

# **Diurnal Patterns of Retailing in Boca Raton, Florida**

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Investigation of the spatial pattern to retailing is a standard topic in geographical research. Less common are studies that specifically differentiate all-night establishments from those open during daytime hours. This paper analyzes the form, function, and location patterns of day-time and night-time commercial establishments. Specifically, it asks the following questions:

1. What are the patterns of form, function, and location of the commercial establishments that are open during normal business hours in eastern Boca Raton?
2. What are the patterns of form, function, and location of the commercial establishments in eastern Boca Raton that are open twenty-four hours?
3. Are the patterns for the day-only and for the all-night establishments similar, or are there significant differences?

Boca Raton is a suburban community located in Palm Beach County on the Atlantic Ocean between Fort Lauderdale and West Palm Beach. This study examines the eastern portion of Boca Raton. Specifically, the region is limited on the north, south, west, and east respectively by the towns of Delray Beach, Deerfield Beach, Interstate 95, and the Atlantic Ocean (Fig. 1).

## **Daytime Retailing Patterns**

Field survey identified 2472 commercial establishments in the study region. A commercial establishment was considered to be a store or office wherein the average consumer could obtain goods or services. Unoccupied units in a building were not counted, and purveyors of goods or services not purchased by the general consumer were likewise ignored. Examples of the latter would be firms selling sand or gravel in train car-load lots or designer show rooms that sell "to the trade" only. Exclusive clubs that require membership were also excluded.



### Location Factors

Commercial activity in the study region exhibits a strong north-south linear pattern. With only one exception, east-west streets are not extensively used for commercial activity. The only exception is Palmetto Park Road east of Federal Highway, marked #3 on Fig. 1. Overlooking this exception, we find that the great majority of commercial establishments are located on three major north-south roads in eastern Boca Raton, all of which closely parallel the Florida East Coast Railway (FEC).

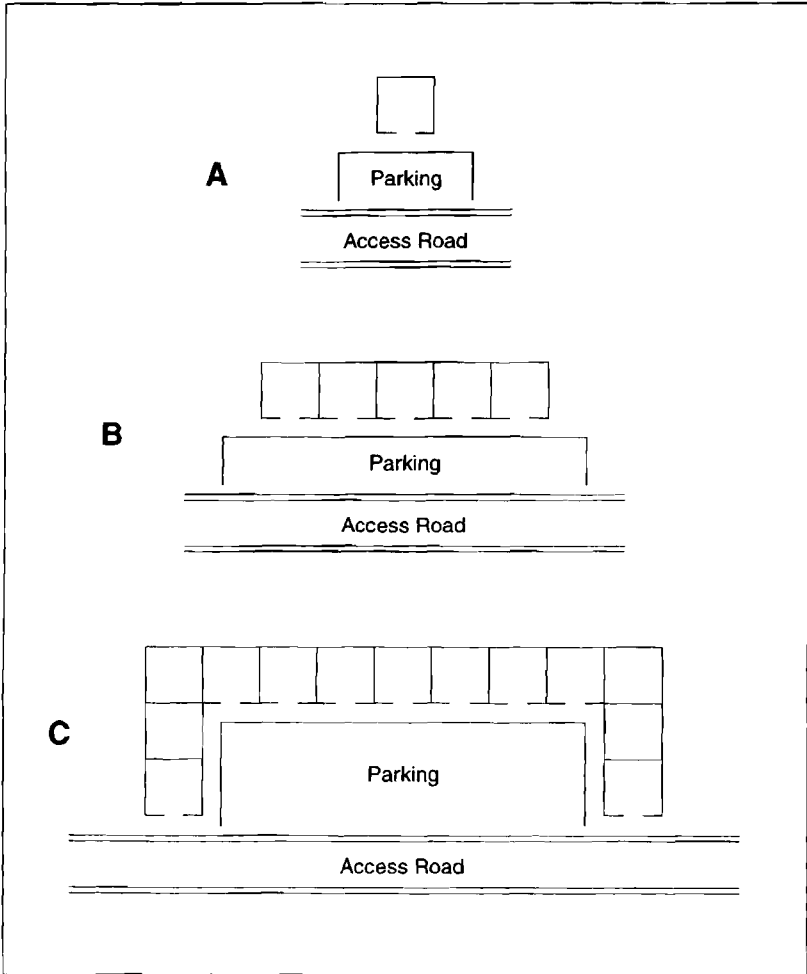
Before the construction of Interstate 95 in the early 1970s, Federal Highway (U.S. 1) provided the major artery of travel north and south in the eastern part of Palm Beach County. One block to the west of Federal Highway is Dixie Highway, which parallels the FEC tracks, and on the other side of these tracks, 2nd Avenue provides another north-south route. I-95 now provides rapid north-south travel. However, in the study region, few facilities are located near interchanges.

Federal Highway has attracted 1002 of the 2472 facilities, or approximately 40 percent of the total. Location on Federal Highway is certainly an advantage for the merchants of eastern Boca Raton. Many older establishments owe their Federal-Highway location to historical impetus. In the period before the 1970s, virtually all commercial facilities were located on Federal Highway, with Dixie Highway attracting only a small number. Because Federal Highway still represents the major north-south thoroughfare east of the Interstate, sites on Federal still are considered prime commercial real estate.

However, some 60 percent of the commercial facilities have located away from Federal, some in major concentrations, some in isolated districts. Each concentration has unique location factors. The hospital district (Region #1 on Fig. 1) contains numerous medical offices surrounded by residential land. Elite shops, beauty salons and expensive restaurants have concentrated on eastern Palmetto Park Road (Region #3 on Fig. 1). Other districts owe their location to zoning restrictions. The light industrial district, between Dixie and 2nd Avenue, contains a concentration of establishments that are not permitted to locate on land zoned commercial. Therefore, while Federal Highway remains a major attraction for establishments, it is only one of many magnets attracting purveyors of goods and services. Most shops have located away from this highway.

**Spatial Patterns: Form**

The 2472 total establishments (those that are day-only and those that are day-and-night establishments) are organized into a number of formal patterns. These have been grouped into four categories, three of which are illustrated (Figure 2).



**Figure 2**

*Isolated Units.* Some 337 establishments are isolated units, that is, the shops or offices are housed in discrete structures that share no walls with neighboring establishments (Figure 2a). Typical of this type would be a functional building lacking a distinct architectural style. Virtually all are single-story structures with the principal door for patrons facing the access street. Parking is usually provided as a strip of asphalt between the shop and the street that can accommodate a few automobiles.

Isolated establishments are found in all districts of the study region but seem to be especially well represented in the light industrial district between Dixie Highway and 2nd Avenue. A number of shops here are auto repair facilities.

*Two to Ten Units.* Some 849 shops or offices are housed in small buildings of from two to ten units. These commercial establishments share at least one wall with a neighboring establishment (Figure 2b). While architecture styles and spatial layouts of the buildings vary greatly, a typical unit would be a single-story modern or post-modern building. Parking would be provided by a zone of asphalt that can accommodate one automobile immediately in front of each establishment. This form of retail development is commonly called "strip," indicating that a narrow strip of commercial land along a major road separates the road from residential or some other land use.

*Eleven to Thirty Units.* Fifty-six building complexes accommodate from 11 to 30 shops or offices (Figure 2c). These also vary greatly in terms of style and layout. The earlier representatives, from the 1950s to 80s, are modern in design. More recent contributions show the post-modern panache that characterizes Boca Raton. Neo-Spanish is an especially popular post-modern style.

Many of these larger units are simply larger versions of the strip development of the previous category. A number are shopping centers, which differ from strip development in that the shops are set back farther from the street and commonly form an "L" or square "U" when viewed from above, the empty portions for parking. Some units in this category would properly be called office buildings and have parking provided by means of underground garages.

*Developments/Buildings with More than Thirty Units.* Three very large complexes (greater than 30 facilities) are located along Federal Highway in the study region. One is a large office complex with 75 occupied offices or office suites. Another is Mizner Park, a popular post-modern development of expensive shops and restaurants, a

cartoon museum, and other trendy establishments. Mizner Park contains 52 commercial establishments. The third large commercial unit, Royal Palm Plaza, a neo-Spanish development, was one of Boca Raton's earliest major shopping areas. Royal Palm Plaza has 113 shops and offices in a number of buildings linked by pedestrian walkways.

### **Spatial Patterns: Functional Agglomeration vs. Dispersal**

The variety of goods and services offered in the study region is tremendous. Specific functions would number into the thousands, far too complex for listing in a study of this type. Therefore, to simplify, functional agglomeration or dispersal was examined. This refers to the degree like trades locate in close proximity to each other.

Two forms of functional agglomeration or dispersal are discerned: (1) dispersal of like trades; and (2) agglomeration of like trades.

*Dispersal of Like Trades.* This category is by far the most common: most trades are proximate to establishments that engage in an unrelated trade. A dress shop would more likely locate next to a music store, for example, than next to another dress shop. Thus, most of the trades in the study region tend to be sprinkled about the commercial areas, not concentrated in one locale.

*Agglomeration of Like Trades.* Less common are trades that agglomerate, that is, they locate next to their competitors. Examples include the following:

- (1) Medical practitioners tend to locate near the Boca Raton Community Hospital (#1, Figure 1). The attraction of medical facilities to the hospital is an obvious locational factor. Virtually every facility in this region has some medical function or another.
- (2) Shops selling fabrics and sewing goods (#2 Figure 1). Fabrics and sewing supplies are specialized items that are purchased infrequently. Three fabric shops are found in eastern Boca Raton, all located in the 100 block of NW 20th Street. Customers can walk from one shop to another and thus obtain the fabric desired without having to drive great distances.
- (3) Galleries selling expensive objects d'art such as original paintings, pieces of sculpture, and other costly decorative items (#3, Figure 1). Fifteen galleries are located on Palmetto Park Road between Federal Highway and A 1 A. These shops cater to

wealthy owners of waterfront condominiums and expensive homes on the beach or the Intracoastal Waterway. Mizner Park and Royal Palm Plaza also have a few galleries, but no other part of eastern Boca Raton contains representatives of this trade.

(4) Modestly priced motels (#4, Figure 1). Five motels are found in the study region, all on Federal Highway. Three are clustered near the 3000 block of North Federal Highway. Some of the motels predate I-95, so their location in eastern Boca can be explained by being on what was then the major north-south road in southern Florida. With the construction of I-95 came large hotel complexes west of the Interstate, outside the study area. However, smaller, less expensive motels still survive on Federal Highway.

### Night-time Patterns

During the dead of night (2:00 A.M. to 6:00 A.M.), the number of facilities providing goods and services decreases to 23, listed in Table 1 by type. The specific establishments are located on the map of all-night establishments (Figure 3). The numbers on the map

**Table 1**

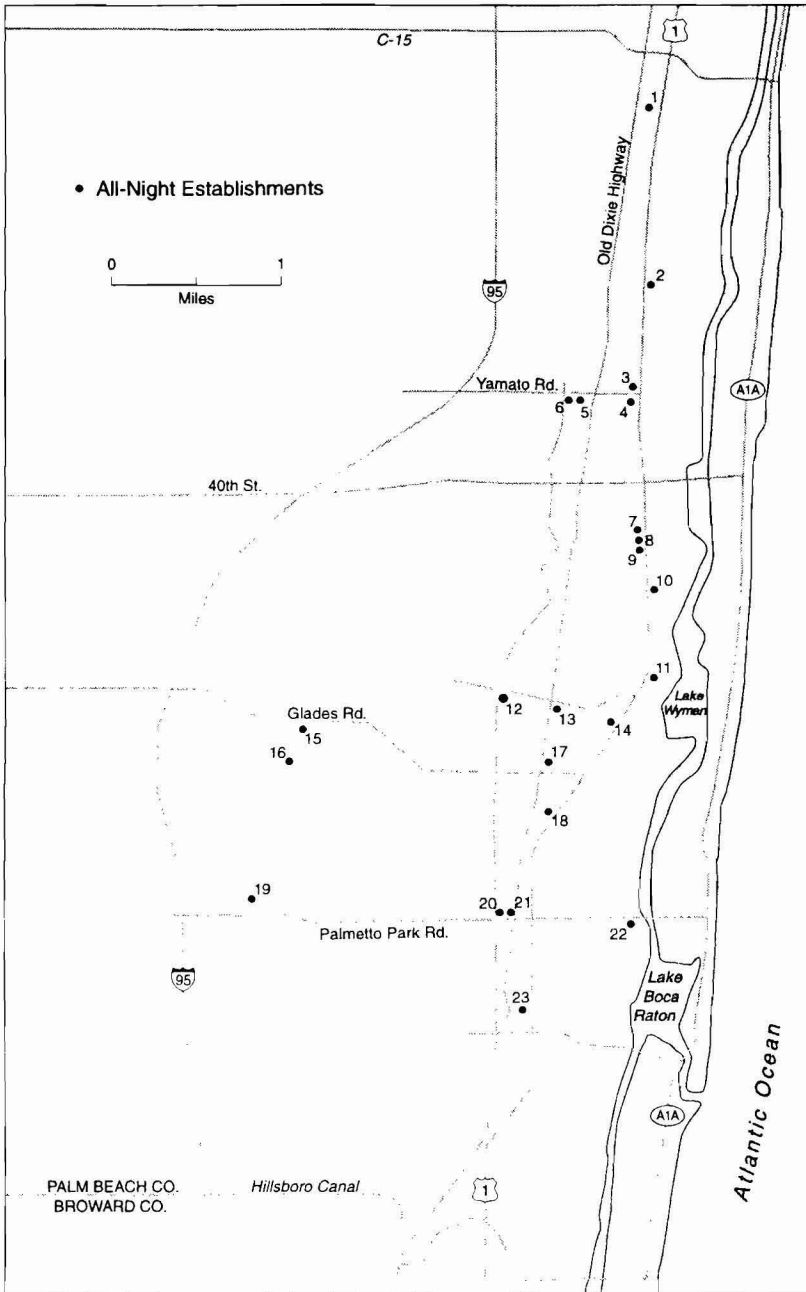
#### Night-time Establishments by Type

Gasoline Stations*	7
Convenience Stores	5
Motels	4
Restaurants	3
Hospital	1
Coin Laundry	1
Pharmacy	1
Copy Center	1

\*with snacks and sundries also available

identify the following: 1, pharmacy (Walgreen); 2, convenience store (7-11); 3, gasoline/sundries (Mobile); 4, gasoline/sundries (Shell); 5, convenience store (7-11); 6, gasoline/sundries (Mobil); 7, restaurant (Denny's); 8, motel (Ramada); 9, motel (Day's Inn); 10, motel (University Inn); 11, copy service (Kinkos); 12, gasoline/sundries

Figure 3





(Mobil); 13, gasoline/sundries (Mobil); 14, motel (Boca Inn); 15, gasoline/sundries (Shell); 16, hospital; 17, convenience store (7-11); 18, gasoline/sundries (Mobil); 19, restaurant (Denny's); 20, convenience store (7-11); 21, coin laundry; 22, convenience store (7-11); 23, restaurant (Dunkin' Donuts).

### **Spatial Patterns: Form**

The all-night facilities are found in isolated structures and in small strip developments. Only one, the Walgreen Drug Store, is located in a large shopping center (30 units). All other stores are closed at night. This is true of all the other all-night establishments as well, with the exception of a 7-11 store and a coin laundry (Figure 3, numbers 20 and 21). These two shops are adjacent to each other. A half-dozen closed establishments comprise the rest of the small shopping center in which these night-time facilities are located. In the landscape of the night, this tiny shopping center with its two open facilities is something of a focus of eastern Boca Raton's night-time activity.

### **Spatial Patterns: Functions**

Among the night-owl establishments, the most frequent function (7 cases) is that of gasoline station/sundries. Other functions with high representation are convenience stores (5), motels (4), and restaurants (3). Motels cater almost exclusively, and the other functions largely, to persons traveling through the region at night.

Four establishments (hospital, coin laundry, pharmacy, copy center), are the only representatives of their function that are open at night. These are primarily functions utilized by locals who may require emergency services or who may have night-shift jobs and lack access to day-time establishments. Somewhat surprising is the lack of any all-night supermarkets. A few are found outside the study region some miles away, but none of the seven supermarkets within the study region remains open throughout the night.

The pattern of agglomeration vs. dispersal, reviewed above for the day-time establishments, is also examined for those of the night. Despite small numbers, similar patterns are revealed, writ small. Three motels on North Federal Highway (Figure 3, numbers 8, 9, and 10) are located together. Two gasoline stations are across the street from each other (Figure 3, numbers 3 and 4). Restaurants, on the other hand, tend to locate significant distances from each other.

**Location Factors**

The Location of the night-time establishments differs from that of the day-time ones. Whereas most of the day establishments are located away from Federal Highway, this is not the case with the night-time ones. To see if the difference is significance, a chi-square statistic was calculated. Table 2 displays the data. Of the all night

**Table 2**

**Commercial Establishments, Eastern Boca Raton**

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Location	Day Only		Day and Night	
	N	%	N	%
On Federal Highway	990	40.4	12	52.2
Not on Federal Highway	1459	59.6	11	47.8
Total	2449	100.00	23	100.0

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Chi-square = 1.30

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establishments, 12 are located on Federal Highway, 11 are not; of the day establishments, 990 are located on Federal, 1459 are not. The null hypothesis states that there is no relationship between the location of the establishments relative to Federal Highway and whether-or-not the establishments are open twenty-four hours. More generally, the null hypothesis asserts that factors of location are independent for these two groups of commercial establishments.

With one degree of freedom, the critical level of significance is 3.84 at the .05 level. The obtained chi-square value is 1.30, below this level. Therefore, the null hypothesis cannot be rejected. We conclude, therefore, that location relative to Federal Highway and whether-or-not establishments are open at night are not related. Different factors of location would seem to operate on the two sets of establishments. Some day-time shops are located in residential areas, or are otherwise remote from the major routes of travel. Few of these districts contain all-night establishments. Rather, the all-night places cluster on the heavily-traveled roads, especially Federal Highway. The light industrial district of eastern Boca Raton is quiet at night, very much in contrast with its day-time pattern.

The very large shopping centers and office complexes likewise close up tight at night.

### Conclusions

Our comprehension and understanding of landscape--what we see on the land, how we describe an area--result largely from what we observe, and since we generally observe landscape during the day, our perception of an area is consequently biased. A town at night is a very different place from that same town during the day. The factors that operate to determine form, function, and location operate differently.

Daytime establishments, this study has shown, can be found in a variety of architectural configurations, including large shopping centers or office buildings. Night-time establishments, on the other hand, tend to locate in small strip developments, or in isolated units.

Functionally, the thousands of establishments open during normal business hours offer a tremendous variety of goods and services to the general consumer. At night, these shrink to but a few. Only the most basic needs can be met: gasoline for an automobile; food and drink of a most limited variety; a few emergency services--little else.

Differences are found in terms of location as well. Primarily, all-night establishments are on major roads, especially roads that convey travelers into, then out of the region. Out-of-the-way streets and shopping centers cannot support all-night establishments.

If we restrict our knowledge of an area to what we see during normal business hours, we obtained a restricted view of the land. Like a person, a town has differing moods and personalities. During the day, we see the town all dressed up, as it were, in its business suit, ready to put its best face to the public. But to understand a person or a town thoroughly, we should also visit at unguarded times. In the dead of night, we see a sleepy face, unadorned and difficult to recognize. Eastern Boca Raton, renowned in the day-time for its architectural beauty, is not particularly pretty at 4:00 A.M. Notwithstanding, Boca Raton, any town, should be seen in its many personalities. One may lose a night's sleep viewing the landscape thus, but it is worth the effort to discover this other aspect of landscape.

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