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The Safety and Security of U.S. Hotels:

A Post-September 11 Report

by Cathy A. Enz, Ph.D.,
and Masako S. Taylor, MMH

The Center for Hospitality Research
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An inventory of the safety and security features of 2,123 U.S. hotels found an uneven distribution of these key amenities in various hotel types, with differences relating to such factors as hotel size, age, price segment, hotel type and location. Although safety features are essentially a subset of security features, the two can be distinguished from each other. Safety considerations involve protecting people, while security factors embrace protecting the hotel property and guests' possessions, in addition to ensuring employees' and guests' personal safety. Safety equipment includes items such as sprinklers and smoke detectors, while security features include electronic locks and security cameras. By assigning weights to the two sets of items, the authors created two indexes, one for safety equipment and one for security equipment. The higher the hotel's score on each index, the greater the level of its safety and security equipment.

Analyzing the hotels' scores on those indexes across several different categories, the authors found considerable diversity in safety and security index scores for various types of hotel. About one-third of all hotels scored relatively high on both scales (85 or higher out of 100), but 16 percent scored 25 or less on the security scale. Luxury and upscale hotels recorded the highest scores for safety and security, while economy and midprice full-service hotels scored lower than most segments on the safety scale—even though a large proportion have sprinklers. The age of the property has a strong influence on its safety and secu-

rity scores. In general, the newer the hotel, the higher its safety and security scores. This is because electronic locks, sprinklers, and interior corridors are relatively less common in old hotels (over 29 years) than in hotels built in the last decade. The exception to that rule occurs in luxury hotels, which are renovated frequently regardless of their age.

A hotel's location type has considerable influence. Airport hotels earned the highest safety and security scores (because they tended to have a full panoply of safety and security devices), while resorts were one of the lowest-scoring sectors (chiefly because so many of them lack sprinklers and electronic door locks). While hotels' safety and security indexes differed only slightly by geographic region, one area that did record relatively low security (but not safety) scores is New England. This may be a function of the many small inns and B&Bs in this region, properties that typically score low on security equipment.

The survey turned up marked differences in the safety and security indexes by property type. All-suite properties, conference and convention hotels, and standard full-service hotels tended to score high on the indexes. On the other hand, motels as a group had the lowest safety and security scores, and condos and (as mentioned) B&Bs also scored low. A parallel finding is that large hotels generally scored higher than small hotels on both indexes.

About the Researchers

Cathy A. Enz, *Ph.D., is the Lewis G. Schaeneman Jr. Professor of Innovation and Dynamic Management at the School of Hotel Administration at Cornell University, where she is also the Executive Director of the Center for Hospitality Research. Dr. Enz received her Ph.D. in organizational theory from the Ohio State University Graduate School of Business, and previously was on the faculty of the Graduate School of Business at Indiana University. Prior to her academic activities Professor Enz was a strategy-development analyst in the office of corporate research for a large insurance organization, and was an operations manager responsible for Midwestern United States customer service and logistics in the dietary food-service division of a large U.S. health-care corporation. Her expertise focuses on issues of strategic change and implementation, service delivery and innovation.*

Masako S. Taylor, *MMH, is a Ph.D. candidate at Cornell University School of Hotel Administration. She has worked in international hotel operations as a training specialist, including Hyatt International and Hilton International. Her area of interest include cross-cultural organizational behavior in multinational hotel companies. Her recent research has examined the impact of terrorist attacks on U.S. hotels.*

The authors gratefully acknowledge the assistance of Brian Ferguson of Smith Travel Research in providing access to this comprehensive database collected by RealTime Hotel reports prior to its acquisition by Smith Travel Research.

The Safety and Security of U.S. Hotels:

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AMONG THE MANY outcomes of the terrible events of September 11, 2001, is a renewed interest in the safety and security of hotels. This has always been an important issue, but it has become a top-of-the-mind matter for hotel guests and managers alike. For one thing, experts have warned that hotels themselves may become targets of terrorism.[1] In response to those concerns, some hotel operators have created new security procedures, such as conducting more detailed background checks on their employees. Hilton Hotels now requires customers to show a photo ID on check in, for instance, while Starwood Hotels and Resorts has raised security standards in its parking garages.[2] Industry experts have added their advice to the discussion by urging hotel operators to revise and update their safety and security plans for providing a safe environment for guests.

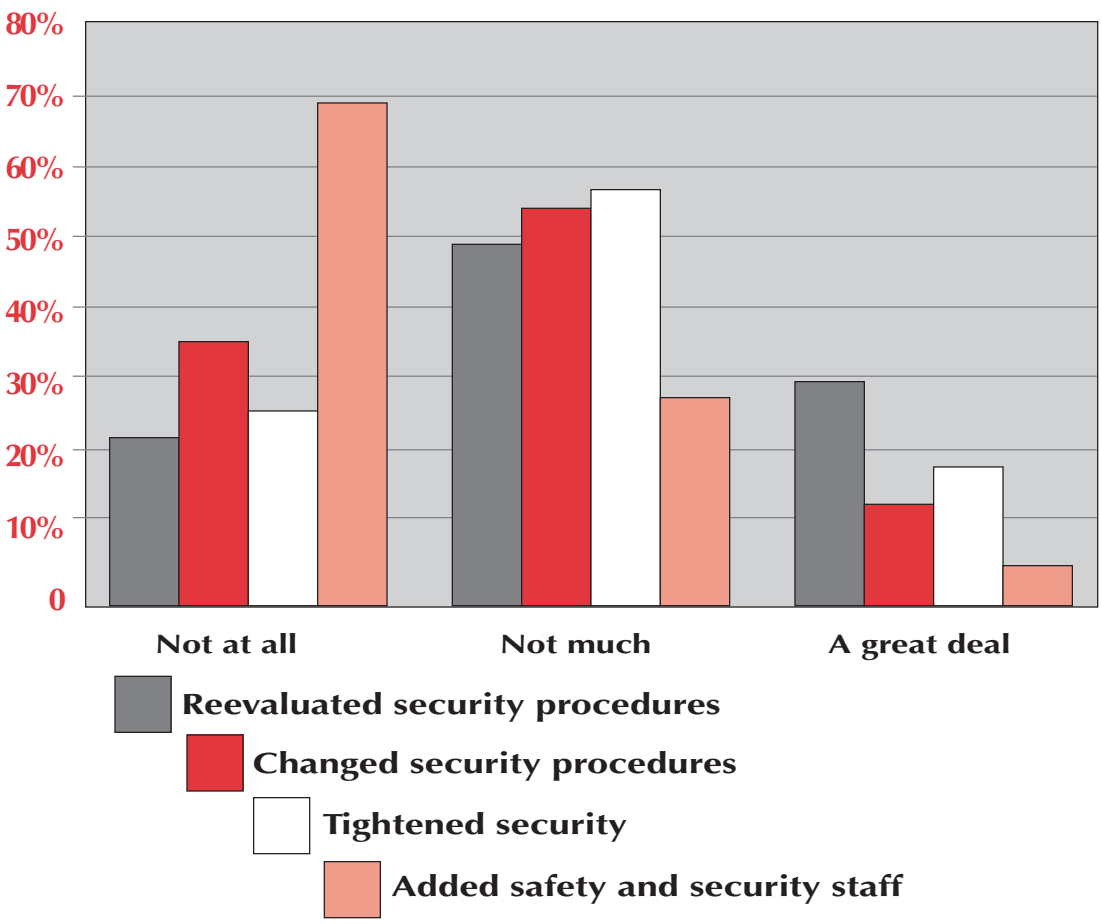
Safety and security standards are made up of two major elements: **(1)** physical-safety attributes and **(2)** organizational systems and plans to ensure safe operation. This report focuses chiefly on the first element, physical attributes, which includes the installation of specialized equipment and the provision of materials and information

[1] For example, see: *Hotel Security Report*, October 2001, Vol. 19, No. 11, p. 1.

[2] Ruthanne Terrero, "Hotels Step up Security: Prepare for Future Events by Training Employees," *Hotel Business,* October 21–November 6, 2001, p. 15.

EXHIBIT 1

Percentage of hotel GMs who implemented selected security strategies after September 11



outlining safety and security procedures. The second element, organizational systems and plans, includes employing and training safety and security personnel, and establishing plans and procedures relating to safety and security issues.

Before we turn to our main topic, physical-safety and -security attributes, we touch on changes in hotels' organizational systems and plans. To examine that aspect of safety, we conducted a study of general managers' post-September-11 activities, investigating the degree to which they had altered their organizational systems and plans.[3] As a part of a larger survey to gain

[3] For a discussion of this study and its findings regarding GMs' attitudes and actions, see: Masako S. Taylor and Cathy A. Enz, "Voices from the Field," *Cornell Hotel and Restaurant Administration Quarterly,* Vol. 43, No. 1 (February 2002), pp. 7–20.

insights into hotel operators' reactions to September 11, we asked hotel operators whether they had reevaluated security procedures, made changes to their procedures, tightened security for guests, or added security staff. In contrast to media reports that hotels had enhanced their safety and security measures, our own study (conducted one month after September 11) revealed that over one-third of general managers surveyed had done nothing to alter their security procedures, and 25 percent had done nothing to tighten security for their guests. As we discuss below, this finding, though potentially disturbing, may be due to the possibility that many hotels already have reasonably complete security procedures in place.

Hotel operators need to strike a sensitive balance between guest safety and accessible, friendly service.

The results shown in Exhibit 1 (on the previous page) revealed that GMs were not doing a large amount of reevaluation of their security procedures (only 29 percent indicated they had done a great deal), and even fewer were substantially changing their procedures (only 12 percent reported making a great deal of change). When it came to adding employees, about 70 percent of the GMs responded that they had made no additions to their security staff. While the overall picture would suggest that little effort was devoted to rethinking safety and security, some hotels reported making a great deal of change. For example, luxury hotels, upscale hotels, convention and conference hotels, and airport hotels added security employees and either reevaluated or changed their procedures.

Already in place. While the data from our post-September-11 survey shows considerable variations in U.S. hotels' responses, what it does not reveal is the degree to which hotels had safety and security equipment before the terrorist attack. It is possible, for instance, that many hotels may already have made considerable investments in safety and security features (in addition to any policies and procedures). To explore the question of safety and security features within U.S. hotels, we devised a safety index and a security index, and then examined how hotels scored on those indexes. Our purpose was to quantify the physical-safety and security features in hotels and compare hotels by price segment, location, hotel type, age, and property size. This report details our findings.

Elements of Hotel Safety and Security

The continuous flow of people in and out of a hotel poses a longstanding challenge to the property's security and to the safety of the people in that hotel. Given the semi-public nature of hotel buildings, it is difficult to distinguish among guests, legitimate visitors, and people who are potential threats. To preserve customer-service standards, moreover, hoteliers may find it awkward to lock the doors at certain times or to require identification for entry to the building. Indeed, maintaining the highest possible standards of safety may stand in conflict with preserving hotels' hospitable and welcoming image—creating potentially negative effects on customer service. While the lack of safety and security standards can be a liability, security that is too strict (or obtrusive) may ruin customers' service experiences. Customers may *say* that they prefer hotels with high standards of safety and security, but at the same time they may be irritated when such standards cause inconvenience. As a consequence, hotel operators need to strike a sensitive balance between safety and accessible, friendly service.

Twin concepts. While the words "safety" and "security" are commonly used interchangeably, the two concepts differ in their focus. Safety involves protecting employees and customers within the hotel property from potential injury or death. Safety issues deal with the effects of accidents, hazardous materials, and fire, for example.[4] In addition to the safety issues we just mentioned, hotel security goes beyond protecting employees and guests and is also concerned with preserving guests' possessions and the property itself. Security issues involve such matters as theft and violent crime. Indeed, some experts include safety as a category of security issues.[5] We follow the experts' lead in that regard and treat safety as a particular form of security that focuses on the protection of guests from injuries (whether from accidents or criminal activity).

In conducting our study, we distinguish safety attributes of hotels (e.g., sprinklers, smoke detectors, and guest-safety instructions) from security features (e.g., electronic locks and interior corridors). We devised two indexes, one measuring safety amenities and the other assessing security equipment. We realize

[4] Dan. M. Bowers, "Security Fundamentals for the Safety Engineer," December 2001, pp. 31–33; and Raymond C. Ellis, Jr., and David M. Stipanuk, *Security and Loss Prevention Management* (East Lansing, MI: Educational Institute of the AH&MA, 1999).

[5] Ellis and Stipanuk, *op. cit.*

EXHIBIT 2
Safety and security indexes

Safety Index

Physical Feature	*Weighting*
Sprinklers	0.30
Smoke detector	0.25
Safety material	0.20
Safety video	0.15
Security camera	0.10

Security Index

Physical Feature	*Weighting*
Electronic locks	0.40
Interior corridor	0.20
Security camera	0.20
Safety material	0.10
Safety video	0.10

Note: **To obtain a score, each weighted item is multiplied by 1 if the feature is present and 0 if the feature is absent. The resulting scores are summed and multiplied by 100 for a final index score. For example, a property with sprinklers and smoke detectors would have a safety-index score of 55 (out of a possible 100). See Exhibit 11 on page 27 for an example of how to use the indexes.**

that an inventory of various physical-safety and security features is by no means exhaustive. (For example, appropriate lighting is an important safety feature that is not a part of our index and, in fact, is often overlooked.[6] Other omitted safety features include fire extinguishers, accident-prevention and warning signs, and glass protection, to name a few.) Moreover, the mere presence of such equipment as electronic locks and security cameras does not guarantee guests' security in the absence of personnel who are well trained to implement a fully developed emergency plan. On the other hand, a hotel would be hard pressed to implement an effective security plan in the absence of appropriate security equipment.

[6] An old, but authoritative discussion of the principles of security lighting can be found in: Abe H. Feder, "Lighting for Security," *Cornell Hotel and Restaurant Administration Quarterly,* Vol. 13, No. 1 (May 1972), pp. 13–21.

The Indexes

To develop the indexes of physical standards of hotel safety and security (shown in Exhibit 2), we drew from the American Hotel & Lodging Association's 2001 Lodging Survey prepared by RealTime Hotel Reports.[7] This annual survey is distributed to general managers throughout the United States. All hotels in the U.S., whether members of AH&LA or not, were given the opportunity to participate in the survey, and the four-page survey was distributed to 38,002 properties. The final sample was representative of the population of U.S. hotels in geographic dispersion, but underrepresented small hotels (i.e., those with fewer than 75 rooms). Of the 7,923 hotels that responded to the lodging survey, a total of 2,123 hotels were included in this investigation—only those that responded to the survey by answering all safety and security questions and did not leave any blanks.

Respondents were asked to indicate whether their hotel has specific safety and security features (among other amenities), including electronic locks, sprinklers, smoke detectors, safety materials, safety videos, interior corridors, and security cameras.

Because some features are more important than others to a hotel's safety and security, we weighted each feature on its relative importance to hotel safety or security, based on our consultations with hospitality-industry property-management experts. For example, we accorded greater weight in the safety index to sprinklers and smoke detectors than to safety-instruction materials, such as in-room safety videos. In the security index, electronic locks received the greatest weight, while security cameras and interior corridors earned lower weights. As shown in Exhibit 2, we set the range of these weighted indexes from 0 (no physical safety or security features reported) to 100 (all of the safety and security features are present).[8]

The average safety-index score for our sample is 66.4 (with a standard deviation of 19.9), while the average security-index score is 59.6 (with a standard

Continued on page 14

[7] The Lodging Survey was funded by the American Hotel and Lodging Foundation and the data were collected by Realtime Hotel Reports, now a part of Smith Travel Research.

[8] To determine how important the weightings were to our study results, we ran the analyses with indexes composed of equally weighted safety and security items. The pattern of results was the same as that found when the features were given weights according to their importance. With the equally weighted features significant differences were found for price segments, location type, hotel type, size, and age of the properties. We also combined the two indexes into one with equal weights for all features and again found a similar pattern of results.

EXHIBIT 3
Descriptive data for safety and security indexes

Safety Index

	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile	Minimum Score	Maximum Score	Mean	Standard Deviation
All Hotels	7.1%	18.8%	39.1%	34.9%	0	100	66.4	19.9
Price Segments								
Luxury	1.6%	1.6%	26.2%	70.6%	25	100	81.8	11.3
Upscale	0.0%	5.1%	36.2%	58.7%	45	100	79.1	11.3
Midprice full	2.0%	24.8%	45.7%	27.6%	20	100	65.4	17.7
Midprice limited	0.0%	3.3%	45.5%	51.2%	35	100	77.6	10.9
Economy	4.6%	18.6%	41.4%	35.4%	25	100	66.1	18.6
Extended Stay	1.6%	2.4%	38.1%	57.9%	25	100	78.4	12
Location Type								
Urban	5.9%	15.9%	33.1%	45.1%	0	100	69.0	20.1
Suburban	5.5%	12.7%	42.5%	39.3%	0	100	69.8	18.5
Airport	1.6%	3.9%	36.7%	57.8%	25	100	77.4	13.4
Highway	7.5%	20.9%	43.3%	28.3%	25	100	63.2	19.3
Resort	10.1%	29.4%	38.7%	21.9%	0	100	61.2	20.5
Hotel Type								
All Suite	3.0%	4.3%	39.6%	53.2%	25	100	75.9	14.7
B&B/Small Inn	13.7%	26.6%	46.0%	13.7%	0	85	58.2	20.3
Convention*	2.5%	11.3%	44.8%	41.4%	20	100	73.0	16.7
Extended Stay	10.3%	10.3%	40.2%	39.3%	25	100	68.4	20.5
Motel	12.6%	29.4%	40.1%	17.9%	0	100	56.6	19.8
Villa/Condo	9.1%	48.5%	28.8%	13.6%	25	85	55.3	18.2
Standard	1.5%	12.6%	38.0%	47.9%	25	100	73.4	16.1
Hotel Size (rooms)								
20–39	23.9%	40.8%	29.1%	6.2%	0	90	47.7	18.5
40–74	9.9%	21.2%	42.0%	26.8%	0	100	63.0	20.3
75–149	2.9%	15.7%	42.7%	38.7%	25	100	69.3	17.7
150–249	0.7%	12.2%	41.0%	46.2%	25	100	74.0	15.1
250 or more	1.9%	3.8%	29.8%	64.4%	20	100	78.8	14.0
Hotel Age (years)								
Less than 7	0.7%	3.6%	38.1%	57.6%	20	100	78.5	11.6
7–14	4.2%	11.7%	41.0%	43.1%	0	100	71.7	17.8
15–21	4.1%	23.2%	41.6%	31.1%	25	100	65.6	18.6
22–28	12.1%	29.3%	38.5%	20.1%	25	100	57.9	20.1
29 or more	14.0%	28.6%	37.3%	20.1%	0	100	57.3	20.9

Notes: * Includes conference centers. Quartile ranges for both indexes are: First quartile, 0–25; second quartile, 26–50; third quartile, 51–75; fourth quartile, 76–100.

Security Index

	1st Quartile	*2nd Quartile*	*3rd Quartile*	*4th Quartile*	*Minimum Score*	*Maximum Score*	*Mean*	*Standard Deviation*
All Hotels	16.0%	22.9%	29.1%	32.0%	0	100	59.6	29.4
Price Segments								
Luxury	0.8%	11.9%	24.6%	62.7%	10	100	79.2	18.2
Upscale	2.2%	5.8%	32.6%	59.4%	10	100	78.7	17.2
Midprice full	1.6%	18.9%	48.4%	31.1%	0	100	71	16.8
Midprice limited	0.0%	10.4%	41.7%	47.9%	30	100	76.4	16
Economy	7.4%	21.1%	35.4%	36.0%	0	100	66.4	24.4
Extended Stay	2.4%	15.1%	42.1%	40.5%	10	100	72.9	18.1
Location Type								
Urban	10.5%	21.3%	27.9%	40.2%	0	100	65.0	27.8
Suburban	11.2%	18.0%	31.7%	39.1%	0	100	65.3	27.5
Airport	2.3%	7.0%	33.6%	57.0%	10	100	78.4	16.9
Highway	13.6%	25.2%	34.1%	27.2%	0	100	59.2	27.8
Resort	30.2%	31.0%	22.3%	16.6%	0	100	45.7	30.6
Hotel Type								
All Suite	6.0%	17.4%	30.2%	46.4%	0	100	70.5	24.0
B&B / Small Inn	34.5%	43.2%	13.7%	8.6%	0	90	36.1	26.1
Convention*	5.9%	15.3%	38.9%	39.9%	0	100	70.0	23.5
Extended Stay	16.8%	29.0%	31.8%	22.4%	0	100	56.0	28.3
Motel	26.0%	28.4%	28.4%	17.3%	0	100	48.2	30.4
Villa / Condo	54.5%	31.8%	9.1%	4.5%	0	90	28.0	25.4
Standard	3.6%	15.8%	32.0%	48.6%	0	100	73.2	21.3
Hotel Size (rooms)								
20–39	52.9%	36.7%	6.2%	4.2%	0	90	25.5	23.3
40–74	21.8%	25.9%	28.1%	24.2%	0	100	53.4	30.5
75–149	6.6%	20.7%	35.5%	37.2%	0	100	67.3	24.1
150–249	3.5%	18.1%	38.9%	39.6%	10	100	71.5	20.2
250 or more	3.4%	12.0%	25.5%	59.1%	0	100	76.5	21.4
Hotel Age (years)								
Less than 7	2.2%	10.6%	33.8%	53.3%	0	100	76.4	18.5
7–14	8.8%	26.9%	27.9%	36.4%	0	100	64.0	26.7
15–21	11.9%	28.3%	31.1%	28.7%	0	100	59.7	27.5
22–28	21.8%	21.3%	34.5%	22.4%	0	100	54.3	30.1
29 or more	28.9%	29.2%	23.9%	18.0%	0	100	46.6	30.9

deviation of 29.4). These numbers suggest that U.S. hotels score generally higher on physical-safety attributes than they do on security features. The standard deviations also show that there is greater variation across hotels' security scores than in their safety scores. In addition to the means and standard deviations, the range of index scores from the minimum to the maximum are provided in Exhibit 3 (previous pages). This exhibit breaks the index scores into four quartiles and provides the frequency distribution of scores in each quartile. These are provided for the overall indexes, but are also broken down by price segment, location, hotel type property size and age.

Luxury and upscale hotels earned the highest safety and security scores, despite the absence of sprinklers in many such properties.

As the frequencies in Exhibit 3 show, a large percentage of hotels scored high on both indexes.[9] More than one-third of the hotels earned a score of 76 or higher on the safety index (35 percent) and not quite one-third on the security index (32 percent). On the other hand, substantially more hotels scored low on security than they did on safety. Under 10 percent of the hotels scored lower than 25 on the safety index, in contrast to the 16 percent that scored lower than 25 on the security index and the 14 percent that scored 10 or less on that scale. To determine which types of hotels are characterized by high or low safety and security features, we examined several different categories separately.

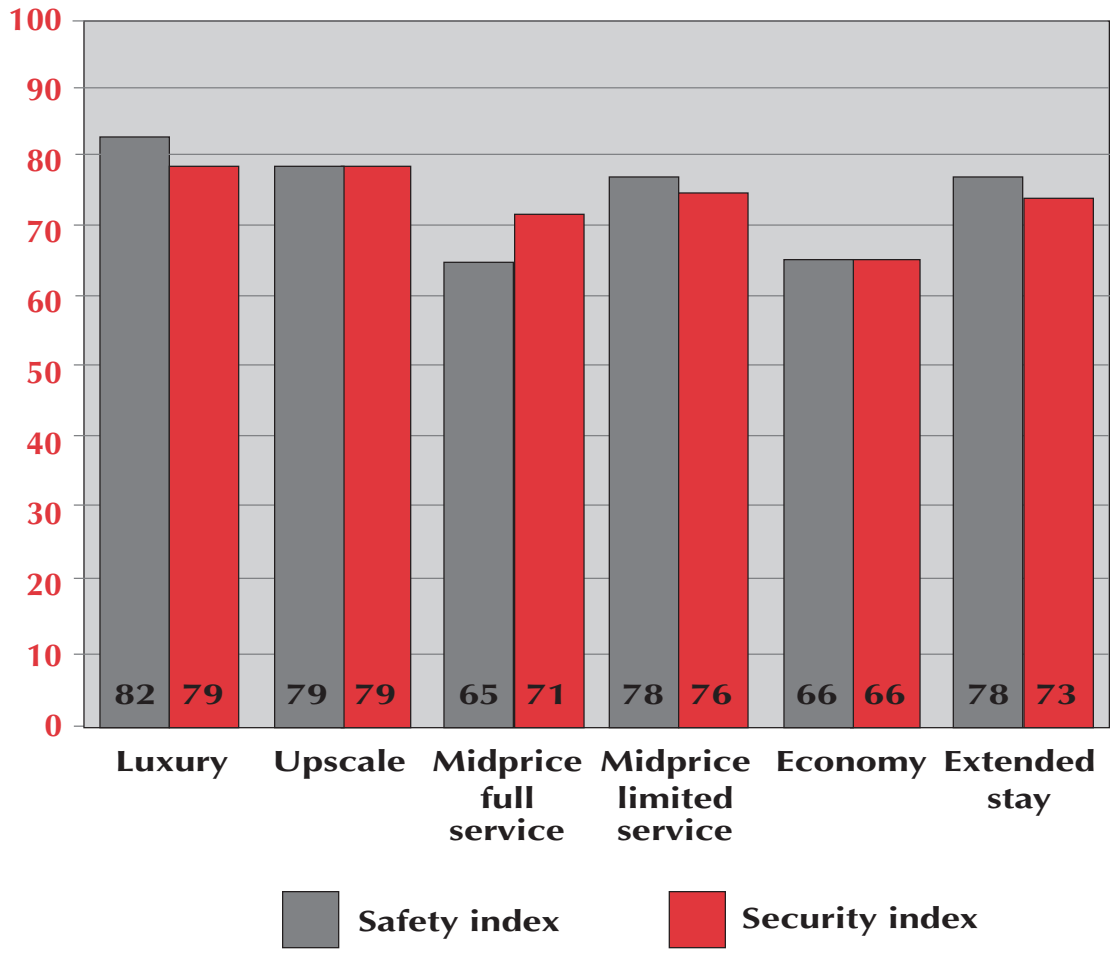
Categorical Differences

Exhibit 4 shows the overall safety and security scores for each hotel segment. Our survey revealed that the highest safety and security scores are for luxury and upscale hotels. It is not surprising that higher-price hotels contain more of the safety and security features than hotels in other price segments. What is surprising is that these hotels are less likely than others to have what we consider to be the most important single safety feature—sprinklers (57.2 percent in luxury and 60.3 percent in upscale, compared to approximately 70 percent in economy and extended-stay hotels).

Luxury hotels and upscale hotels are more likely than other hotel segments to possess all of

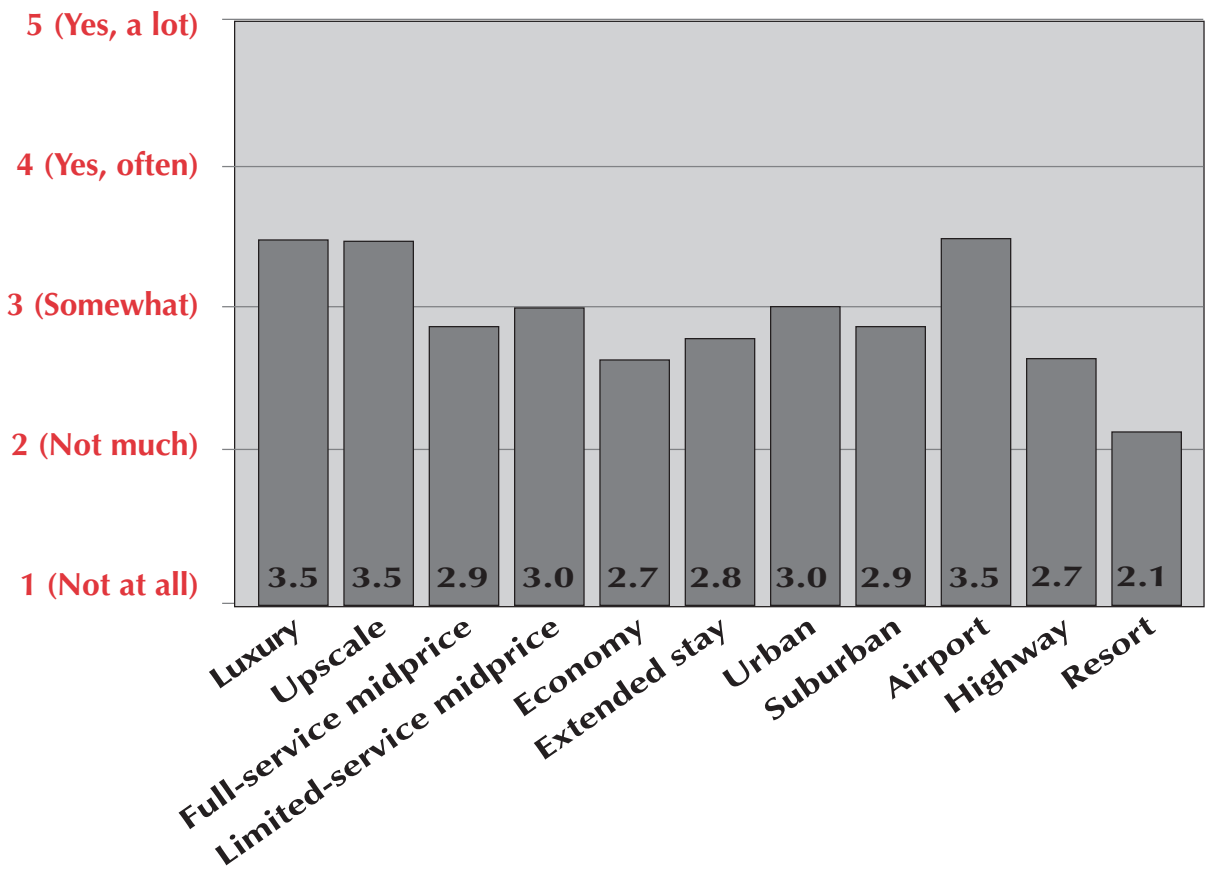
[9] The intercorrelation between the two indexes is r=.63, indicating a meaningful relationship exists between the indexes but not such an excessive conceptual overlap as to necessitate combining the indexes into a single measure.

Exhibit 4
Mean safety and security scores by price segment



the physical-security features on our list. Luxury hotels are the most likely to have four of the five security features: namely, electronic locks (68.3 percent), security cameras (69.8 percent), safety materials (99.2 percent), and safety videos (9.5 percent). Upscale hotels also tend to have the full array of security features. Although upscale hotels are not as likely as luxury hotels to have electronic locks (63.0 percent) or security cameras (59.4 percent), they are more likely to have interior corridors (92.8 percent). Midprice hotels without food and beverage facilities (i.e., limited service) scored high on the security index, primarily because of the high percentage of hotels that feature electronic locks (78.8 percent) and interior corridors (88.6 percent).

EXHIBIT 5
Extent of GMs' security reevaluation by segment



Economy hotels and midprice hotels with food and beverage (i.e., full service) have lower safety scores than do hotels in other segments (again, see Exhibit 4). Although those two segments have higher percentages of hotels with sprinklers than high-price hotels, economy and full-service midmarket hotels are less likely than others to have the full array of physical-safety features on our list. Still, the full-service midprice hotels are more likely to have sprinklers (65.4 percent) than luxury or upscale hotels and are just as likely to have in-room safety materials (87.4 percent). However, the midprice properties frequently are not equipped with security cameras (49.6 percent) or safety videos (2.0 percent). Similarly, economy hotels are the most likely of all segments to have sprinklers (67.1 percent) and just

as likely as high-price hotels to have security cameras (59.4 percent). Again, though, safety videos are almost never available in economy hotels for in-room instruction (0.6 percent).

Our examination of managers' reactions toward safety and security issues after the September 11 events, in concert with this work on physical features of hotels, reveals that the hotels which we found to be safer and more secure in their physical attributes were also the hotels where managers proactively responded to the terrorist attacks by making changes to their safety and security policies. Exhibit 5 shows that managers at luxury and upscale hotels, in particular, reevaluated their safety and security strategies, while the management of hotels in the economy, full-service midprice, and extended-stay segments did little reassessment after September 11.

In summary, hotels in the high-price segments of the lodging industry are most likely to possess a full array of the physical safety and security features, with the highest safety and security scores occurring in the luxury and upscale segments. However, it is important to note that the most-essential safety and security features are also widely available in the limited-service hotels that we studied. Indeed, midprice limited-service properties scored better on both indexes than did their full-service counterparts.

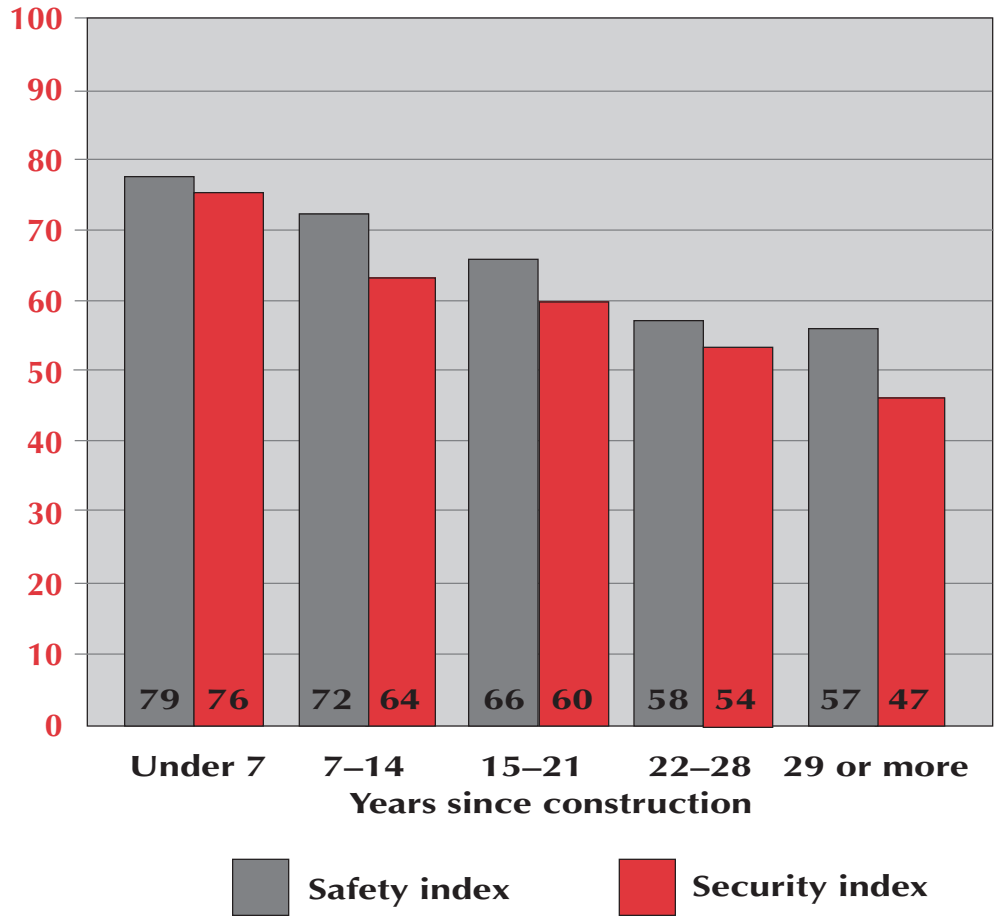
We believe that one reason for the strong showing of limited-service properties is that many midprice limited-service properties have been built relatively recently. However, to determine whether price-segment differences are really due to the intervening variable of hotel age in some segments we conducted analyses on segment differences controlling for hotel age. Our results reveal that significant differences in safety and security do exist across segments when taking into consideration the influence of hotel age. We now turn to an examination of safety and security features for hotels according to the age of the property. As we discuss subsequently, we also wanted to determine whether a property's geographic location made a difference in its safety and security score.

The hotels with the greatest safety and security attributes were also the hotels where managers proactively made changes to their safety and security policies after September 11.

Age of Hotel

Recently built hotels generally have higher safety and security scores than do old properties. The percentage of hotels with

Exhibit 6
Mean safety and security scores by age of hotel



electronic locks, sprinklers, and interior corridors declines dramatically with property age (see Exhibit 6). Almost all of the hotels built in the last seven years (92 percent) have electronic locks, compared to 51 percent of the hotels built more than 29 years ago. Similar patterns can be observed for such features as safety materials and security cameras, albeit to a lesser degree. For example, 95 percent of the hotels built in the last seven years have in-room safety materials, compared to 80 percent of the hotels that are more than 29 years old. Clearly, retrofitting old hotels with safety materials and security cameras is easier and less expensive than adding locks, sprinklers or interior corridors.

EXHIBIT 7
Mean safety and security scores by type of location

Location and Region

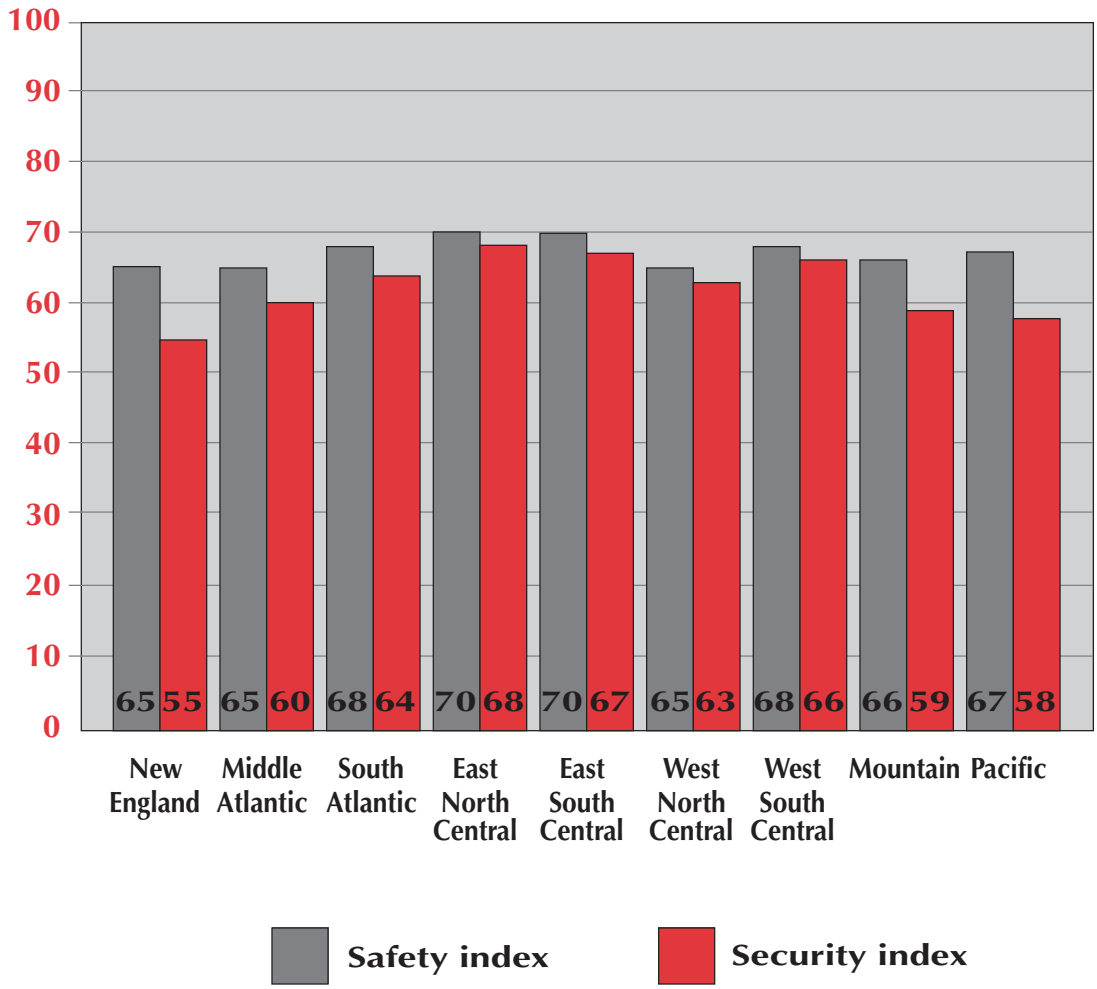
The extent to which a hotel has safety and security features depends heavily on its location type (see Exhibit 7). Airport hotels earned the highest safety scores (77) and security scores (78). Moreover, airport hotels were more likely than other properties to be equipped with the entire list of safety and security features. Virtually all airport hotels are equipped with electronic locks (95.3 percent) and safety materials (96.9 percent). General managers in airport hotels were also most aggressive in reevaluating safety and security after September 11 (again, see Exhibit 5).

The resort anomaly. The picture is mixed among hotels in other types of locations, although resorts came out particularly low on both scales. Resort hotels had the lowest average safety index (61) and security index (46) of all. The reason that resorts as a group scored so low is that so many of them lack a key safety feature—that is, sprinklers—and a key security feature—namely, electronic locks. Just 52.5 percent of the resorts we surveyed had sprinklers and a similar percentage, 52.9 percent, reported having electronic locks. Resorts were also weak on interior corridors (46.5 percent) and security cameras (62.5 percent). That security-camera percentage for resort hotels is as many as 30 points lower than the percentage for hotels in other locations.

These results do not necessarily mean that resorts are cavalier about guest safety and security. Instead, one must examine the characteristics of resort hotels compared to other property types. It is interesting to see that urban hotels did not score as high on safety and security as did suburban hotels, for instance. Hotels located on highways and those classified as resorts also scored low compared to those in other locations. The customers at airport hotels are most likely focused on getting a convenient and secure rest—perhaps during an impromptu hotel stay. On the other hand, customers at resorts may be in reasonably safe locations—often gated and remote. Instead of convenience, resort guests may well be focused more on their own relaxation and the property's esthetics and ambience. The relatively low percentage of resort hotels with electronic locks, security cameras, and interior corridors may indicate that those features are less important to a guest than they would be in an airport or urban location

Geography. Another approach to analysis by hotel location is to explore whether safety and security vary among hotels in different geographical regions. The quick response to this issue is, not really. A comparison of safety scores for hotels in different parts of the U.S. indicates no significant differences from one region to another. The similar safety scores across regions may be due to brand standardization and consistency on safety features of hotels throughout the country. The role of governmental entities in regulating safety and security equipment does not appear to influence hotel decisions to provide specific features. With the exception of local fire codes, decisions regarding security equipment (e.g., locks and security cameras) appear to be governed by franchise requirements, while safety equipment is also determined by corporate

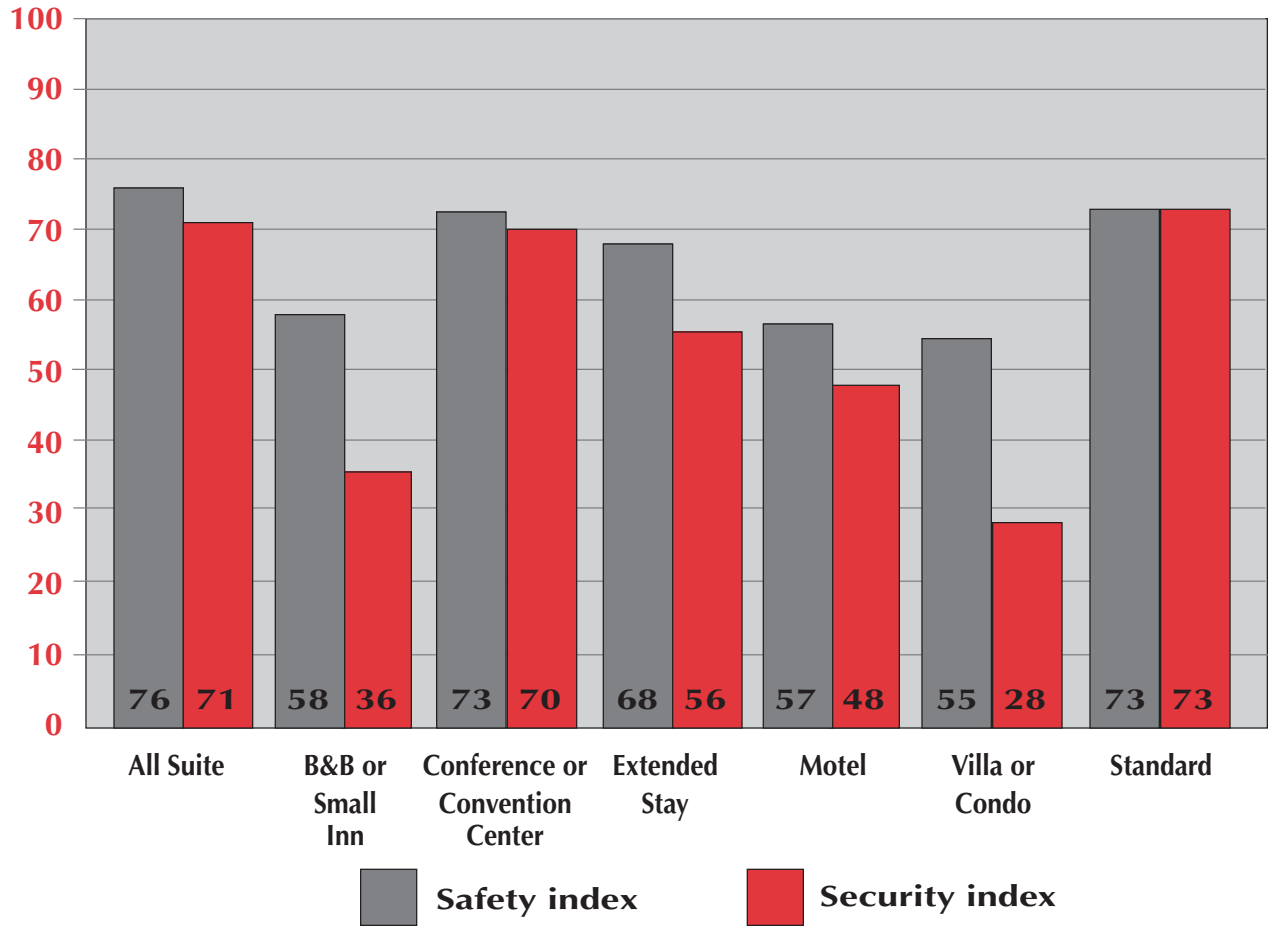
Exhibit 8
Mean safety and security scores by geographic region



standards (and in some cases building codes). The modest geographic variation that exists does not appear to be attributable to local legislative factors, given the general absence of legislation and the efforts of corporations to devise and impose their own standards.

Despite the overall similarities, we found some differences on security-index scores among geographic areas, as Exhibit 8 shows. Hotels located in the east north central region (68) and east south central region (67) have the highest average security indexes. These scores are primarily due to the high percentage of hotels in these regions with interior corridors (81.9 percent in the east north central region and

Exhibit 9
Mean safety and security scores by hotel type



65.2 percent in the east south central region) compared to hotels in other regions.

New England hotels have below-average safety-index scores and the lowest security-index scores of all geographic areas. These findings are attributable to the low incidence of electronic locks (54.5 percent), security cameras (35.6 percent), and safety materials (78.8 percent) in this region's hotels. Such low scores may be explained in part by the high ratio of small hotels in the region. Approximately 20 percent of New England hotels are small inns or bed and breakfasts. Looking at the other coast, hotels in the Pacific region were the least likely to have interior corridors (51.4 percent) and less likely to have sprinklers (57.9 percent) than hotels in the other regions, contributing to the low scores for Pacific properties.

Hotel Types

We found that safety and security varies according to hotel type. All-suite hotels, conference and convention hotels, and standard full-service hotels were the specific hotel types that scored among the highest on the safety and security indexes, as Exhibit 9 reveals. These hotel types were most likely to possess a full array of safety and security features. However, we found differences among these three hotel types based on whether they feature sprinklers, electronic locks, or interior corridors. All-suite hotels, for instance, are the most likely to have sprinklers (86 percent), while standard hotels constitute the highest percentage of hotels with electronic locks (86.7 percent) and interior corridors (83.7 percent).

Motels as a class have the lowest safety and security scores. In particular, we found that few motels have sprinklers (37.9 percent) or interior corridors (39.9 percent). In marked contrast, convention and conference hotels not only score high on the safety and security indexes but were active in reevaluating their safety and security procedures after the terrorist attacks.

Condos and B&Bs. Also scoring low on security features were condos (and villas) and small inns (including B&Bs). Few of these types of accommodation have electronic locks (28.8 percent for condos and 30.2 percent for small inns) or security cameras (18.2 percent for condos and 23.7 percent for small inns). In addition, only 39.4 percent of villas and condos surveyed have sprinklers. As is the case with resorts, however, these findings may be attributable to the markets that condos and small inns serve. B&Bs and small inns, for example, focus on providing the experience of a home away from home, and the aesthetics and ambience of the properties might be harmed by obvious or excessive attention to security. Along that line, to attract vacationers, the operators of villas and condos may feel that they differentiate themselves from traditional hotel products by avoiding common amenities (such as electronic locks and security cameras). In short, their low safety scores may reflect a conscious decision to signal the guest that these constitute a distinct product that requires only modest safety measures by its very nature.

Safety and security varies by hotel type. All-suite hotels, conference and convention hotels, and standard full-service hotels scored highest and motels and B&Bs lowest.

Exhibit 10
Mean safety and security scores by size of property

Hotel Size Matters

Large hotels generally have more safety and security equipment than do hotels with few rooms, as Exhibit 10 shows. The features included in the indexes are more likely to be installed in large hotels than in small hotels, with the exception of safety videos. In particular, we found a substantial difference in the safety and security scores of hotels with fewer than 40 rooms and those in all other size categories. Electronic locks are installed in 88 percent of the hotels with 250 or more rooms, for instance, compared to 19.4 percent of hotels with fewer than 40 rooms. The contrast also

carries over to moderate-size hotels. The percentage of hotels with 40 to 74 rooms that have electronic locks (62.3 percent) is three times greater than that 19.4-percent figure for small hotels. The same can be said for sprinklers and security cameras.

Hotels with the Most Safety and Security Equipment

When we combine the profiles of hotels by size, type, and location, it appears that large luxury hotels located in urban areas have significantly higher safety- and security-index scores than do other hotels. The age of luxury hotels did not affect the degree of physical safety or security that they offered, despite the general tendency of new hotels to rack up high scores. The fact that luxury hotels have consistently high physical-safety and -security scores for new and old properties may be attributed to frequent renovations and investments that allow managers to update safety and security equipment in those properties. Upscale hotels also score high on our safety and security indexes—particularly large, new airport hotels. Unlike luxury hotels, the age of upscale hotels does make a difference in a hotel's score, with new hotels featuring more safety and security equipment than old ones. In summary, large, urban, luxury hotels and new, large, upscale airport hotels are the hotels carrying the highest safety and security scores.

Among the types of hotel that have room for improvement, old resort and small economy motels tend to offer the least safety and security equipment. Aside from age and size of these properties, motels that are in resort locations (safety index of 51 and security index of 35) and in urban locations (safety index of 54 and security index of 47) have significantly lower average safety and security indexes than do motels in other locations. Because urban locations have a disproportionately high number of old properties, the low index scores associated with urban motels may be a function of age more than of location. Finally, resort-area motels offer the least desirable combination of safety and security features.

Conclusion

Our safety and security indexes offer a preliminary glimpse of the equipment installed by the U.S. lodging industry to protect guests and employees and to provide a secure environment. While the indexes focus on the existence of various features and not on the effectiveness of their use, our coincident study of GMs' reactions to security concerns offers

some insight into how managers are reevaluating their safety procedures (or are not doing so).

We found four distinguishing characteristics that separated high-scoring hotels from low-scoring properties, namely, price segment, location, number of rooms, and age. On balance, luxury and upscale hotels, airport and urban hotels, large properties, and new hotels are most likely to maintain a high level of safety and security amenities. In contrast, old, small, economy, and resort motels are the properties most challenged in providing the safety and security features that we studied.

Safety and security equipment is useful only to the extent that a hotel also has a complete plans for its use, maintenance, and upgrade.

We encourage general managers to review their own properties on the physical features we used to create our indexes. Using the weightings noted in Exhibit 2 and the data provided in Exhibit 3, it is possible to calculate your own safety and security score and then compare your hotel's indexes to those of other hotels in your hotel type, price segment, age category, location and room size. The example in Exhibit 11 shows a calculation of the safety index for a hypothetical upscale hotel. While we would not advocate that the indexes that we have created are definitive indicators of safety and security, they do offer a point for contrast and comparison.

The scores on the indexes alone do not tell the full story, however. Safety and security equipment is useful only to the extent that a hotel also has a complete plan for its use, maintenance, and upgrade. The fact that some hotels score high on the indexes does not guarantee that they are physically safe and secure, in the absence of appropriate management policies. With careful policy implementation, low-scoring hotels could, in fact, be safe and secure. What the indexes show is only the equipment that a given set of hotels may bring to bear in conjunction with a set of safety and security policies.

We note again, however, that the hotels in categories that earned high scores on physical features (e.g., airport hotels) were also those categories where the managers were most actively reevaluating their procedures after the terrorist attacks. This may suggest that managers whose hotels are not well equipped may not be in a position to alter or upgrade their emergency plans. Alternatively, the confluence of

EXHIBIT 11
Sample safety index for a hypothetical upscale hotel

Safety Index

Physical Feature	*Weighting*	*X*	Present (1)/Absent (0)	=	Subtotal
Sprinklers	0.30	X	1	=	0.30
Smoke detector	0.25	X	1	=	0.25
Safety material	0.20	X	0	=	.00
Safety video	0.15	X	0	=	.00
Security camera	0.10	X	1	=	0.10
Score					.65

The hypothetical upscale hotel has sprinklers, smoke detectors, and security cameras, but not safety materials or safety videos. Thus, its score is .65, which is multiplied by 100, for an index of 65. For a comparison, the mean safety index for upscale hotels is 78.2, as shown in Exhibit 4 (page 15).

equipment and planning may suggest that high-scoring hotels expressly consider it their mission to provide their customers with a safe and secure environment.

The events of September 11 have focused many Americans' attention on their security when traveling. Likewise, many sectors of the hotel industry are also giving greater scrutiny to safety, with revised check-in policies and enhanced lobby security. Nevertheless, the actual effects of a given set of safety and security policies and equipment is not clear. While some operators are reviewing policies and procedures, others may be reluctant to disturb their existing protocols because of the risk of destroying their property's ambience. For economy hotels in particular, the challenge of balancing the needs of price-sensitive custom-

ers and the desires of profit-focused owners with needed safety enhancements is not easily resolved.

For all hoteliers, the challenge lies in making careful choices that provide appropriate standards for safety while not interfering with the hospitality and service levels that customers have come to expect. As crucial as physical safety and security features are for protecting customers and securing their possessions, hospitable service is also essential to customers' satisfaction. While the airlines, for example, have no choice but to inconvenience customers with careful and sometimes intrusive security procedures, hoteliers generally wish neither to compromise basic security standards nor interfere with their service concept. We believe that the traveling public should be appreciative that so many hotels have equipped their physical facilities with essential safety and security features—even though many of those features are not required by any building code. We hope that this preliminary study will help both operators and the general public to have a better understanding of the scope and profile of safe and secure hotels in America.

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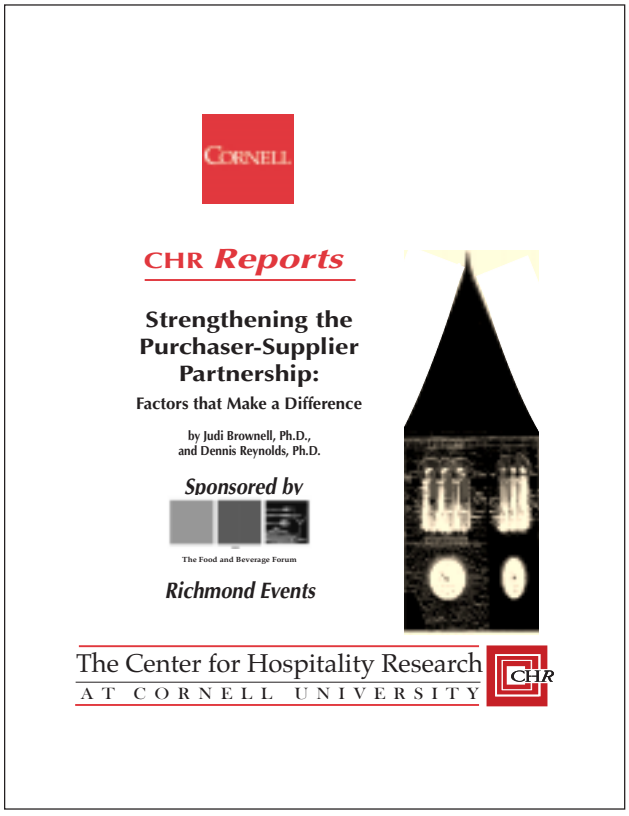

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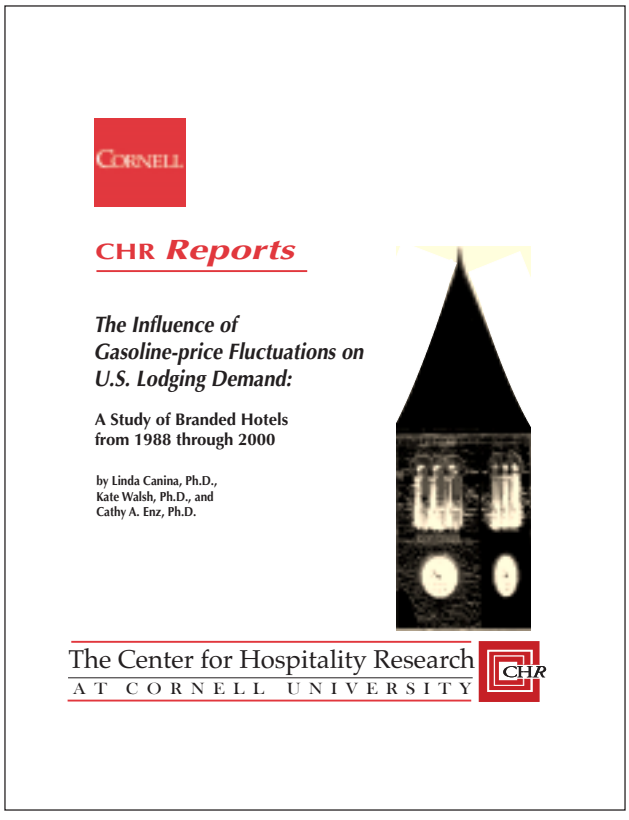

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