

SHOPPING BEHAVIOR AT ALEXIS-NIHON PLAZA IN MONTREAL

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Overview

This study is concerned with the predictability of changes in activities resulting from an entertainment facility retrofit. The following article reports on stage one of a larger study supported by the ICSC Educational Foundation on the impact of an entertainment retrofit on shopping center performance.

Shopping involves complex behaviors and intentions where the design and layout of the shopping facility may play a significant role in outcomes. The low level of planning evidenced in many shopping trips is consistent with greater openness to suggestion and stimulus. This could be particularly important in the case of an entertainment retrofit, which is founded on the principle of the power of stimulus and suggestion.

Stage 1 of this study used tracking, a graphical information system (GIS) and a questionnaire to obtain highly detailed information about trips and individuals. The observed behavior can be said to be typical of other enclosed, downtown shopping centers, with a relatively high level of presence of visitors in the common spaces. Consistency in microscale behavior over time and across groups found in this study will be used to measure the way an entertainment center affects those behaviors.



■ Introduction

The role of entertainment in shopping center performance has been the object of a number of recent studies (Eastlick, Lotz and Shim, 1998;

Haynes and Talpade, 1996; Shim and Eastlick, 1998). In general, the industry needs to know whether entertainment makes a positive contribution to center performance, whether it is in fact necessary for operations and how to integrate the entertainment center (EC) with the shopping facility. For example, is the presence of entertainment a major reason for visiting a particular center and once there, do entertainment seekers also shop (Bellenger, Robertson and Greenberg, 1977; Bloch, Ridgway and Nelson, 1991)? Research has concentrated on answering these questions at the macro scale. For example, opinions of shopping center managers have been collected using mailed questionnaires and focus groups. Visitors have also been interviewed through structured questionnaires, interviews and focus groups. Overall center performance has been measured using information on investment and return on entertainment (Haynes and Talpade, 1996).

Results have generally supported the growing importance of entertainment and activity diversification overall in shopping centers. It is less obvious that the presence of entertainment makes a consistent positive contribution to commercial success, however. An EC may not be as productive as other parts of the center, although it may have a synergistic effect on shopping. The cost of running an entertainment facility may place an extra maintenance and security burden. Pure entertainment seekers make a lesser contribution than other visitors although those who both shop and participate in entertainment contribute as much as dedicated shoppers to center trade. On the other hand, studies point to the large and growing proportion of visitors who are without specific shopping tasks and who come to learn about products, to seek self-affirmation among a peer group and to have novel and personally satisfying experiences (Bloch, Ridgway and Nelson, 1991; Brown, 1992). Entertainment may play a significant and complex role in the realization of these goals.

Because of these mixed or complex results from macro-scale studies, our proposal was designed to investigate the relationship between entertainment and shopping at a much finer level of detail than is usual in shopping center studies. In addition, recent research has cast increasing doubts on the strength of the relationship between the stated intentions and preferences of respondents on the one hand and their actual behavior on the other (for example, Brown, 1988; Cohen, Eysenck and LeVoi, 1986). It is now considered prudent and even necessary to use multiple, converging techniques to understand behavior. Detailed activity analysis is necessary in any event if, as in this case, we wish to know how visits to shops and entertainment are combined, when and with whom they occur.

A study of a shopping center with a significant entertainment component could have been designed to reveal details about trip planning and execution; however, such a study would not reveal the differences in

behavior with and without entertainment. For shopping center operators and developers considering an entertainment retrofit, a with-and-without-EC study is most likely to reveal those detailed differences necessary for a decision. We have proposed to carry out such a study using a two-stage design: A shopping center without a dedicated entertainment facility is studied first, followed by a study using identical methods after the entertainment center opens.

This paper reports on results of the stage I study at a shopping center in Montreal, Canada, conducted during the summer of 1999. Since the methods of study and analysis are quite unusual in published research, we will give some attention to the detailed research techniques in the following report. The stage II study will concentrate on changes in patronage patterns at the shopping center after the EC opens.

■ The Research Questions and Methods

Questionnaire

In this study, we wished to know how the trip to the shopping center was planned, with whom and how often the trip was actually executed. A closed questionnaire was used for this purpose, using a random intercept protocol inside the shopping center and at four distinct periods of the week—at noon, during the working day, during evening shopping hours and on the weekend. The trip-planning part of the questionnaire was also intended to separate those who came regularly from occasional and first-time visitors. Their postal address was also requested, which allowed us to summarize the visitor group according to the usual socio-demographic variables. We also asked visitors about their shopping intentions both within the center and beyond. Since the studied center was in a downtown area with several competing centers along with prominent shopping streets, it was thought useful to understand how visitors perceived those other opportunities.

Tracking Study

A second parallel study was concerned with their actual behavior within the shopping environment. Since a questionnaire cannot be used to obtain detailed information on shopping and browsing stops along with the time actually spent at those locations, we elected to conduct a tracking study on randomly selected visitors at key entry points to the shopping center using methods developed in earlier studies (e.g., Zacharias, 1997). In tracking, an individual is followed discreetly by a trained observer. The observer records the path taken on a small map of the shopping center,

noting the location of visits, stops and inspections, along with the time taken for the walk and all the stops. The tracked trip is terminated when the person being followed either leaves the area—in this case the shopping center and the adjoining sidewalks—or spends more than 10 minutes inside a shop or service. In most cases, such a lengthy stop constitutes a final destination.

In this way, we can identify what attracts the attention of visitors and where they actually stop. The holding power of displays and stores can also be measured using the time interval. Linkages between shops of various kinds can also be established since we know the precise order in which they are visited. Finally, we can examine the configuration the visit makes over the multiple floors and corridors of the center, in recognition of the fact that most such trips are less complex in configuration than is suggested by the actual layout.

A comparison between the preferences and intentions of the visitors, derived from the questionnaire results, and the actual behavior of visitors, derived from the tracking study, was also carried out, although these results are not reported here. In particular, we can develop detailed profiles of visiting behaviors, based on a certain cadence of walk intervals and stops.

Mapping Location and Activities

A third part of the study involved mapping the location and activities of visitors found at the center. Places for congregation are often unplanned and not always seen as beneficial for commercial operators. Entertainment activities also tend to generate more of this activity. Our study included a mapping of such activity carried out systematically over time to reveal a pattern, enabling us to compare that pattern with the observed shopping behavior.

The tracking results were transferred from field notes to the GIS ArcView. The center plan or template was used to define the shop units along with 3m squares in the public areas. A sub-routine was developed to help us analyze the tracking results along the lines discussed above. At the same time, the GIS reveals the pattern of movement in the public spaces in relation to the shops visited. For example, are people drawn closer to some shop fronts and is this movement related to more shop visits along that frontage? What is the relationship between the visit rate and the physical relationship between the shop and the common space?

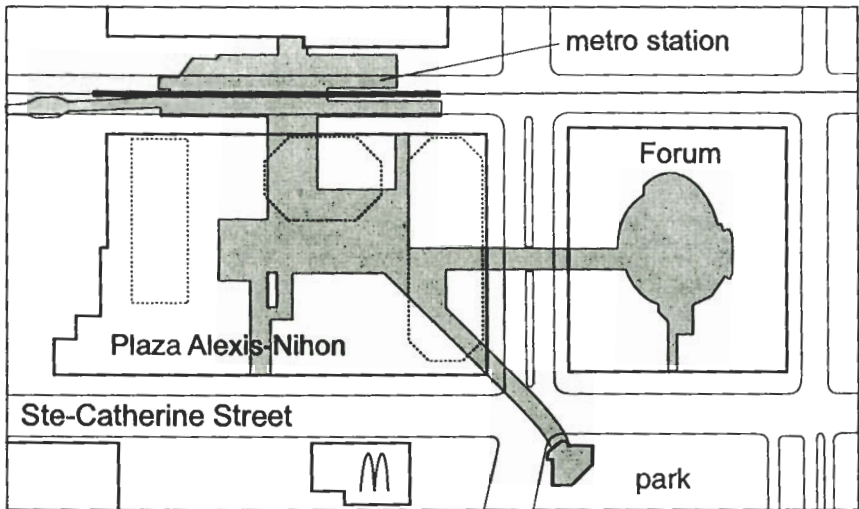
■ The Case Study

The shopping center chosen for this study, Alexis Nihon Plaza, was built in the early 1970s in downtown Montreal. It is quite typical of develop-

ments at that time, with 88 sales units arranged on three levels around an atrium. Anchors include Zellers, a budget department store, the IGA supermarket and Canadian Tire, a hardware and household department store. Three office towers with direct access to the mall and a 400-place parking garage complete the development. Direct access from the city's underground metro system was available from the inauguration of the mall. Immediately adjacent to the center was the Forum, the historic hockey arena and home to the Montreal Canadiens until their move to a new home closer to the center of downtown.

The Forum shell is being rebuilt as North America's biggest entertainment complex, with 320,000 square feet of leasable space arranged on four principal levels. The major tenants include AMC with 30 cinema screens, Jillian's entertainment center, Showmax, Rainforest Cafe and 16 retailing outlets. The new Forum will be physically and functionally linked to Alexis-Nihon Plaza because access from the metro is available only through the mall and the Forum will contain no parking (Figure 1). A cooperative agreement between the Montreal City government, the mall owners and the Forum development consortium includes a direct connection between the two centers and extensive landscaping on the sidewalks surrounding the project.

FIGURE 1 THE URBAN SITUATION OF THE PLAZA ALEXIS-NIHON AND THE ENTERTAINMENT CENTER (FORUM) UNDER CONSTRUCTION



The success of the ambitious Forum project itself is of considerable interest and will have to await completion, occupancy and use. Just how the presence of the Forum will affect the operations of Alexis-Nihon Plaza

is the principal object of the second half of this study and will also have to await opening. In the meantime, the present operations of Alexis-Nihon Plaza are also of interest because they provide us with a baseline for expected changes. This paper reports in a detailed fashion on how the Plaza is presently used.

■ The Questionnaire Results

A questionnaire distributed over the four survey periods (to 159 participants) was applied over the same weeks as the tracking study. The great majority of visitors to the shopping center were regular visitors, with more than half of the respondents visiting at least once a week (Table 1). Nearly half also came by the metro system and so entered at the lowest level of the shopping center. This is a typical rate for visitors to downtown Montreal. If this proportion is maintained after the entertainment center opens, then the shopping center stands to benefit from the increase in foot traffic. At the same time, nearly half the respondents had driven and parked their cars outside the shopping center or had taken a bus downtown. It remains to be seen whether these individuals will continue to visit the shopping center when they have the option to enter the Forum directly from the street. A high proportion of visitors (67%) arrived directly from home. Since we conducted the survey during the working day, at noon on weekdays in addition to evenings and weekends, we thought a higher proportion of visitors would have originated in some other downtown location. Instead, the majority of visitors made Alexis-Nihon center their first stop.

TABLE 1. MEANS OF TRANSPORTATION AND FREQUENCY OF VISIT (%)

Transportation:	
By metro	43
By car	19
By bus	16
On foot	26
Frequency of visit:	
>3 times/week	30
1-3 times/week	28
>1 time/month	16
<1 time/month	26

This last finding may be important since the stated purposes of the visits include a high proportion of non-shopping intentions (Table 2). While multiple responses were permitted in this question, it is obvious

that a substantial proportion of the visitors, nearly one-third, are there primarily to walk around, browse, pass time, see a movie or eat in a restaurant. Our intercept protocol was intended to allow comparison with the tracking results by interviewing at exit locations and at long-term stops. The interviewees under-reported their shop visits by 30% ($p < .05$) when compared with the tracked individuals, confirming similar findings (for example, Brown, 1988) that people have difficulty reconstituting their shopping trips. They also suggested the additional locations they would visit both within and beyond the mall, an average of 0.8 additional stops per individual.

TABLE 2. STATED PURPOSE FOR VISITING ALEXIS NIHON PLAZA (%)

To shop	60
To walk around	30
To pass time	28
To eat	27
To pass through . . .	23
For household goods	19
To see a movie	10
For entertainment	7
To meet someone	5

We asked respondents to identify features of the shopping center they liked. Table 3 presents these results. The convenience of the location is clearly important. The major renovation undertaken by the shopping center operators at the beginning of the 1990s is also well appreciated by visitors, who identified natural light and plants as important in their experience of the place. Also significant to visitors is atmosphere, which they judge to be chiefly a matter of friendliness and the identities of other visitors.

Interestingly, individuals who arrived alone and who were not intended to meet anyone else were much more likely to be on shopping trips (63%) than those who arrived in groups (22%), for example. On the other hand, groups were no more or less likely to consider their trips to be primarily about entertainment.

In general, the questionnaire confirms the results of the tracking study and provides context for the specific results we obtained through observation.

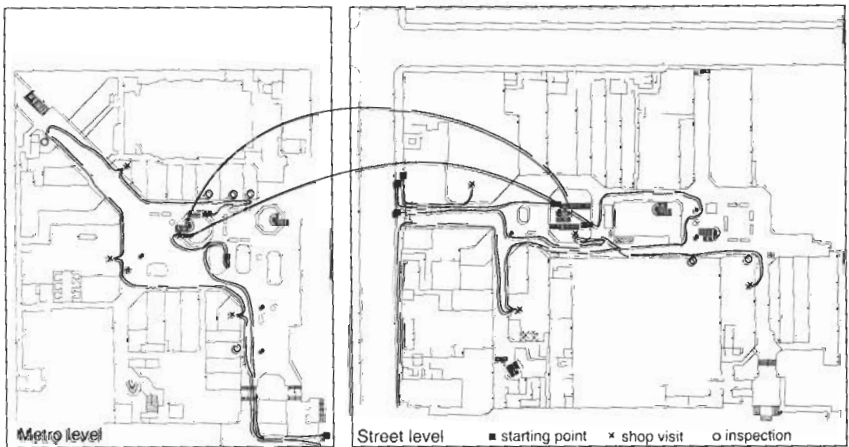
■ The Tracking Results

In this study we were able to determine how the time of the week, demographic variables and entry point to the mall affected behaviors of

TABLE 3. STATED REASONS FOR LIKING ALEXIS-NIHON PLAZA (RESPONSES/PERSON)

Cleanliness	.77
The location of the shopping center	.73
Natural lighting	.66
The layout	.64
Friendliness	.61
The atmosphere of the center	.57
The type of shops	.57
The size of the center	.53
Interior design	.52
Plants	.44
Seating, benches	.44
The people at the center	.39
The variety of shopping opportunities	.31
The restaurants	.25
The services available	.24
The open spaces inside	.19

the patrons. The details of behavior are also examined. Figure 2 shows the actual paths taken by several tracked individuals while Table 4 summarizes the data derived from all of the tracking trips.

FIGURE 2 THE DETAILED ITINERARIES OF FOUR TRACKED INDIVIDUALS ON TWO LEVELS IN THE ALEXIS-NIHON SHOPPING CENTER.

The distance walked by those entering from public transportation is significantly greater ($p < .05$) than the distance from the street entrance, although the difference is only 15%. This difference may have more

TABLE 4. SUMMARY OF THE TRACKED TRIPS AT THE SHOPPING CENTER (N = 255)

Distance walked inside the mall (meters):	
from the street entry	142
from the metro entry	161
Average time spent at the shopping center:	
before exiting the center (min)	8.12
before a final shopping stop (min)	5.55
Average time spent when visiting alone (min)	6.20
Average time spent when accompanied (min)	9.86
Distribution of trips (%) by no. of stops:	
0 stops	18.5
1	39.4
2	21.7
3	6.8
4	8.4
5+	5.2
Average no. stops overall	1.75
Level changes (% of all trips):	
0	37
1	46
2	12
3+	5

importance when one considers that the distances walked indoors during normal working hours, at lunch, at evening and on the weekend do not vary.

Similarly, the time spent in the shopping center does not vary by the shopping period of the week. In our case, we surveyed individuals in mid-afternoon, at noon, during evening shopping hours and on weekend days. Although it might seem reasonable to expect that people would spend more time shopping during leisure hours, they were not spending more time within the shopping center. We also thought there might be differences in walking speed by time; however, the differences were not significant. There were much greater differences in walking speed between individuals, however, with the uppermost quartile covering 1000% more distance for a given time than the lowest quartile. Extensive trips are also qualitatively different from short trips, having more complex scripts and more unplanned events. These visitors generally are more attentive to information, hesitate more often and are more likely to make stops that are closely spaced. There were no differences between males and females in the time spent at the center. The observers also estimated the ages of the individuals being tracked. For this analysis the estimated ages were aggregated into three groups: under 30 years of age, 30 to 45 years and over 45 years of age. No differences were discovered in the visit duration

according to age. When visitors came with someone else or as a part of a group, they tended to spend 50% more time in the shopping center. Whether this increased time translated into more shopping stops and time spent in shopping, as opposed to simply moving around, was also examined. We found a moderately strong relationship between trip duration and the number of stops, with $r = .595$ ($F = 137.813$; $p < .0001$), consistent with anecdotal evidence that keeping customers longer in the shopping center produces more contact with vendors and more opportunity for sales. On the other hand, the fact of being in a couple or group had no effect on the number of shopping stops, with $r = .079$ ($F = 1.583$; $p = .2095$). In other words, being part of a group slowed down the movement of shoppers through the center but did not contribute to the shopping rate.

The number of stops actually made by the visitors is an important way of characterizing the trips. Overall, the number of stops inside shops or at kiosks was 1.75. About 14.5% of trips obviously had destinations outside the mall and included no stops but also no hesitations or inspections en route. When these visits are removed, the stop rate climbs to 2.05. The distribution of trips according to the number of stops follows the pattern uncovered in other malls; namely, the highest proportion of visits involve just one full stop and a gradual decline in the stop rate as the number of stops rises. A small group (5.2% of the total) makes an extraordinarily high number of stops in complex itineraries.

Tracking also allows us to record the inspections of window displays and hesitation at the store entrance without actually entering the store. The inspection rate can reveal information about store image and visual display that can be obtained with difficulty otherwise. In our case, the inspection rate across individuals was one-third the stop rate and the two were modestly and positively related ($r = .278$; $F = 20.965$; $p < .0001$). It is difficult to say, based on this result, that there exists a class of browsers. While our sample does include a class of individuals who inspect stores more from without than within, overall the two phenomena are related. Shoppers as a whole spend much more time taking in information of all kinds (Foxall and Greenley, 1998; Donovan and Rossiter, 1982), especially visual information from their immediate environment (Oppewal and Timmermans, 1999) than they do in actual purchasing behavior.

For a long time it has been a dictum of shopping center practice to try to retain visitors for as long as possible, since it is presumed that a lengthy stay exposes the client to more information about goods and services available. For example, a longer trip may be linearly related to the amount of territory covered. In our study, the relationship between trip duration and distance covered was evident without being very high ($r = .705$; $F = 248.248$; $p < .0001$). By including stops with distance as inde-

pendent variables in a multiple regression analysis, the model is improved somewhat ($r = .787$; $r^2 = .620$; $F = 203.666$; $p < .0001$). There remains a significant proportion of variation in trip duration, which is not explained by the most obvious variables in the trip.

Finally, Alexis-Nihon Plaza has three shopping levels. The basement is connected to the metro entrance, the most significant entry point, while street level has three significant entry points from the street. In this way, the designers thought to distribute the visitors over the three floors. However, 37% of visitors do not change floors and 46% visit just two floors. Obviously, in this center people do not tend to browse and travel over the floors but head for specific destinations and with specific purposes.

The spatial distribution of walks was recorded by automated counting of individual trips crossing grid squares in the common space (Figure 3). The broad space of the upper and street levels results in walks that line the outer edges but seldom include both sides. Street-level corridors and exits, except for the one heading directly toward the Forum EC, are poorly used. On the other hand, at the metro level only one entrance of four is intensively used with redistribution of movement from the central space.

FIGURE 3 THE PEDESTRIAN PATH INTENSITY (FROM TRACKED TRIPS (a) OVER THE CORRIDORS OF THE SHOPPING CENTER (a), AND THE STOP FREQUENCY IN SHOPS (b)



This concentration of shoppers and activity in the central space is strengthened by the centrally located escalators and open stairwells. The design question for the second stage of the study concerns how a similar, high open atrium in the Forum will interact with the existing, socially active atrium.

Not surprisingly, the anchor stores have high visit rates (Figure 3b). The relationship between flows in the corridors and visit rates to stores is modest and positive. The considerable variation between shop units of the same size on the same corridor is somewhat more problematic, since we would expect that similar shops grouped within the same common space would draw more or less the same volume of visitors.

■ Conclusions

Using tracking and GIS we were able to relate the detailed spatial behavior of individuals to the location of shops, the layout of the shopping center, the time of the week, entry point and demographic variables. Our tracked sample of 255 individuals, carried out over six weeks, reveals stable patterns of patronage behavior at the center. Overall, we found a positive relationship between distance covered, duration of stay and the number of stops made. There were few variations over time, however.

The walking patterns in the mall were analyzed using GIS. More detailed analysis relating the questionnaire, the tracking results and the aggregate behavior will be conducted following stage II of the present study.

Since the majority of the visitors to Alexis-Nihon Plaza are regular visitors who like the atmosphere, the people and the interior design, it will be interesting to see how a major entertainment center with quite different design will affect this patronage. Since fewer than two-thirds of the visitors describe their trips as having a shopping purpose, the clientele may well be vulnerable to attractions adjacent to the center combined with new shopping opportunities. The clientele itself may change. The second stage of the study will pay particular attention to these questions.

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