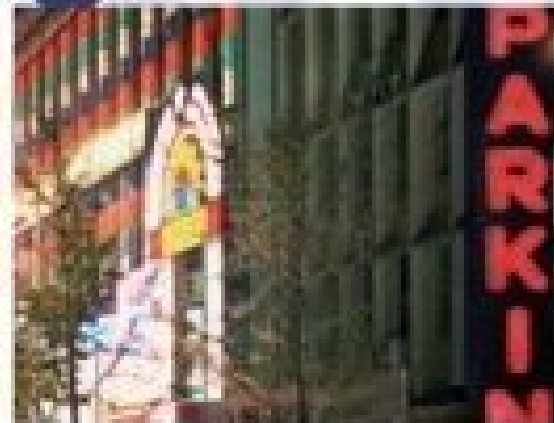
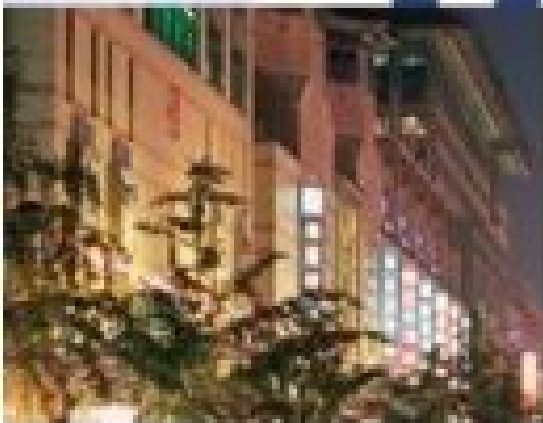
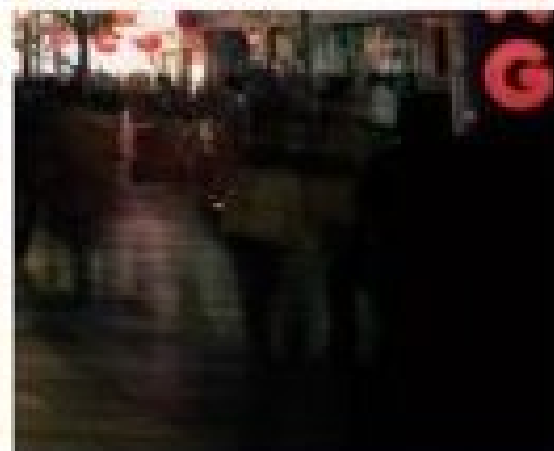


SHARED PARKING



SECOND EDITION



About ULI—the Urban Land Institute

ULI—the Urban Land Institute is a nonprofit education and research institute that is supported by its members. Its mission is to provide responsible leadership in the use of land in order to enhance the total environment.

ULI sponsors education programs and forums to encourage an open international exchange of ideas and sharing of experiences; initiates research that anticipates emerging land use trends and issues and proposes creative solutions based on that research; provides advisory services; and publishes a wide variety of materials to disseminate information on land use and development. Established in 1936, the Institute today has more than 26,000 members and associates from more than 80 countries representing the entire spectrum of the land use and development disciplines.

Richard Rosan

President

For more information about ULI and the resources that it offers related to parking and a variety of other real estate and urban development issues, visit ULI's Web site at www.uli.org.

About the International Council of Shopping Centers

Founded in 1957, the International Council of Shopping Centers (ICSC) is the global trade association of the shopping center industry. Its more than 54,000 members in the United States, Canada, and more than 96 other countries include shopping center owners, developers, managers, marketing specialists, investors, lenders, retailers, and other professionals as well as academics and public officials. As the global industry trade association, ICSC links with more than 25 national and regional shopping center councils throughout the world.

Michael P. Kercheval

President

For more information about ICSC and the products and services that it offers including publications and research data, visit ICSC's Web site at www.icsc.org.

Recommended bibliographic listing:

Smith, Mary S. *Shared Parking*. Second Edition. Washington, D.C.: ULI—the Urban Land Institute and the International Council of Shopping Centers, 2005.

ULI Catalog Number: 554

ICSC Catalog Number: 279

International Standard Book Number: 978-0-87420-939-6

Library of Congress Control Number: 2005/934519

Copyright 2005 by ULI—the Urban Land Institute and the International Council of Shopping Centers

ULI:

1025 Thomas Jefferson Street, N.W.

Suite 500 West

Washington, D.C. 20007-5201

ICSC:

1221 Avenue of the Americas

New York, NY 10020-1099

Printed in the United States of America. All rights reserved. No part of this book may be reproduced in any form or by any means, electronic or mechanical, including photocopying and recording, or by any information storage and retrieval system, without written permission of the publisher.

Shared Parking Study Team

Team Leader and Principal Author

Mary S. Smith
Senior Vice President
Walker Parking Consultants
Indianapolis, Indiana

Kemper Freeman
President
Bellevue Square Managers, Inc.
Bellevue, Washington

Kenneth H. Hughes
President
Hughes Development, L.P.
Dallas, Texas

Jean Lambert
Manager of Global Research
International Council of Shopping Centers
New York, New York

Ronald A. Massott
Senior Parking Specialist
Wilbur Smith Associates
Harrisburg, Pennsylvania

Michael P. McCarty
Senior Vice President
Simon Property Group
Indianapolis, Indiana

Joseph Stallsmith
Director of Civil Engineering
Simon Property Group
Indianapolis, Indiana

William A. Speer
President
Speer Consulting International
Coronado, California

James W. Todd
President
The Peterson Companies
Fairfax, Virginia

Other Contributors

Patrick Gibson
Vice President
Kaku Associates
Santa Monica, California

Ransford S. McCourt
Principal
DKS Associates
Portland, Oregon

Gerald Salzman
Senior Planner
Desman
Chicago, Illinois

Martin J. Wells
President
Wells Associates
McLean, Virginia

Jerry Wentzel
Regional Manager
DKS Associates
Tampa, Florida

Review Committee

Robert T. Dunphy
Senior Resident Fellow, Transportation and Infrastructure
ULI—the Urban Land Institute
Washington, D.C.

William R. Eager
President
TDA Inc.
Seattle, Washington

ULI Project Staff

Rachelle L. Levitt
*Executive Vice President, Policy and Practice
Publisher*

Gayle Berens
Vice President, Real Estate Development Practice

Robert T. Dunphy
*Senior Resident Fellow for Transportation and Infrastructure
Project Director*

Nancy H. Stewart
Director, Book Program

James A. Mulligan
Managing Editor

Duke Johns
Manuscript Editor

Betsy VanBuskirk
Art Director

Byron Holly
Book Designer

Susan S. Teachey/ON-Q Design, Inc.
Book Layout

Craig Chapman
Director, Publishing Operations

Ronnie Van Alstyne
Senior Administrative Assistant

ICSC Project Staff

Jean Lambert
Manager of Global Research

Rudolph E. Millian
*Senior Staff Vice President
Director of Professional Development Services*

Patricia Montagni
Director of Publications

Michael P. Niemira
*Staff Vice President
Chief Economist and Director of Research*

Jay Starr
*Senior Staff Vice President
Group Publisher, Director of Marketing and Membership*

Table 2-5 Recommended Time-of-Day Factors for Weekdays

Land Use	User	6 a.m.	7 a.m.	8 a.m.	9 a.m.	10 a.m.	11 a.m.	Noon	1 p.m.	2 p.m.
Shopping Center—Typical	Customer	1%	5%	15%	35%	65%	85%	95%	100%	95%
Peak December	Customer	1%	5%	15%	30%	55%	75%	90%	100%	100%
Late December	Customer	1%	5%	10%	20%	40%	65%	90%	100%	100%
	Employee	10%	15%	40%	75%	85%	95%	100%	100%	100%
Fine/Casual Dining	Customer	—	—	—	—	15%	40%	75%	75%	65%
	Employee	—	20%	50%	75%	90%	90%	90%	90%	90%
Family Restaurant	Customer	25%	50%	60%	75%	85%	90%	100%	90%	50%
	Employee	50%	75%	90%	90%	100%	100%	100%	100%	100%
Fast Food	Customer	5%	10%	20%	30%	55%	85%	100%	100%	90%
	Employee	15%	20%	30%	40%	75%	100%	100%	100%	95%
Nightclub	Customer	—	—	—	—	—	—	—	—	—
	Employee	—	—	—	5%	5%	5%	5%	10%	10%
Cineplex—Typical	Customer	—	—	—	—	—	—	20%	45%	55%
Late December	Customer	—	—	—	—	—	—	35%	60%	75%
	Employee	—	—	—	—	—	—	50%	60%	60%
Performing Arts Theater	Customer	—	—	—	1%	1%	1%	1%	1%	1%
No matinee	Employee	—	10%	10%	20%	20%	20%	30%	30%	30%
Arena	Customer	—	—	—	1%	1%	1%	1%	1%	1%
No matinee	Employee	—	10%	10%	20%	20%	20%	30%	30%	30%
Stadium	Customer	—	—	—	1%	1%	1%	5%	5%	5%
8 p.m. start	Employee	—	10%	10%	20%	20%	20%	30%	30%	30%
Health Club	Customer	70%	40%	40%	70%	70%	80%	60%	70%	70%
	Employee	75%	75%	75%	75%	75%	75%	75%	75%	75%
Convention Center	Visitor	—	—	50%	100%	100%	100%	100%	100%	100%
	Employee	5%	30%	33%	33%	100%	100%	100%	100%	100%
Hotel—Business	Guest	95%	90%	80%	70%	60%	60%	55%	55%	60%
Hotel—Leisure	Guest	95%	95%	90%	80%	70%	70%	65%	65%	70%
Restaurant/Lounge	Customer	—	10%	30%	10%	10%	5%	100%	100%	33%
Conference/Banquet	Customer	—	—	30%	60%	60%	60%	65%	65%	65%
Convention	Customer	—	—	50%	100%	100%	100%	100%	100%	100%
	Employee	5%	30%	90%	90%	100%	100%	100%	100%	100%
Residential	Guest	—	10%	20%	20%	20%	20%	20%	20%	20%
Residential	Reserved	100%	100%	100%	100%	100%	100%	100%	100%	100%
Residential	Resident	100%	90%	85%	80%	75%	70%	65%	70%	70%
Office	Visitor	—	1%	20%	60%	100%	45%	15%	45%	100%
Office	Employee	3%	30%	75%	95%	100%	100%	90%	90%	100%
Medical/Dental Office	Visitor	—	—	90%	90%	100%	100%	30%	90%	100%
	Employee	—	—	60%	100%	100%	100%	100%	100%	100%
Bank	Customer	—	—	50%	90%	100%	50%	50%	50%	70%
	Employee	—	—	60%	100%	100%	100%	100%	100%	100%

3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.	8 p.m.	9 p.m.	10 p.m.	11 p.m.	Midnight	Source
90%	90%	95%	95%	95%	80%	50%	30%	10%	—	1
100%	95%	85%	80%	75%	65%	50%	30%	10%	—	1
100%	95%	85%	70%	55%	40%	25%	15%	5%	—	1
100%	100%	95%	95%	95%	90%	75%	40%	15%	—	2
40%	50%	75%	95%	100%	100%	100%	95%	75%	25%	2
75%	75%	100%	100%	100%	100%	100%	100%	85%	35%	2
45%	45%	75%	80%	80%	80%	60%	55%	50%	25%	2
75%	75%	95%	95%	95%	95%	80%	65%	65%	35%	2
60%	55%	60%	85%	80%	50%	30%	20%	10%	5%	3
70%	60%	70%	90%	90%	60%	40%	30%	20%	20%	2
—	—	—	25%	50%	75%	100%	100%	100%	100%	2
10%	20%	45%	70%	100%	100%	100%	100%	100%	100%	2
55%	55%	60%	60%	80%	100%	100%	80%	65%	40%	2, 6
80%	80%	80%	70%	80%	100%	100%	85%	70%	55%	2, 6
75%	75%	100%	100%	100%	100%	100%	100%	70%	50%	2
1%	1%	1%	1%	25%	100%	100%	—	—	—	2
30%	30%	30%	100%	100%	100%	100%	30%	10%	5%	2
1%	1%	1%	10%	25%	100%	100%	85%	—	—	2
30%	30%	30%	100%	100%	100%	100%	30%	10%	5%	2
5%	5%	5%	10%	50%	100%	100%	85%	25%	—	2
30%	30%	30%	100%	100%	100%	100%	100%	25%	10%	2
70%	80%	90%	100%	90%	80%	70%	35%	10%	—	2, 4
75%	75%	100%	100%	75%	50%	20%	20%	20%	—	2, 4
100%	100%	100%	50%	30%	30%	10%	—	—	—	2
100%	90%	70%	40%	25%	20%	20%	5%	—	—	2
60%	65%	70%	75%	75%	80%	85%	95%	100%	100%	5
70%	75%	80%	85%	85%	90%	95%	95%	100%	100%	2
10%	10%	30%	55%	60%	70%	67%	60%	40%	30%	5, 3
65%	65%	100%	100%	100%	100%	100%	50%	—	—	2
100%	100%	100%	50%	30%	30%	10%	—	—	—	2
100%	90%	70%	40%	20%	20%	20%	20%	10%	5%	2
20%	20%	40%	60%	100%	100%	100%	100%	80%	50%	2
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	2
70%	75%	85%	90%	97%	98%	99%	100%	100%	100%	2
45%	15%	10%	5%	2%	1%	—	—	—	—	2
100%	90%	50%	25%	10%	7%	3%	1%	—	—	3
100%	90%	80%	67%	30%	15%	—	—	—	—	2
100%	100%	100%	67%	30%	15%	—	—	—	—	2
50%	80%	100%	—	—	—	—	—	—	—	3
100%	100%	100%	—	—	—	—	—	—	—	2

Sources:

1. Confidential data provided by shopping center managers.
2. Developed by team members.
3. *Parking Generation*, 3rd ed. (Washington, D.C.: Institute of Transportation Engineers, 2004).
4. John W. Dorsett, "Parking Requirements for Health Clubs," *The Parking Professional*, April 2004.
5. Gerald Salzman, "Hotel Parking: How Much Is Enough?" *Urban Land*, January 1988.
6. Parking study conducted by Patton Harris Rust & Associates for the Peterson Companies, 2001.

Table 2-6 Recommended Time-of-Day Factors for Weekends

Land Use	User	6 a.m.	7 a.m.	8 a.m.	9 a.m.	10 a.m.	11 a.m.	Noon	1 p.m.	2 p.m.
Shopping Center—Typical	Customer	1%	5%	10%	30%	50%	65%	80%	90%	100%
Peak December	Customer	1%	5%	10%	35%	60%	70%	85%	95%	100%
Late December	Customer	1%	5%	10%	20%	40%	60%	80%	95%	100%
	Employee	10%	15%	40%	75%	85%	95%	100%	100%	100%
Fine/Casual Dining	Customer	—	—	—	—	—	15%	50%	55%	45%
	Employee	—	20%	30%	60%	75%	75%	75%	75%	75%
Family Restaurant	Customer	10%	25%	45%	70%	90%	90%	100%	85%	65%
	Employee	50%	75%	90%	90%	100%	100%	100%	100%	100%
Fast Food	Customer	5%	10%	20%	30%	55%	85%	100%	100%	90%
	Employee	15%	20%	30%	40%	75%	100%	100%	100%	95%
Nightclub	Customer	—	—	—	—	—	—	—	—	—
	Employee	—	—	—	5%	5%	5%	5%	10%	10%
Cineplex—Typical	Customer	—	—	—	—	—	—	20%	45%	55%
Late December	Customer	—	—	—	—	—	—	35%	60%	75%
	Employee	—	—	—	—	—	—	50%	60%	60%
Performing Arts Theater	Customer	—	—	—	1%	1%	1%	1%	17%	67%
With matinee	Employee	—	10%	10%	20%	20%	20%	30%	100%	100%
Arena (two shows)	Customer	—	—	—	1%	1%	1%	1%	25%	95%
	Employee	—	10%	10%	20%	20%	20%	30%	100%	100%
Stadium (1 p.m. start; see weekday for evening game)	Customer	—	—	1%	1%	5%	5%	50%	100%	100%
	Employee	—	5%	10%	20%	30%	30%	100%	100%	100%
Health Club	Customer	80%	45%	35%	50%	35%	50%	50%	30%	25%
	Employee	50%	50%	50%	50%	50%	50%	50%	50%	50%
Convention Center	Visitor	—	—	50%	100%	100%	100%	100%	100%	100%
	Employee	5%	30%	33%	33%	100%	100%	100%	100%	100%
Hotel—Business	Guest	95%	90%	80%	70%	60%	60%	55%	55%	60%
Hotel—Leisure	Guest	95%	95%	90%	80%	70%	70%	65%	65%	70%
Restaurant/Lounge	Customer	—	10%	30%	10%	10%	5%	100%	100%	33%
Conference/Banquet	Customer	—	—	30%	60%	60%	60%	65%	65%	65%
Convention	Customer	—	—	50%	100%	100%	100%	100%	100%	100%
	Employee	5%	30%	90%	90%	100%	100%	100%	100%	100%
Residential	Guest	—	20%	20%	20%	20%	20%	20%	20%	20%
Residential	Reserved	100%	100%	100%	100%	100%	100%	100%	100%	100%
Residential	Resident	100%	90%	85%	80%	75%	70%	65%	70%	70%
Office	Visitor	—	20%	60%	80%	90%	100%	90%	80%	60%
Office	Employee	—	20%	60%	80%	90%	100%	90%	80%	60%
Medical/Dental Office	Visitor	—	—	90%	90%	100%	100%	30%	—	—
	Employee	—	—	60%	100%	100%	100%	100%	—	—
Bank	Customer	—	—	25%	40%	75%	100%	90%	—	—
	Employee	—	—	90%	100%	100%	100%	100%	—	—

3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.	8 p.m.	9 p.m.	10 p.m.	11 p.m.	Midnight	Source
100%	95%	90%	80%	75%	65%	50%	35%	15%	—	1
100%	95%	90%	80%	75%	65%	50%	35%	15%	—	1
100%	95%	85%	70%	60%	50%	30%	20%	10%	—	1
100%	100%	95%	85%	80%	75%	65%	45%	15%	—	2
45%	45%	60%	90%	95%	100%	90%	90%	90%	50%	2
75%	75%	100%	100%	100%	100%	100%	100%	85%	50%	2
40%	45%	60%	70%	70%	65%	30%	25%	15%	10%	2
75%	75%	95%	95%	95%	95%	80%	65%	65%	35%	2
60%	55%	60%	85%	80%	50%	30%	20%	10%	5%	3
70%	60%	70%	90%	90%	60%	40%	30%	20%	20%	2
—	—	—	25%	50%	75%	100%	100%	100%	100%	2
10%	20%	45%	70%	100%	100%	100%	100%	100%	100%	2
55%	55%	60%	60%	80%	100%	100%	100%	80%	50%	2, 6
80%	80%	80%	70%	80%	100%	100%	100%	85%	70%	2, 6
75%	75%	100%	100%	100%	100%	100%	100%	70%	50%	2
67%	1%	1%	1%	25%	100%	100%	—	—	—	2
100%	30%	30%	100%	100%	100%	100%	30%	10%	5%	2
95%	81%	1%	1%	25%	100%	100%	—	—	—	2
100%	100%	30%	100%	100%	100%	100%	30%	10%	5%	2
85%	25%	—	—	—	—	—	—	—	—	2
100%	25%	10%	5%	5%	—	—	—	—	—	2
30%	55%	100%	95%	60%	30%	10%	1%	1%	—	2, 4
50%	75%	100%	100%	75%	50%	20%	20%	20%	—	2, 4
100%	100%	100%	50%	30%	30%	10%	—	—	—	2
100%	90%	70%	40%	25%	20%	20%	5%	—	—	2
60%	65%	70%	75%	75%	80%	85%	95%	100%	100%	5
70%	75%	80%	85%	85%	90%	95%	95%	100%	100%	2
10%	10%	30%	55%	60%	70%	67%	60%	40%	30%	5
65%	65%	100%	100%	100%	100%	100%	50%	—	—	5
100%	100%	100%	50%	30%	30%	10%	—	—	—	2
100%	90%	75%	60%	55%	55%	55%	45%	45%	30%	5
20%	20%	40%	60%	100%	100%	100%	100%	80%	50%	2
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	2
70%	75%	85%	90%	97%	98%	99%	100%	100%	100%	2
40%	20%	10%	5%	—	—	—	—	—	—	2
40%	20%	10%	5%	—	—	—	—	—	—	3
—	—	—	—	—	—	—	—	—	—	2
—	—	—	—	—	—	—	—	—	—	2
—	—	—	—	—	—	—	—	—	—	3
—	—	—	—	—	—	—	—	—	—	2

Sources:

1. Confidential data provided by shopping center managers.
2. Developed by team members.
3. *Parking Generation*, 3rd ed. (Washington, D.C.: Institute of Transportation Engineers, 2004).
4. John W. Dorsett, "Parking Requirements for Health Clubs," *The Parking Professional*, April 2004.
5. Gerald Salzman, "Hotel Parking: How Much Is Enough?" *Urban Land*, January 1988.
6. Parking study conducted by Patton Harris Rust & Associates for the Peterson Companies, 2001.