: I trust that everyone present agrees that highway funds should not be used to purchase and develop extensive parks.

Another point emphasized in the Committee's report, and I am sure the motorist will support you there, is the high importance of planning turnouts and rest areas in advance of new highway construction so that you can acquire needed land while the price is still reasonable. Why not popularize this angle more?

Two more ideas and I am through. I have to take exception to any idea that you can design turnouts for the place where my car will break down. Of course, if I have minor engine trouble I can get to an emergency turnout. But if I have real trouble, that turnout will never be in the right place. It seems to me that adequate shoulders would take care of this situation, and I am a strong advocate of adequate shoulders on all primary roads.

A very revealing sentence occurs in the report of the Committee on Roadside Development:

"Perhaps the most significant thing about most of the bus-loading turnouts now in operation is the fact that they were not in many cases constructed until a series of accidents and interferences with rush-hour traffic had forced their installation."

It is most unfortunate that such a sentence was warranted by the facts!

The effort to develop principles shown in the report deserves strong commendation. They are not too rigid yet, but your Committee's work on principles is a most encouraging augury for the future.

To close, if everything I have said is to be forgotten, I would have you remember three terms as they refer to rest areas in general: economy, cleanliness, and good maintenance.
PANEL DISCUSSION ON TURNOUTS AND REST AREAS

Following papers by Messrs. Wirth, Tobey, Garmhausen, and Marsh

Following presentation of papers by panel leaders, Harold J. Neale, Chairman, began the panel discussion by answering Mr. Marsh's question, "How much do these rest areas cost?" He said that rest-area driver-service costs per person in 1950, averaging all wayside areas in Virginia, were a little less than 5 cents per motorist visiting these rest areas during the year.

The following questions were submitted in writing by the audience. Each question read aloud by the Chairman was answered by a member or several members of the panel as indicated.

Question No. 1: Is it considered essential for safety to have an island or other definite separation between the traffic lanes of the highway and the parking space of a turnout or rest area?

Answer: Mr. Abbott (replacing Mr. Wirth) — I would say it was highly preferable to have such an island. Some of our earlier park road turnouts did not have this separation. In all such cases, however, there was more than adequate space for parking clear of the traveled way.

A shoulder with a rougher texture than the traveled lanes has been used as a substitute for the grass-covered or planted traffic island. In a number of parking areas where heavy excavation might be necessary, the island width has been somewhat reduced. Cobblestone pavement has been used in some of these islands. This device is a variation of the traffic-island idea that clearly indicates to the driver, even at night, that he is off the traveled way.

Question No. 2: Is it better to have a large number of small turnouts or picnic areas closely spaced on a section of primary state highway, or to have on that same road section a few larger rest areas or waysides with several groupings of fireplaces, tables, and benches, and with related service facilities?

Answer: Mr. Garmhausen — That is a pretty big question. I would say, in most cases, that if the parking areas are small and widely scattered more maintenance will be required than if you put the same number of tables and benches in a rest area of an acre or so, as we do in Ohio.

Mr. Tobey — What would you call a small parking area — ten cars, twenty cars?

Mr. Neale — I presume that a small turnout would have space for two or three cars. A large turnout would contain a dozen or more.

Mr. Tobey — The public prefers smaller areas at more frequent intervals, rather than large parking turnouts widely spaced. In other words, some people come out of the city to get away from crowds; why should they go to a place where there are more crowds? Twenty cars in a parking area might be the limit. After all, however, the place itself often determines the size of a parking space.
If space is available without heavy grading for, say three cars, why do we need to provide more space than that at one location?

Question No. 3: On urban expressways such as the Mt. Vernon Memorial Highway, Suitland Parkway, or the Arroyo Seco, can surfaced turnouts replace the need for stabilized shoulders wide enough to accommodate a vehicle while undergoing emergency repairs?

Answer: Mr. Gordon — The answer to that question is definitely "no" in theory. The continuous adequate shoulder is preferable to any few possible turnouts. On some of these urban freeways neither shoulders nor turnouts were provided in the original design. Then, because of accidents and traffic tie-ups, it was necessary to come in after construction and chisel out small turnouts wherever topography, combined with right-of-way, permitted such construction. This was the only possible solution of the emergency stopping problem under existing circumstances on these highways.

Question No. 4: The Park Service provides frequent and adequate turnouts on park roads. Is the Service opposed to adequate shoulders on its parkways?

Answer: Mr. Abbott — Most National Parks are in mountainous terrain, their reason for existence being the preservation of the existing natural features. With any modern highway, heavy cuts into mountain sides will often be necessary. The question is, how far should we go? We have worked out with the Bureau of Public Roads a standard for our park roads that will provide a minimum 5-foot shoulder on fills and a narrower shoulder in cuts. True, this is not sufficient to get vehicles entirely off the pavement. By providing a 22-foot surfaced roadway we do get parked vehicles nearly off the road when forced to stop in an emergency. Two cars can still pass the parked vehicle. On many park roads in mountain country, when you talk of continuous full shoulder width on both sides, you are perhaps involving added excavation that would increase road construction costs $100,000 per mile over the 5-foot shoulder section now used on mountain park roads. On park roads in easy topography, we do provide the wide shoulder desirable on primary highways wherever practicable.

Question No. 5: Has there been any effort made to persuade or invite oil companies and other large industries to sponsor roadside rest areas as a gesture toward better public relations?

Answer: Mr. Marsh — A number of civic organizations who are interested in roadside development have tried to do that — not without some success. The question of investment and possible profit comes up here. Some people see the dollar first before the welfare of the public. The question has not been adequately considered or dealt with yet. The idea, I believe, remains to be properly sold to top executives of companies interested in roadside business development.

Mr. Neale — From conversations with oil-company executives, it may be possible in future years for the major companies to cooperate with the public toward rest-area development as an asset to roadside business. Many of the smaller business operators would probably not
wish to meet this kind of cooperation. The small company would then have an advantage over the large corporation.

Question No. 6: Is it not desirable to have a screen of trees, either deciduous or evergreen, between rest areas and the traveled way?

Answer: Mr. Garmhausen — I believe it is not desirable to have such a screen. The highway police prefer not to have screen planting on our rest areas. They can see all parts of the area at night with a flashlight if there is no screen planting.

Mr. Tobey: I can see no reason to hide rest areas and their facilities from the road. On the other hand there is the safety factor. I believe that a low screen planting helps to keep children or animals from running out into the path of traffic.

Question No. 7: What is the basis for the idea in the report that the surface of parking spaces of turnouts or rest areas should be the same as that on the lanes of the traveled way? Is not the volume and character of traffic the determining factor?

Answer: Mr. Gordon — It was not meant that the two surfaces should be the same. In fact, the report clearly states that the bearing strength of the surface on the parking space on a heavy-traffic highway should be equal to that of the traffic-lane surfacing, but the surface should, if possible, contrast with the traffic lanes in color and texture. This is in line with the AASHO recommendation regarding shoulder surfaces in general. For example, where an entrance to a turnout is on the outside of a curve, as many are, it is a good idea to have the surface of the turnout driveway different from the main road in color and texture to avoid leaving the main road without intent to do so.

Question No. 8: In our state there is a movement to prohibit trucks from using roadside parks or rest areas. What is the consensus on this point?

Answer: Mr. Garmhausen — We try to furnish turnout service to both trucks and passenger vehicles alike. In some cases, however, one truck using an area will almost block the parking space. We now have special rest areas for trucks that are so marked. Certainly we need truck parking space as much as that for passenger cars.

Mr. Neale — We provide truck parking on waysides such as the one at Stafford. All our main roads carry heavy truck traffic.

Mr. Gordon — You will note when you read the Committee’s report that there seems to be a difference in the time of day when truck traffic is heaviest as compared with passenger-car traffic. The bulk of heavy truck traffic on a large number of highways outside our eastern cities moves late at night or in the early morning. This is another point that the suggested continued surveys of traffic would bring out. If there proves to be such a predominant movement of passenger cars in daylight and heavy trucks at night, perhaps we should not need separate parking space for different classes of traffic.
Mr. Hottenstein — In Pennsylvania we do not encourage trucks to use our rest areas. The reason is that heavy tractors and trailers may require as much as 80 feet of parking-space length. Too large a proportion of your parking space would be required for these trucks as compared to passenger cars, which require about 20 feet of linear parking space per vehicle.

Mr. Tobey — Could not this problem be solved by designing turnouts for trucks and trailers, with the design of parking space in the rest areas encouraging passenger-car use only?

Mr. Gordon — This point was very carefully considered by the Committee in preparing the report summary. You will note in the drawings — two of them were shown as slides — that parking areas within both turnouts and rest areas were long enough to handle the largest vehicle in the highway, which is probably a truck trailer as suggested by Mr. Hottenstein.

There is no final arbiter in this question but why should we not design all roadside parking space to meet the dimensions of any vehicle using the road? How can we discriminate with any fairness between the various kinds of vehicles using one public highway? In the long run the truckers will use your turnouts and rest areas unless you design entrance drives that a truck cannot enter at all.

Question No. 9: Comment is requested upon the question of combining toilets for both men and women in a single building as compared with two separate structures. What should be the principle followed in locating toilets with respect to parking spaces and other parts of the rest area?

Answer: Mr. Abbott — I see no reason against combined facilities. Certainly there are advantages, where septic tanks and tile fields are involved, to have combined toilet facilities rather than separate structures. If the problem is one of dispersal, as in a large parking area like ours at Newfound Gap, we may need several structures for both men and women. Where a number of multiple toilets are needed, they may well be separate for men and women.

Mr. Tobey — I would comment on what Mr. Garmhausen is doing in Ohio, where toilet structures are placed quite near the parking space. Sometimes we combine our toilets in one structure. We also install small separate pit toilets about 6 x 10 feet in size. These can be dispersed even in a small rest area.

Question No. 10: The questioner says that he personally favors dispersed parking in a roadside park leading off a main driveway. Why are central parking areas in rest areas generally favored? What is the objection to dispersed parking?

Answer: Mr. Gordon — In photographs obtained during the last ten years from some thirty states we received only one—that (shown on the slide) in Texas—showing parking on a circular road rather than in a central parking space. In some localities this dispersed parking may be all right. For example, where local soils are of glacial type such as a Maine gravel, it is believed that dispersed parking would
not compact soil over tree roots enough to do much damage. Driveway construction is low in cost in gravel-soil localities.

**Mr. Tobey** — We find that there is economy in central parking-space design as compared with dispersed parking. Where existing soils are of a character that tends to encourage or permit harmful compaction over tree-root systems, I would definitely discourage dispersed parking.

**Question No. 11:** Have fireplaces perhaps been overemphasized in the development of rest areas? What proportion of tourists want to cook, or at least cook a full meal for which an elaborate fireplace is needed?

**Answer:** **Mr. Garmhausen** — I would say that fireplaces may have been overemphasized in our state. Our ovens in Ohio are pretty well down on the priority list. We find that there are, under our conditions, not as many people who do outdoor cooking as we originally believed. We took a census of tourists on this.

**Mr. Abbott** — I do not question Mr. Garmhausen's point on Ohio. In our parks, however, we need outdoor fireplaces so that if the tourists does need or start a fire it will not spread to the woodland.

**Mr. Gordon** — For the record, I would comment that in studying the literature of turnouts and rest areas we came upon only two magazine articles on outdoor fireplaces or cooking. The first article was regarding fireplaces in California and Oregon. The second covered outdoor cooking facilities in the central northern states.

The first article emphasized the need for outdoor fireplaces to avoid forest-fire hazards. In fact it held that the need for rest areas on highways largely resulted from the necessity of controlling fires used by tourists. There is a seasonal fire hazard in the Pacific Northwest, and, as we all know, tourists will use cooking fires.

This discussion brings out the point made in the Committee report that each region has its own particular problems. Perhaps in the Ohio region, largely a farming area, it is safe to say that there is not the forest-fire hazard that exists in the Northwest. From this point of view, Mr. Garmhausen may be right in deemphasizing outdoor fireplaces in his rest areas. By the same reasoning the fireplace may be absolutely essential on western highways through forested National Parks or in National Forests. The suggested study of tourists under actual travel conditions will give us the facts we need in this and all regions.

**Question No. 12:** In general, how far apart should rest areas be placed along a well traveled primary highway in open country?

**Answer:** **Mr. Tobey** — I wish I knew!

**Mr. Marsh** — That is one of the things that, as the report emphasized, will have to be determined largely by actual traffic study in the field.
The report says, and I entirely agree with it, that factors such as the distance from large cities and other conditions may well control this location interval. Under present conditions I doubt that there is any chance of the highway departments developing rest areas too close together.

Question No. 13: At what distance from major towns or cities should rest areas be located? (That's another tough one).

Answer: Mr. Neale: For an example, there is a wayside park about 6 miles from the city limits of Richmond, Virginia. On weekends this rest area is used almost entirely by the residents of the city. The report emphasizes this fact, that if rest areas are too near to large towns they are not available for use by tourists, because they tend to become a city or county park. Rest areas a half hour or more drive outside the city will tend to be used by tourists only. We are trying to serve all travelers on the road—not just residents of towns, and cities who have, or will have, their own county or municipal parks.
### SELECTED REFERENCES
FOR
PARKING TURNOUTS AND REST AREAS

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<th>Reference Number</th>
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<td>&quot;Roadside Park Rehabilitation,&quot; Traffic Services Division, Texas Highway Department, Construction and Maintenance Bulletin No. 9, Nov. 1951, pp. 3 to 8, illustrated.</td>
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