

# VOLUME TWO

# HANDBOOK OF LANDSCAPE ARCHITECTURAL CONSTRUCTION

EDITED BY MAURICE NELISCHER

## V. Parking

Because of the automobile, we are a nation on wheels. It is almost becoming the basic unit in our planning, and is setting the scale and pattern to a great extent in our future development. As the number of vehicles and miles of roadway has increased, so has the need for planned parking spaces. Facilities requiring parking areas include nearly all types of land uses—shopping centers, schools, industrial plants, business offices, apartments, churches, etc., etc. With the advent of the multiple car family, many homes now require a parking area in addition to the driveway.

Most parking lots are ugly. In the words of one authority:

... parking lots seen at ground level become huge wastes of bulging, shiny, monstrously colored vegetation 5 feet high. Then after eight hours or so, this parking lot transforms itself into an empty, paved (usually black) waste of equally depressing appearance. Moreover, at certain periods a parking lot has all the unpleasant characteristics of a noisome industry—smell, smoke, noise, glaring lights, and in addition, a disrupting effect on traffic.<sup>50</sup>

Because of their necessity, it is important that parking areas be attractive and functional. The parking area is usually the first part of a facility or building complex seen by the user or visitor. It often creates the first impression by the people approaching the complex.

Every effort should be made to assure that parking areas are planned and constructed to be attractive, safe, and usable to the maximum degree.

### (A) Design Considerations

Thorough consideration of all factors pertaining to parking should be given to the overall plan of any project at its inception in order to integrate the design of buildings and structures with the parking areas and related improvements. Residential, commercial, industrial, institutional, recreational, and other types of projects all have particular requirements relative to parking, and should be planned accordingly. When detailed parking layouts are developed simultaneously with building plans, oversights leading to inefficient control of traffic and similar errors of design may be avoided. Otherwise, makeshift changes in construction or acceptance of unsatisfactory or compromise controls at a later date lead to an unfortunate result.

One of the major considerations in design is simplicity. Parking areas should not be complex—or designed in such a manner as to test the driver's ability.

#### Location:

For the motorist, there is only one really efficient parking place—right outside the door. This is the ideal. But because of space and practicality, this is not always possible, and in most instances undesirable when other considerations are taken into account.

The following factors should be considered when determining location of parking:

(1) relationship to other uses—If parking is to serve a particular use or facility within a site, it should be located in close proximity to the related functions.

Parking areas located near unrelated uses may cause undesirable disruption or conflict.

(2) existing topography—Since parking areas must be relatively level, steep grades or rough terrain should be avoided in order to minimize grading and costs.



Figure 150  
Cause Conflict Near Unrelated Uses

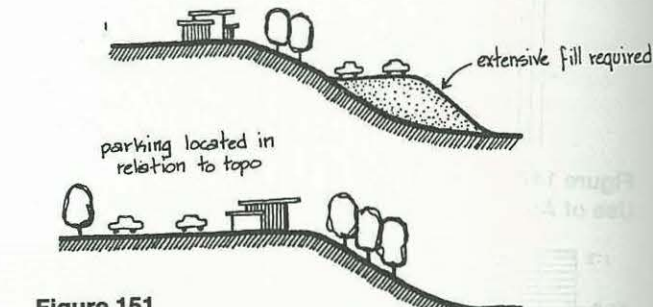


Figure 151  
Parking Location Influenced by Topography

(3) distance—length of stay—An all-day parker is always willing to walk further than the short-term visitor. If activities served by the parking area are of a character where people will stay for a length of time, then, they will walk further.

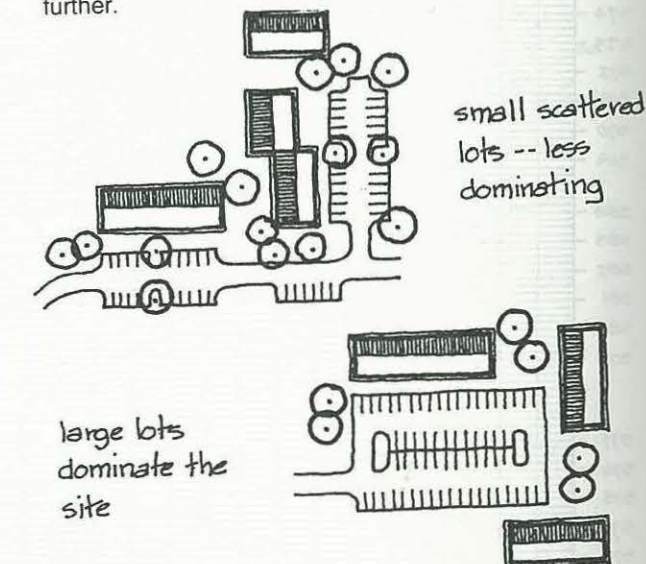


Figure 152

(4) type of land use

**Residential-Multi-Family**—In apartment and row house developments, it is desirable to place parking lots at the outside edges of the site and provide open space in the interior of the development. This will minimize conflict of auto-pedestrians in the site. Parking areas should still be located within 200 feet of the farthest dwelling unit, for convenience of residents. It is also desirable in many instances to use several smaller lots rather than a few large expansive parking areas.

**Commercial-Shopping Center**—Many shopping center developers argue that parking areas must be visible for customer convenience and attraction. Since closeness and convenience are important, parking location around the center is usually necessary to provide the maximum number of spaces within a reasonable distance—generally 300 feet is considered maximum.

**Industrial—Institutional**—Since visibility for customer convenience and attraction is not necessary, parking areas can be located at the side or rear of the site, thus preserving architectural unity of the street side of the building lot.

**Recreation**—Location of parking areas will depend on the type of activities. Again, short term activities will usually require parking closer to the activity, whereas, day or long term activities may permit parking areas to be located farther away. It would be desirable in any case to locate parking areas with the least intrusion into the site.

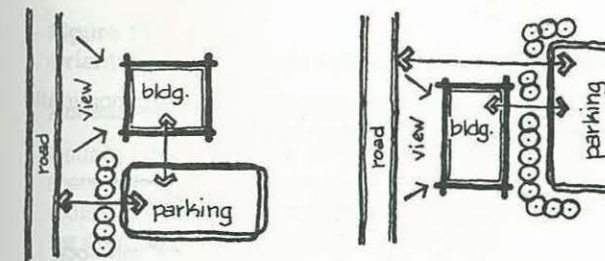


Figure 153  
Location in Respect to View from the Road

#### Number of Parking Spaces:

Required number of parking spaces for different land uses varies considerably, and depends upon many conditions. For instance, in medium density housing located in suburban areas, more parking per dwelling unit would be required in comparison to high-density in urban areas. The number of units, nearness to public facilities, income of residents, and public transportation can all influence number of spaces. In shopping centers, neighborhood type centers require more spaces per gross usable area than regional centers.

Table 43 suggests the number of parking spaces for different land uses. It should be used for preliminary planning purposes, and local ordinances should be consulted for specific requirements.

Table 43  
Parking Spaces Relative to Use

Land Use	1 parking space per
<b>Recreation</b>	
Beaches	100 sq. ft.
Swimming pools	30 sq. ft.
Athletic Fields and Courts	3000 sq. ft.
Stadiums	3 seats
Golf Course (18 hole)	1 acre
Hotels	2 rooms
Restaurants	3-10 seats
College and High Schools	2-5 students
Theater, auditoriums	5-10 seats
Hospitals	2-3 beds
Industrial Plants	2-5 employees
Wholesale business	2-5 employees
Multi-family dwelling	1/2-2/3 unit
Motels	1 unit
Churches	10 seats
Office buildings	300 sq. ft.
Regional Shopping Center	200 sq. ft. (gross usable area)
Community Shopping Center	145 sq. ft. (gross usable area)
Neighborhood Shopping Center	125 sq. ft. (gross usable area)

#### Layout:

The optimum design for a parking area is not necessarily the one which parks the maximum number of vehicles, but the one that also provides ample stall and aisle widths, pedestrian walks, adequate turning radii, reasonable grades, efficient movement of traffic, pleasant appearance, and convenient location.

Once a location for parking has been chosen, layout depends on whether to use parking stalls which are perpendicular to the traffic aisle or at an angle to the aisle.

#### Perpendicular

Generally, the 90 degree angle produces the highest car count. It is especially beneficial in long-term parking lots, such as office, plant, and employee areas, where drivers will exert more care in parking than would drivers in commercial lots. It also permits deadends in short lots and permits two way movements.

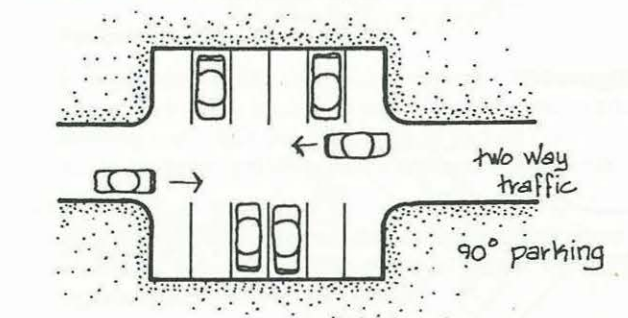


Figure 154

# HANDBOOK OF LANDSCAPE ARCHITECTURAL CONSTRUCTION

(First Edition)

## Volume II Site Works

Published by  
the  
LANDSCAPE ARCHITECTURE FOUNDATION  
Co-sponsored by  
Environmental Industries, Inc.  
and the  
Associated Landscape Contractors of America

The Landscape Architecture Foundation  
gratefully acknowledges the contributions of  
the  
University of Guelph  
for the use of their facilities in producing this book.

### CAUTIONARY NOTE TO USERS

This publication was compiled by practicing landscape architects under the auspices of the Landscape Architecture Foundation. This volume was prepared with care and diligence in order to produce a reliable resource for landscape architects and designers. Neither the LAF nor the individual authors however, can certify to the completeness and continuing accuracy of its contents. Furthermore, the specifications and standards contained in this volume are not intended to, nor should they be deemed to supersede local building codes or other applicable statutes, ordinances, or regulations.

Finally, by publishing this volume, the LAF is not attempting to render professional services. Users who may need such service should seek the advice of a competent professional.

#### First Edition

Copyright © 1988 by the Landscape Architecture Foundation. All rights reserved. No parts of this book covered by copyright hereon may be produced or used in any form or any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or information storage and retrieval systems, without written permission of the Landscape Architecture Foundation.

Cover Design: Maurice Nelischer  
Department of Landscape Architecture  
University of Guelph

Printed in White Plains, MD by Automated Graphic Systems.

Published in the United States in 1988 by the  
Landscape Architecture Foundation  
1733 Connecticut Avenue, NW  
Washington, D.C. 20009  
(202) 223-6229

Library of Congress Catalog Card Number: 85-40042

ISBN: 0-941236-09-9