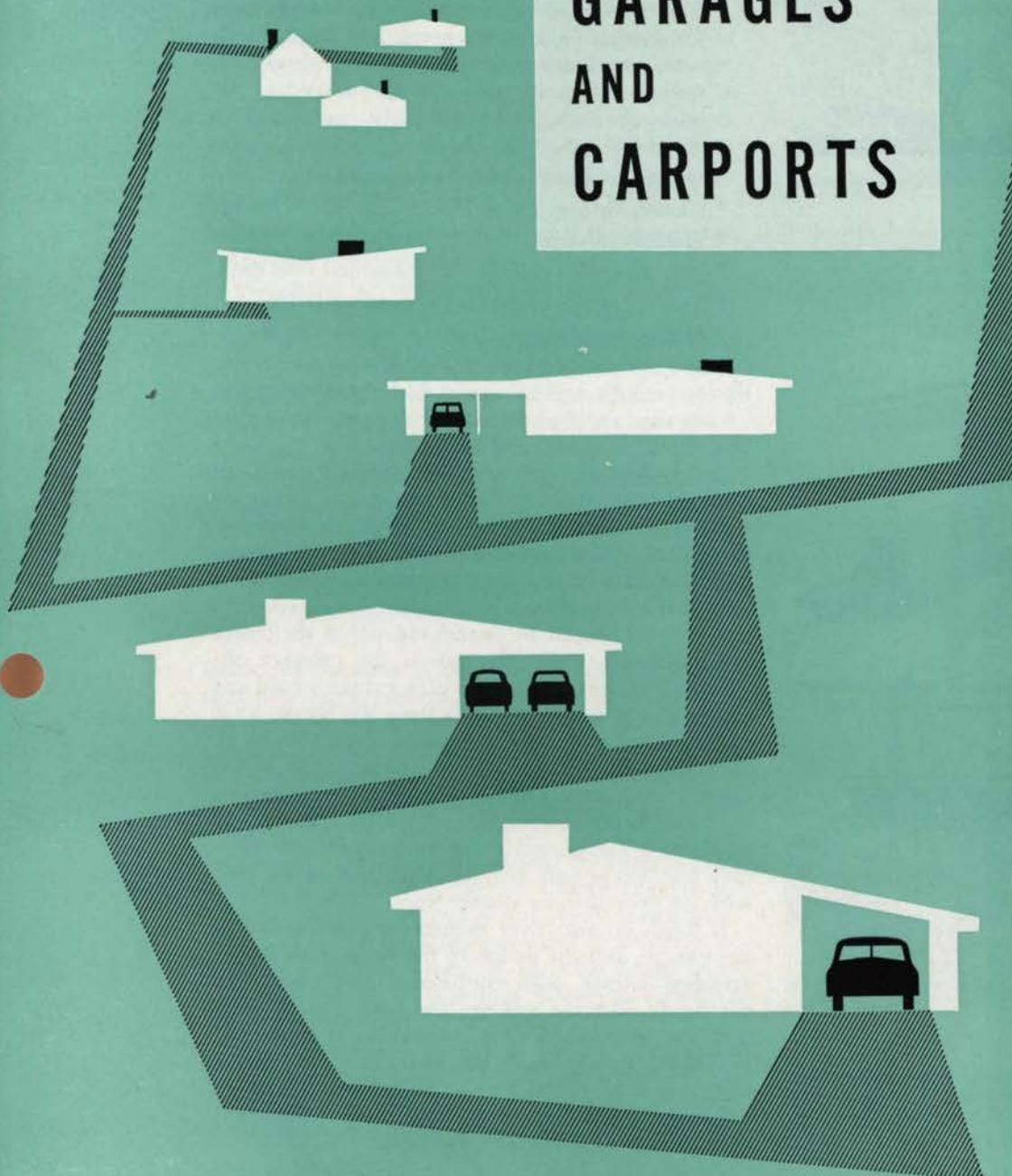


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GARAGES AND CARPORTS



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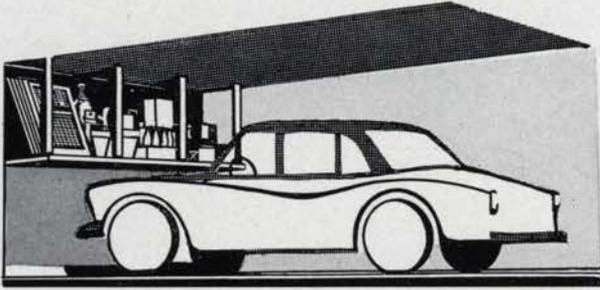
MATERIAL IN THIS CIRCULAR BY R. A. JONES AND J. T. LENDRUM
DEPARTMENT OF ARCHITECTURE AND SMALL HOMES COUNCIL

Editor: M. H. Kennedy

Illustrator: J. J. Sorbie

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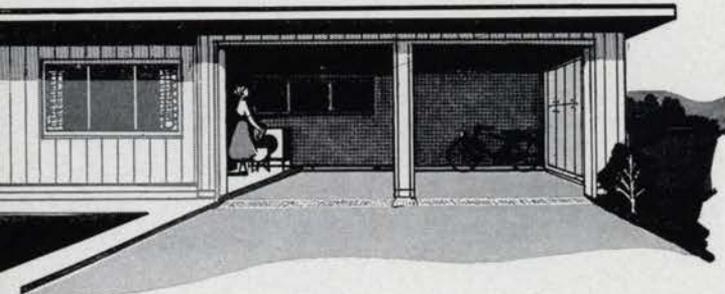
GARAGE OR CARPORT CAN SERVE MULTIPLE PURPOSES



Space over hood of car can be utilized for storage in a minimum garage.



Storage units form one wall of this carport. Raised sidewalk and roof of carport provide a pleasant covered outdoor area.



This double garage is arranged so that there is a raised laundry area along the wall which opens into the kitchen. Storage units are built into the opposite wall. Two 9-foot garage doors are used for convenience.

A garage or carport which serves only as a shelter for an automobile is an extravagance in today's concept of house planning. The garage or carport can easily be designed to provide:

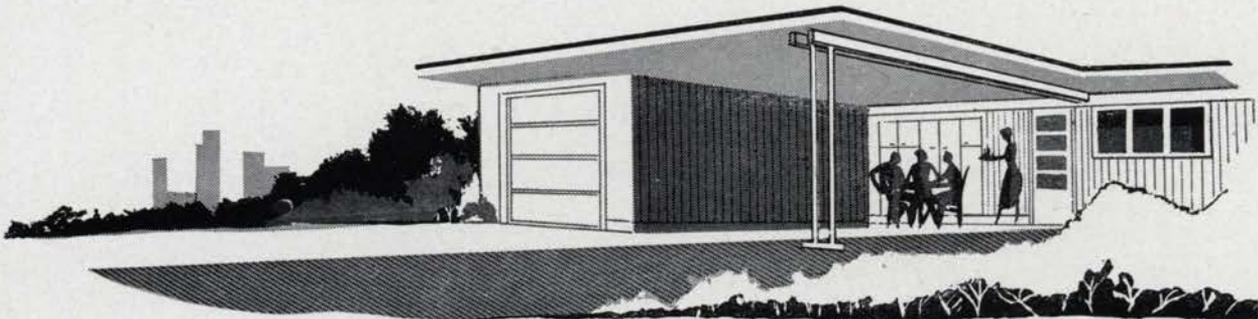
- The most convenient and cheapest storage area for garden equipment, porch and lawn furniture, bicycles, baby carriages, and general bulk storage. (Storage units can be installed at the side-walls and end-walls of a garage or a carport.)
- Utility area for laundry equipment.
- Clothes-drying space.
- Workshop area.
- Play space for children on rainy and cold days.
- Terrace space or porch for outdoor living.
- Shelter for the house against winter winds.

The multiple purposes, for which the shelter for the automobile will be used, will help to determine 1) whether the shelter will be a garage or a carport, 2) its location, and 3) its size.

In regions of cold weather, drifting snows, or driving rains, there is little choice — a garage is the logical shelter. A garage is also preferred if the space is to be used as a protected clothes-drying area, a cold-weather play area for children, or a workshop.

A carport should be considered: 1) if sheltering the automobile from the sun is the primary objective; 2) if the solid walls of a garage would cut out light and summer breezes from the house; 3) if the solid walls of a garage would appear to block the approach to the house or crowd it; 4) if the carport can serve also as a porch or terrace; or 5) if cost is a consideration. A carport can cost as much as a garage, or it can be built for considerably less if it is only a simple extension of the roof with no floor and no storage space.

If funds do not cover immediate construction of the garage, and the design of the house calls for an attached garage with continuous roof over both the house and the garage, the roof can be built and the space used as a carport until funds are available. In any case, the location of the driveway and that of the garage or carport should be definitely established when the house is planned even though construction is delayed.



Instead of a double garage, this house has a carport and a single garage. The carport also serves as a covered outdoor living area. Storage space is provided in one wall of the carport.

SITE PLANNING

The multiple purposes, for which the garage or carport is to be used, will help to determine its location on the lot and its position in relation to the house although other factors, such as the approach to the street, must also be considered.

Entrance Area: With the increasing importance of automobiles in family activities, the garage or carport area serves as the principal entrance court to the house and should be recognized as such in designing the house. Both the front door and the service door should be easily accessible from the driveway.

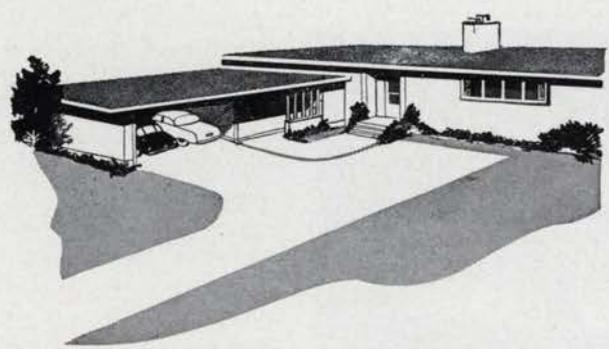
Orientation: If a choice of location for the garage is available, the orientation of the garage should be considered in respect to prevailing winds and also winter and summer sun. In some regions where the direction of the prevailing wind in winter is different from that in summer — *i.e.*, southwest breeze in summer and northwest wind in winter — the garage can sometimes be located to protect the house from winter winds (making it easier to heat) without blocking the desired summer breeze. Similarly, sometimes it is desirable and possible to place the garage on the west side of the house, thus protecting the house from the direct sun in summer and helping to keep the house cool. A desirable southern exposure should not be blocked by a garage.

Detached Garage: A detached garage, unless connected to the house by a breezeway or a porch, is not recommended. There are, of course, some unusual conditions, such as an extremely narrow lot, which might make it impossible to provide a garage or carport unless it is detached from the house.

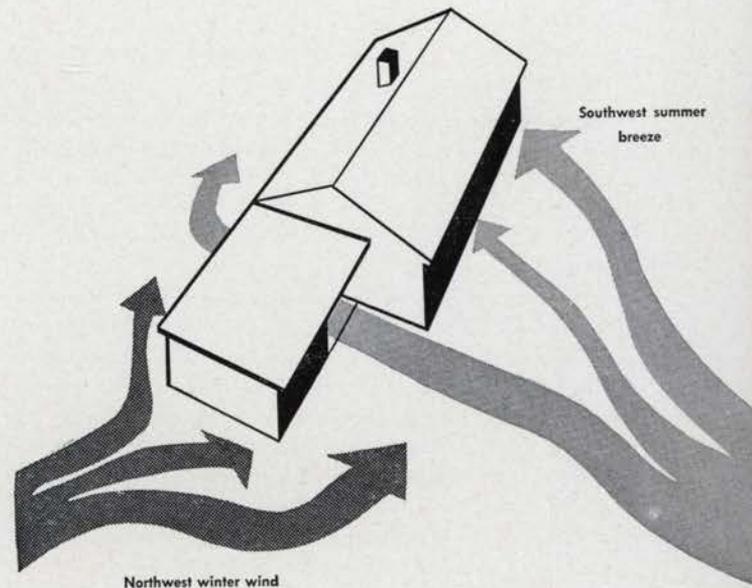
Driveway: The driveway should be straight and as short as possible. If the lot is large enough, an off-street parking area or a turn-court is desirable.

Do not locate the driveway close to a corner of the house, existing trees, or an area which is to have high hedges. These may block the view and possibly be the cause of accidents.

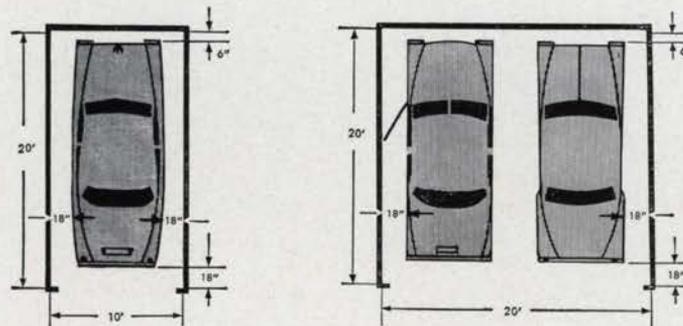
Paved driveways should be drained by using either "crowned" or "dished" cross-sections. If sidewalks are combined with driveways, they should be built slightly higher than the driveway.



The garage area can serve as the principal entrance court to the house, as is shown here. Both the front door and the service door are easily accessible from the driveway. The turn-court is another desirable feature.



Place garage to protect house from winter winds. Do not block summer breezes.



Minimum clearances and dimensions for a one-car garage and for a two-car garage.

DESIGN OF GARAGES

Because of its size, the garage door must be selected with an eye to appearance, particularly if the garage faces the street. Doors should be simple in design so that they do not dominate the house. A strong contrasting color on the door is generally undesirable.

The attached garage is important in the architectural design of the house since it forms a large part of the total area of the structure (often as much as one-fourth).

Garage designs that extend the line of the house ridge or the lines of the eaves, or those which seem to add to the total lengths of the walls (through the use of plain garage doors) generally make the house look larger and more attractive. Designs which break the line of the house or offer a strong contrast in material or color often detract from the appearance of the house. Garages purchased as stock items are too frequently selected and placed without regard to the house from the standpoint of design, materials, or location.



RECOMMENDATIONS FOR GARAGE CONSTRUCTION

The following recommendations are listed as a guide to garage planning and construction.

Size: Size of garage will vary according to uses planned for it. (See illustrations for recommended dimensions and clearances.)

Garage Door: Door 9 feet wide is well-worth additional cost; 8-foot door is common and minimum. On double garage, install a 16-foot door for economy or two single doors for convenience. Usual heights of doors are 6' 4" to 7'; taller ones are available.

Overhead doors, either one-piece or sectional, are easy to install and operate. Such doors are available in a variety of designs and operational hardware. Some project awning-like when open; others slide back into garage. Some require no space over doors; others, 16" to 18" above top of door. (Out-swinging hinged doors are difficult to open in snow and wind, and are easily damaged. Sliding and folding doors hung from overhead tracks take valuable garage wall space; moreover, obstructions, such as sticks and stones, interfere with door operation.)

Door Operators: Automatic-type operators are available for almost any type of overhead door. Push-button installations in house and automobile open and close the door.

Other Doors: One pedestrian door is recommended in addition to garage door.

Windows: At least one operating window is necessary. More windows are needed for light and cross-ventilation if garage is to be used for play area, workshop, or laundry. High, fixed windows may be advantageous over storage area.

Roof: If there is enough room under rafters, provision should be made for attic storage. Folding stairway to attic is suggested.

Insulation is needed under roof if garage is to be heated.

Wall: Wall between house and attached garage should have a one-hour fire rating. (For frame

construction: insulation plus $\frac{5}{8}$ " gypsum board or metal lath and plaster as interior-finish material.)

Insulation in walls is needed if garage is to be heated.

Foundation Wall: Raise foundation wall 4 inches above garage floor to protect bottom plate of frame wall from dampness.

Floor: Lay concrete slab floor 1 or 2 inches above driveway to avoid ice, snow, and surface-water difficulties. Slope floor 1 to 2 inches to door so water dripping from car will run out under door.

If garage is attached to house, floor should be one or two steps lower than that of house to prevent water, dirt, and fumes from entering house.

Plumbing: Connect sump pit or floor drain, if installation is permitted, to dry well — not to sewer system or septic tank. Most plumbing codes prohibit use of garage floor drains, it being hazardous if oil, grease, or gasoline should reach sewer system.

Install water-supply lines if garage is used as laundry. Water supply is desirable also for car washing.

Lights: Control the lights from inside house and garage. Most automatic door operators are wired so lights turn on automatically when garage door is opened.

Provide convenience outlets for car repair, laundry, workshop. Have shop equipment on separate circuit — power outlets and occasionally 220-volt outlets are needed.

Heating: Heat an attached garage in a northern region to above freezing point even if the garage is used only for storage of automobile. Heat garage if it is used for a rainy-day play area, shop, or laundry.

To heat, extend central-heating system (warm-air, hot-water, or steam). To avoid fumes being brought into house, no return-air duct from garage should be used with warm-air systems. No open flame should be allowed in garage.