



An Economic Evaluation of a Water-Based Urban Tourist Attraction in San Antonio, Texas

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AN ECONOMIC EVALUATION OF A WATER-BASED
URBAN TOURIST ATTRACTION IN SAN ANTONIO, TEXAS

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ABSTRACT

AN ECONOMIC EVALUATION OF A WATER-BASED URBAN TOURIST ATTRACTION IN SAN ANTONIO, TEXAS

The importance of an economic study of the Paseo del Rio (a highly developed portion of the San Antonio River) has greatly increased with the proposal of many extensions, each of which will involve large investment. That developmental plan which has been in the forefront involves an extension of the Paseo del Rio, in the central business district, north to Brackenridge Park and south to the city limit. An economic study of the existing, developed area would determine the estimated impact of it on commercial enterprises, and produce information relative to the possible effects of future extensions and associated developments.

The purpose of this study is to determine the economic effect of the Paseo del Rio on commercial enterprises and activities as it affects tourism and recreation in the central city. Based on the assumption that the economic effects of the developed river area arise from the expenditures of the users, and that beneficiaries are the businesses surrounding the area, three surveys have been conducted. One concerned users of the developed river area. It served to identify their socio-economic characteristics and other relevant factors which might be important to their knowledge and use of the river. The second was a survey of the businesses in the central business district to identify their economic characteristics, their relationship to the Paseo del Rio, and the proportions of gross receipts of these businesses attributable to

the developed river area. A third survey served to identify characteristics of residents of San Antonio, their knowledge of the Paseo del Rio and their use of it for various purposes.

Statistical analyses indicated that the income of the user, the size of the user group, and the distance traveled by the user were all positively associated with the level of his expenditures. The two user activities, shopping and eating, were associated with high levels of expenditures. Other user characteristics which resulted in high levels of expenditures were the purchase of food and recreational goods. The businesses in the river area were stratified according to distance from the Paseo del Rio to reduce variation. This stratification was extremely significant, with the proportion of gross receipts attributable to the developed river area decreasing as distance from the river increased. Businesses selling the goods and services of arts and crafts, entertainment and lodging attributed high proportions of their gross receipts to the Paseo del Rio. The types of customers which contributed large amounts of gross receipts to the area were tourists and local residents (businesses and households).

The users of the area are not only tourists, but also San Antonio residents and persons from nearby cities. Thus, an extension of the Paseo del Rio would be significant not only to increased tourism but also to added recreational use of the river by the residents of the city. Reaction to the proposed extension was favorable both from the standpoint of the businesses in the surrounding area and from the users of the Paseo del Rio.

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Two graduate students in the Department of Agricultural Economics and Rural Sociology, Texas A&M University, deserve special recognition for their work. They have assumed the burden of data collection and analysis with a minimum of supervision and with initiative and hard work that is deserving of commendation. They are Randall Whorton and Richard Price. Randy's work is reported in a thesis (unpublished) and Larry's research is reported in a professional paper (unpublished). Each will soon receive a Master's degree from Texas A&M University.

Of invaluable assistance to the research were Bill Marvel, Project Director, Urban Renewal Agency, Henry Rubenstein, representative of the Consultant on the Urban Renewal Project, Randy Ramseur, Planning Department, City of San Antonio, Clair Regnier, Executive Director, Paseo del Rio Association, Don Woods, Manager, River Taxi Service, Casa del Rio, Robert L. Frazier, Director, Department of Parks and Recreation, City of San Antonio, Ed Harllee, Executive Vice President, Downtown, Inc., Tom Koch, President, Thomas Koch, Inc., Antonio Furino, Alamo Area Council of Governments, and others who represent agencies of the city and county, professional and civic organizations, etc. Their advice and support was useful and it was a pleasure to work with them.

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TABLE OF CONTENTS

	Page
ABSTRACT	i
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	v
 SECTION	
I INTRODUCTION	1
The Problem Situtation	2
Purpose of this Study	5
Related Previous Studies	6
Procedures	7
II THE PASEO DEL RIO USER	10
Socio-economic Characteristics	10
Age	10
Occupation	10
Income	10
Education	13
Group Size and Relation	13
Race and Nationality	15
Distance Traveled	15
User Activities and Utilization of the Paseo del Rio	18
Expected and Actual Expenditures	18
River Taxi	21
Reasons for Visiting the Paseo del Rio	21
Planned and Actual Purchases	21
Visits in Past Year	23
Time Spent on the Paseo del Rio	26
Activities	26
Reactions to the Paseo del Rio	26
Plans to Return	26
Reaction to the Paseo del Rio	30
The Proposed Extension of the Paseo del Rio	30
Total Paseo del Rio Use	33
Total of Expenditures	35
III BUSINESSES IN THE PASEO DEL RIO VICINITY	36
Characteristics	36
Strata	36
Retail and Wholesale Classification	36

TABLE OF CONTENTS
(continued)

Section	Page
General Classification of Product Sold	38
Principle Product	38
Orientation	38
Percent Gross Receipts Received by Quarter	41
Inventories	41
Years at Present Location	43
Location and Dependency	43
Reaction to the Proposed Paseo del Rio Extension	48
Percent of Gross Receipts Attributable to the Paseo del Rio	50
 IV EFFECTS OF THE USER'S CHARACTERISTICS, ACTIVITIES, AND REACTIONS ON THEIR EXPENDITURES AT THE PASEO DEL RIO	 52
The Analytical Model	52
Theoretical Model	52
Statistical Model	52
Procedure for Analysis	53
Effects of the Specified Variables on the User's Expenditures at the Paseo del Rio	55
Significance of the Regression Equation	55
Quantitative Variables in the Regression Equation	60
Qualitative Variables in the Regression Equation	62
Conclusions	71
 V EFFECTS OF BUSINESS CHARACTERISTICS ON THE PERCENT OF GROSS RECEIPTS ATTRIBUTABLE TO THE PASEO DEL RIO BY THE SURROUNDING BUSINESSES	 73
The Analytical Model	73
Theoretical Model	73
Statistical Model	74
Procedure for Analysis	75
Significance of the Regression Equation	76
The Quantitative Variables in the Regression Equation	80
Qualitative Variables in the Regression Equation	82
Conclusions	88
 VI SAN ANTONIO RESIDENTS AND THE PASEO DEL RIO	 90
Composition of Households	90
Characteristics of Household Head	92
Age of Household Head	92
Education of Household Head	92
Occupation of Household Head	95
Income of Household Head	95
Characteristics of Other Working Members of the Household	95

TABLE OF CONTENTS
(continued)

Section	Page
Age	95
Education	97
Occupation	97
Income	97
Knowledge and Use of the Paseo del Rio by San Antonio	
Residents	100
Sources of Information	100
Frequency and Seasonality of Visits to the Paseo del Rio.	102
Activities of Residents on the Paseo del Rio	104
Relationship of Householder to Those With Whom He Visits the Paseo del Rio	104
Expenditures on the Paseo del Rio	106
Purchases on the Paseo del Rio	106
Obstacles to Use of the Paseo del Rio	106
Opinions and Preferences Toward Extension of the Paseo del Rio.	108
 VII	
EFFECTS OF RESIDENTS' CHARACTERISTICS, ACTIVITIES AND ATTITUDES ON THEIR EXPENDITURES AT THE PASEO DEL RIO	111
Procedure for Analysis	111
Effects of Specified Variables on Residents'	
Expenditures at the Paseo del Rio	112
Significance of the Regression Equation	113
The Qualitative Variables in the Regression Equation	113
 VIII	
SUMMARY AND CONCLUSIONS	126
The Paseo del Rio User	126
The Businesses Surrounding the Paseo del Rio	127
San Antonio Residents and the Paseo del Rio	127
Effect of the Paseo del Rio on Economic Activity	128
User Expenditures	128
Business Receipts Attributable to the Paseo del Rio.	129
Conclusions	130
 REFERENCES	131

INTRODUCTION

The San Antonio River begins in Brackenridge Park on the north side of San Antonio, Texas. It is fed by one of many springs which come from the Balcones Escarpment [6, p. 24-33]. Until recently, the San Antonio River had a disreputable history. The downtown area of the river was used as a garbage dump for businessmen, and there were five major floods which resulted in loss of life and property. Most of the flood damage came in a horseshoe bend of the river located in the central business district. Because of frequent flooding, businessmen who owned riverfront property favored the construction of a by-pass of the area and then filling it in to street level. Another alternative proposed the by-pass but suggested landscaping in the horseshoe bend to form a park area which would provide for recreation and promote tourism [6, p. 66-77].

The proposal which included the by-pass and the horseshoe bend as a landscaped area encountered opposition, but it was finally approved and construction began in 1939. The Works Project Administration (WPA) did the work, and their first action was to construct a by-pass of the horseshoe bend which serves as a flood control measure. The river was cleaned and landscaped with sub-tropical plants. Sidewalks, walls, and a river theater were built. It was completed in 1941 and responsibility for administration was given to the San Antonio Parks and Recreation Department [6, p. 72-85]. See Figure 1 for location of the Paseo del Rio in the central city.

The citations on the following pages follow the style of The American Journal of Agricultural Economics.

From 1941 to 1960, little commercial use or development of the Paseo del Rio was realized. A few restaurants and the river taxi were the only commercial enterprises in this period, and very little occurred which improved physical characteristics of the river [8]. Since 1960 the Paseo del Rio has been developed into a major tourist attraction. The number of business establishments has grown to approximately thirty, and many civic organizations have begun to promote the area. The Paseo del Rio was improved by the addition of lights and by the initiation of patrols of the area by members of the San Antonio Parks and Recreation Department. The physical makeup of the river was also changed by an extension to the nearby Hemisfair '68 area. The City of San Antonio hosted this fair and sponsored much of the recent development of the Paseo del Rio [4, p. 9-14]. Pictures and descriptions of the central city and the Paseo del Rio can be found in the brochure attached to this report.

The Problem Situation

Since Hemisfair '68, the Paseo del Rio has been an important tourist attraction in San Antonio. Its impact has led several persons and groups to propose an extension of the developed portion of the river. The Del Alamo plan proposes a multistoried structure which is to be built between the Alamo and the Paseo del Rio. The mall or interior of the structure would include an extension of the river and docking facilities for river taxis. The structure would house apartments, hotels, business offices, and retail stores. Another proposed extension is the San Pedro Creek plan. San Pedro Creek is a tributary of the river, and the plan proposes an additional development

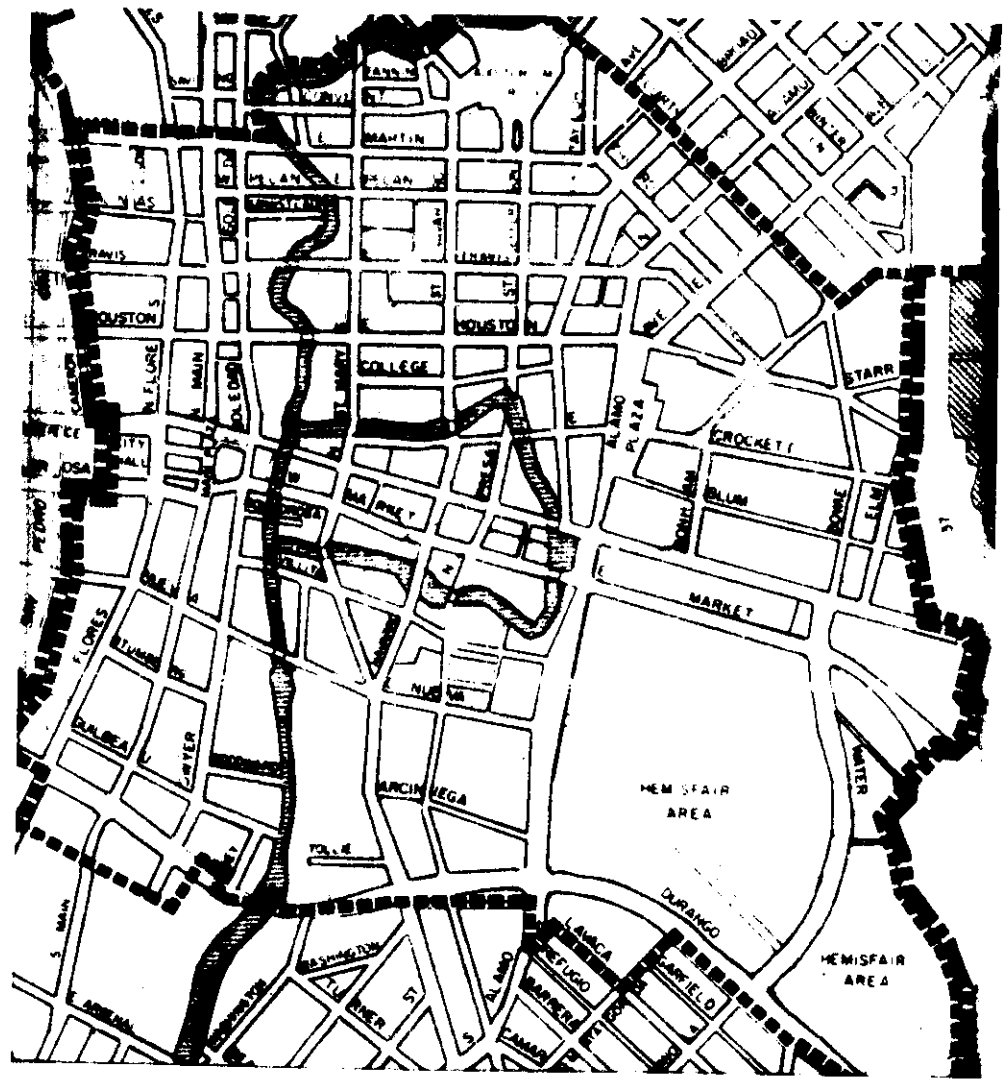


Figure 1. The Paseo del Rio, in the central city or downtown area of San Antonio, Texas

similar to the Paseo del Rio along the creek [8]. The third plan is less specific, but generally involves a development of the river which would extend north and south along the San Antonio River. The northern boundary of the development would be Brackenridge Park, and the southern boundary, although not quite as definite, would be within the city limit. Other ideas include the expansion of the Paseo del Rio farther into the grounds of Hemisfair '68. All of these plans have been proposed as desirable attractions to San Antonio; but so far there have been no studies which evaluate the economic impact of the existing development or of developments proposed.

The economic impact of the river arises from the expenditures by users of the Paseo del Rio. Beneficiaries are the businesses in the central city. To plan further development of the river there needs to be information developed concerning (1) the Paseo del Rio user, (2) the impact on businesses in the central business district of the Paseo del Rio, and (3) the attitudes of residents of San Antonio toward the river, commercial development of the resource and use of a Riverwalk. To properly evaluate the user, his characteristics must be related to how much he spends, what he purchases, etc. Similar information is needed for businesses of the central city, to determine what kinds of businesses are affected, how much they are affected, and how the impact of the Paseo del Rio diminishes as distance from the river increases. Observation of users and studies of business enterprises should yield information that will enable proper evaluation of the economic impact of the Paseo del Rio.

Purpose of This Study

This study was organized to determine the impact of the Paseo del Rio on the commercial activity of downtown San Antonio, Texas. The economic impact of this developed portion of the San Antonio River was measured by determining the effect of the Paseo del Rio on tourism and recreation in the central city and the significance of the river to business locations and activity. The specific objectives were:

1. Study the Paseo del Rio user. Identify socio-economic characteristics (such as age, income, race, occupation) which may be significant to his knowledge and use of the river. Record the user's levels of expenditure, goods purchased, seasonality of expenditures and reaction to the Paseo del Rio.
2. Determine the relationship between selected characteristics of the users and their levels of expenditures.
3. Study the businesses in the central business district. Identify characteristics which are necessary for description and classification of these businesses. Record statistics relevant to the business' activity, including products sold or services rendered, wholesale or retail, total sales, and estimates of the influence of the Paseo del Rio on sales.
4. Determine the relationship between selected business characteristics and proportion of total sales attributable to the Paseo del Rio.
5. Estimate the impact of the Paseo del Rio on downtown San Antonio from the user expenditures and from the total sales attributable to it by the businesses in the surrounding area.

6. Determine, by socio-economic classification, the attitude of the San Antonio resident toward the Paseo del Rio and estimate annual visits, expenditures and reaction to any extension.

Related, Previous Studies

The nature of this problem is different from that of most water-based outdoor recreation studies. The Paseo del Rio is an urban recreation area which is centered around a water resource. Although the water is not necessary for many of the activities on the Paseo del Rio, these activities are dependent upon the water as an attraction. The river adds an aesthetic value to the area which is unmeasurable, but definitely important. Several studies which evaluated water-oriented outdoor recreation areas were deemed important to this study.

Gunn, Reed and Couch [4], in an environmental-use study of the Paseo del Rio utilized landscape analysis as a technique for evaluation of the area. They recorded user response to each of four environmental segments along the Paseo del Rio. To evaluate the area with respect to the residents of the city, they surveyed the registered voters, determining their level of use of the Riverwalk and their reactions. Selected businesses and managing agencies were interviewed to determine their reactions. Although this study was not economic in nature, it was useful for the insight it provided for a complex problem.

Whitman [1] studied small urban river valleys and their land uses in six cities including San Antonio. A rating on environmental quality was established, and the level of many recreation activities were found to be enhanced by the degree of natural environment.

Blank and Stipe [1] evaluated the economic impact of the development of little-used river in a rural county. A personal survey of the users was conducted along with a business survey. They made comparisons of the characteristics of the users and the general population. Factors which influenced the users to select the area were discussed, and use trends were developed which showed expanding demand for the area. Economic impact was shown in terms of expenditures for various items by the users, and in terms of employment effects of the recreation area.

Gillespie [3], in his outdoor recreation demand study, measured the characteristics, opinions, and preferences of his population. Analysis of variance was used to test relationships of selected socio-economic characteristics and recreational activity, and multiple linear regression was used to determine beta coefficients for his demand model. Zero-one variables were used in the regression equation for qualitative variables to prevent bias. Gillespie also used cross products to determine the net effect of some interrelated variables, and quadratic functions of some variables were used to obtain a better fit of the regression equation.

The Economic Base Study of San Antonio and Twenty-seven County Area [2] discussed the effect of tourism and the effect of the San Antonio River as a resource of the city. The levels of use of certain tourist attractions within the city including Arnson River Theater on the Paseo del Rio were reported.

Procedure

The determination of those user characteristics which are important in the evaluation of the economic impact of the Paseo del Rio was accomplished

through a personal interview survey. The users of the Paseo del Rio were sampled at random by trained interviewers for each of four seasons [5]. The pertinent socio-economic characteristics, such as age, income, race, citizenship, education, and occupation were obtained. Other questions relating to use of the Paseo del Rio, such as levels of expenditure, user reaction, distance traveled, and preferences were asked.

For proper evaluation of the relationships among selected user characteristics and levels of expenditure, regression analysis was used [7, 9]. To evaluate qualitative variables such as race, occupation, and goods purchased, zero-one variables were included in the regression equations [10, p. 548-555]. The comparison of means of the zero-one variables has been accomplished through the technique involving the determination of a "least significant difference" [7, p. 310-312].

To enable economic evaluation of the businesses in the central business district, the personal interview method was used to gather pertinent data. A random stratified sample was contacted by trained interviewers [5]. Business characteristics such as location, principle products, total sales, and sales attributable to Paseo del Rio users were reported. Other important business characteristics which relate to the Paseo del Rio were identified.

Regression analysis was used to determine the relationship among selected business characteristics and the proportion of gross sales attributable to the Paseo del Rio. Zero-one variables similar to those of the Paseo del user's analysis were used. At least significant difference was determined to evaluate significance among means of qualitative variables.

Determination of socio-economic characteristics of residents of San Antonio and their interests in and use of the Paseo del Rio was accomplished by survey of a sample of the population and statistical analysis of responses similar to that given to user responses. A random sample of the population was drawn. The households in the sample were then contacted by mail questionnaire. Family heads were asked about age, income, race, education and occupation of family members and about the knowledge and use of the Paseo del Rio by the family. Characteristics of families were then related to kind and frequency of use of the Paseo del Rio.

The estimation of total impact of the Paseo del Rio has been evaluated from two points, (1) user expenditures expanded to yearly totals and (2) sales attributable to the Paseo del Rio by the businesses in the central business district. Estimates of these levels and standard errors of estimate were computed [5, 7, 9].

THE PASEO DEL RIO USER

Socio-Economic Characteristics

Age

The mean age of the Paseo del Rio user was found to be 33.89 years (Table 1). His age did not vary greatly by season. More than half (50.2 percent) of the total users were thirty years of age or younger and 70.56 percent of the users were 40 years old or younger. This indicates that the Paseo del Rio must appeal to younger age groups. The standard deviation for age was 13.35 years.

Occupation

The occupation categories were: proprietor, professional, technician, laborer, clerk, salesman, housewife, military and other. Distribution among users is shown in Table 2. About 33 percent of the total number of users were members of a profession. Those classed as other were numerous and amounted to 20.79 percent. This class contains a large number of students, both high school and college. The third largest occupation group was the military. This class contained 17.18 percent of the total and it includes a large number of younger people. Their average age is 25.09 years. The proprietors were the oldest of the users with an average age of 45.06 years.

Income

The average annual income of the Paseo del Rio user was found to be \$9,014.92 and the standard deviation was \$6,425.60 (Table 3). Levels of income of users varied greatly by season. During the fall the average was

Table 1. Distribution of Users of the Paseo del Rio by age and by Season, San Antonio, Texas, 1971-72.

Age	Season				Totals	
Years	Spring	Summer	Fall	Winter	Number	%
16 - 20	99	160	115	80	454	13.42
21 - 25	202	284	193	176	855	25.27
26 - 30	85	110	122	86	403	11.91
31 - 35	52	115	91	54	312	9.22
36 - 40	94	149	75	59	377	11.14
41 - 45	62	131	58	50	301	8.89
46 - 50	71	94	85	40	290	8.57
51 - 60	58	58	85	33	233	6.89
61 - 70	30	49	27	23	129	3.81
71 +	<u>12</u>	<u>5</u>	<u>10</u>	<u>3</u>	<u>30</u>	<u>0.89</u>
Totals	765	1,154	861	604	3,384	100.00
Average	34.41	33.83	34.47	32.50	33.89	
Standard Error	13.75	12.05	13.68	12.76	13.35	

Table 2. Distribution of Users of the Paseo del Rio by occupation and by season, San Antonio, Texas, 1971-72

Occupation	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
Proprietor	30	33	38	45	146	4.29
Professional	230	394	334	187	1,142	33.53
Technician	42	89	48	31	210	6.17
Laborer	30	31	24	16	101	2.97
Clerk	29	42	24	17	112	3.29
Salesman	73	95	69	50	287	8.43
Housewife	9	53	35	18	115	3.38
Military	117	242	119	107	585	17.18
Other	<u>206</u>	<u>188</u>	<u>179</u>	<u>135</u>	<u>708</u>	<u>20.79</u>
Totals	766	1,167	867	606	3,406	100.00

Table 3. Distribution of Users of the Paseo del Rio by income and by season, San Antonio, Texas, 1971-72

Income	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
Dollars						
0- 2,500	117	305	157	137	716	21.05
2,501- 5,000	141	129	95	91	456	13.40
5,001- 7,500	122	143	96	74	435	12.79
7,501-10,000	109	223	107	71	510	14.99
10,001-15,000	96	218	140	80	534	15.70
15,001-20,000	92	64	97	72	325	9.55
20,000 +	<u>88</u>	<u>84</u>	<u>173</u>	<u>81</u>	<u>426</u>	<u>12.52</u>
Totals	765	1,166	865	606	3,402	100.00
Average	9,100	7,920	10,400	9,482	9,015	
Standard Error	6,249	5,789	6,867	6,704	6,426	

highest at \$10,400.29 and in the summer it was lowest at \$7,920.24. The proprietors, the professionals, and the salesmen all had incomes averaging over \$10,000. The military and other occupations had incomes near \$4,000. The largest number of users were in the income class less than \$2,500, which contained 21.05% of the total population.

Education

The statistics of Table 4 emphasize the high level of education of the Paseo del Rio users. The average level of education is 14.50 years, and the standard deviation is 2.17 years. The level of education varied little by season with the lowest level in the summer at 14.30 years and the highest level in the fall at 14.69 years. Over 70 percent of the users interviewed had attended college, and only 2.35 percent had eight years or less education. The occupational category with the most years of formal education was the professional with 15.91 years. Laborers had the least education, with 11.73 years.

Group Size and Relation

When the users were interviewed, an attempt was made to have the head of a party or group of people answer the questions. Among the questions was size of group and relation of the members to the respondent. Group sizes varied from one to seven or more. The average group size was 2.59 persons and the standard deviation was 1.32 (Table 5). Groups of two were most numerous, and those groups contained 41.33 percent of the users interviewed. The relationship of the groups members to the respondent was

Table 4. Distribution of Users of the Paseo del Rio by education, and by season, San Antonio, Texas, 1971-72.

Education	Season				Totals	
	Years	Spring	Summer	Fall	Winter	Number
1 - 8	26	21	27	6	80	2.35
9 - 12	209	371	190	157	927	27.26
13 - 14	182	224	200	135	741	21.79
15 - 16	190	354	211	163	918	26.99
17 +	<u>158</u>	<u>194</u>	<u>239</u>	<u>144</u>	<u>735</u>	<u>21.61</u>
Totals	765	1,164	867	605	3,401	100.00
Average	14.37	14.30	14.69	14.67	14.50	
Standard Error	2.25	2.12	2.23	2.04	2.17	

Table 5. Distribution of Users by number in user group, and by season, San Antonio, Texas, 1971-72.

Group Size	Season				Totals	
	Number	Spring	Summer	Fall	Winter	Number
1	171	135	187	84	577	16.94
2	340	416	413	239	1,408	41.33
3	180	401	183	144	908	26.65
4 - 6	54	164	55	87	360	10.57
7 +	<u>21</u>	<u>53</u>	<u>28</u>	<u>52</u>	<u>154</u>	<u>4.52</u>
Totals	766	1,169	866	606	3,407	100.00
Average	1.33	1.83	1.32	1.87	1.59	
Standard Error	1.19	1.32	1.19	1.51	1.32	

classified as friends, family, other relatives, business associates, and other (Table 6). Relationships most often specified were friends and family. These group members totaled 76.20 percent of all those interviewed. Unrelated members in groups (the other classification) made up the groups of largest size, an average of 4.39 persons. Average group size for friends was 2.76 persons and family was 3.01 persons.

Race and Nationality

Anglo, Mexican-American, Negro, and other were the four race classifications. Anglos comprised 81.31 percent of the number interviewed, as shown in Table 7. Next came Mexican-Americans with 13.05 percent and then Negroes with 3.88 percent. The nationality classes included United States, Mexico, and other, and the distribution was 97.24 percent, 0.41 percent, and 2.35 percent respectively. This is shown in Table 8.

Distance Traveled

The distance the respondent traveled from home is shown in Table 9. The average distance traveled was 232.74 miles and the standard deviation was 225.18 miles. Those traveling no significant distance are from San Antonio and are 40.56 percent of the total. Interestingly, those who traveled more than 500 miles are 34.54 percent of the total. When distance traveled and occupation are related, the proprietors traveled the longest distance, 280.92 miles, and the laborers traveled the least distance, 97.11 miles. There is no distinct pattern among distance traveled and relation of the respondent to his group except that those who were alone traveled the least average distance, 150.73 miles.

Table 6. Distribution of Users of Paseo del Rio by relationships in user group, and by season, San Antonio, Texas, 1971-72.

Relationship	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
Alone	171	168	188	90	617	18.10
Friends	306	491	350	296	1,443	42.34
Family	230	490	284	150	1,154	33.86
Other Relatives	0	10	3	7	20	0.59
Business Associates	59	8	35	54	156	4.58
Other	<u>0</u>	<u>2</u>	<u>7</u>	<u>9</u>	<u>18</u>	<u>0.53</u>
Totals	766	1,169	867	606	3,408	100.00

Table 7. Distribution of Users of the Paseo del Rio, by race and by season, San Antonio, Texas, 1971-72.

Race	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
Anglo	569	981	723	493	2,766	81.31
Mexican-American	145	122	103	74	444	13.05
Negro	46	36	25	25	132	3.88
Other	<u>5</u>	<u>27</u>	<u>14</u>	<u>14</u>	<u>60</u>	<u>1.76</u>
Totals	765	1,166	865	606	3,402	100.00

Table 8. Distribution of Users of Paseo del Rio by nationality and by season, San Antonio, Texas, 1971-72.

Nationality	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
United States	758	1,120	842	589	3,309	97.24
Mexico	2	5	6	1	14	0.41
Other	<u>6</u>	<u>41</u>	<u>18</u>	<u>15</u>	<u>80</u>	<u>2.35</u>
Totals	766	1,166	866	605	3,403	100.00

Table 9. Distribution of Users of Paseo del Rio by distance traveled and by season, San Antonio, Texas, 1971-72.

Distance Traveled	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
0	381	387	373	239	1,380	40.56
0 - 25	7	4	8	14	33	0.97
26 - 50	6	12	13	3	34	1.00
51 - 100	25	43	30	27	125	3.67
101 - 200	39	55	66	20	180	5.29
201 - 500	99	187	114	75	475	13.96
501 +	<u>209</u>	<u>477</u>	<u>262</u>	<u>227</u>	<u>1,175</u>	<u>34.54</u>
Totals	766	1,165	866	605	3,402	100.00
Average	192	271	212	240	233	
Standard Error	220	223	221	229	225	

User Activities and Utilization of the Paseo del Rio

Expected and Actual Expenditures

Expected expenditures were estimated by inquiring about the amount of money the respondent planned to spend upon his arrival at the Paseo del Rio. The average expected expenditure as estimated by the respondent was \$7.92 and the standard deviation was \$8.60 (Table 10). This amount varied greatly by season with expectations to spend in the spring being the lowest at \$6.88 and in the fall the highest at \$8.77. Those expecting to spend nothing included 30.64 percent of those interviewed, and they were the largest group. Almost half of those interviewed (48.46 percent) planned to spend more than \$5.00.

Actual expenditures were obtained from the respondent as being the amount he had spent at the time of the interview. In many cases, the respondent had not completed his total expenditures on the Paseo del Rio. This deficiency should have been corrected by other questions concerned with time spent on the Paseo del Rio. The average expenditure at the time of the interview was \$5.50 and the standard deviation was \$7.85 (Table 11). As was the case with expected expenditures, the group spending nothing is the largest. Further there are 13 percent more people in the group actually spending nothing than there was in the group planning to spend nothing. But the relevance of this observation is at yet undetermined. Those who spent more than \$5.00 were 32.79 percent of the population of users.

When actual expenditures and occupation are related, proprietors are found to spend the most at \$10.15, the professionals are next at \$7.48,

Table 10. Distribution of Users of the Paseo del Rio, by expectation to spend and by season, San Antonio, Texas, 1971-72.

Expenditure	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
Dollars						
0.00	270	368	273	133	1,044	30.64
0.01 - 1.00	16	21	6	8	51	1.50
1.01 - 2.50	35	51	42	43	171	5.02
2.51 - 5.00	116	161	104	109	490	14.38
5.01 - 10.00	160	259	154	147	720	21.13
10.01 - 25.00	88	171	162	95	516	15.15
25.01 +	<u>81</u>	<u>137</u>	<u>126</u>	<u>71</u>	<u>415</u>	<u>12.18</u>
Totals	766	1,168	867	606	3,407	100.00
Average expected expenditure	6.88	7.76	8.77	8.29	7.92	
Standard error	8.24	8.52	9.11	8.31	8.60	

Table 11. Distribution of Users of Paseo del Rio, by actual expenditures and by season, San Antonio, Texas, 1971-72.

Expenditure	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
Dollars						
0.00	343	541	443	176	1,503	44.12
0.01 - 1.00	28	42	23	37	130	3.82
1.01 - 2.50	55	57	43	59	214	6.28
2.51 - 5.00	126	141	85	91	443	13.00
5.01 - 10.00	119	174	104	107	504	14.79
10.01 - 25.00	48	125	93	65	331	9.72
25.01 +	<u>46</u>	<u>89</u>	<u>76</u>	<u>71</u>	<u>282</u>	<u>8.82</u>
Totals	765	1,169	867	606	3,407	100.00
Average actual expenditure	4.53	5.45	5.44	6.89	5.50	
Standard error	6.90	7.81	8.15	8.43	7.85	

the salesmen are third at \$7.41. The two occupational groups that spend the least are the laborer and the clerk at \$2.70 and \$2.64, respectively.

River Taxi

The use of the river taxi was thought to be important to the impact of the individual user upon the Paseo del Rio. In the total sample, 21.43 percent of those interviewed rode the river taxi (Table 12). This varied considerably by season. Only 12.07 percent rode in winter and 29.17 percent rode in fall. In the spring and summer months 71.10 percent of the users rode the river taxi. Those riding the river taxi had average expenditures of \$10.83 and those that did not ride had average expenditures of \$4.05.

Reason for Visiting the Paseo del Rio

Table 13 shows that most of the users planned deliberately to visit the Paseo del Rio on the day of our survey. Others, 17.06 percent of those interviewed, were persons who frequently visit the Paseo del Rio and just happened to be there on the day of the survey. The remaining 25.17 percent are infrequent or new visitors. Many are tourists who accidentally found the Paseo del Rio while visiting San Antonio.

Planned and Actual Purchases

Planned and actual purchases were determined by the same method that planned and actual expenditures were determined. There were four classes of goods, including food, recreation, curios, and personal services. Any combination of these four goods could be specified by the user. These

Table 12. Distribution of Users of Paseo del Rio, by use of river taxi, and by season, San Antonio, Texas, 1971-72.

Response	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
Those Riding	178	341	138	73	730	21.43
Those Not Riding	<u>588</u>	<u>828</u>	<u>728</u>	<u>532</u>	<u>2,676</u>	<u>78.57</u>
Totals	766	1,169	866	605	3,406	100.00

Table 13. Distribution of Users of Paseo del Rio, by factors influencing use and by season, San Antonio, Texas, 1971-72.

Response	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
Brought by a friend	79	115	87	90	371	10.93
Frequently visit the area	142	142	169	126	579	17.06
Planned deliberately to visit area	445	790	453	272	1,960	57.77
Accidentally found area while downtown	47	97	66	41	251	7.40
Other	<u>52</u>	<u>13</u>	<u>91</u>	<u>76</u>	<u>232</u>	<u>6.84</u>
Totals	765	1,157	866	605	3,393	100.00

categories are shown with amounts purchased in Tables 14 and 15. The class of goods most frequently purchased (planned and actual) was food. It comprised 33.65 percent of the planned purchases and 28.16 percent of the actual purchases. The second most popular purchases (planned and actual) was a combination of food and recreation. Food and recreation considered as a single good amounted to 13.71 percent of the planned purchases and 9.86 percent of the actual purchases. Those who did not plan to purchase goods or services were 30.39 percent of the total interviewed and those who did not purchase goods or services were 44.39 percent of the total interviewed.

Actual expenditures for goods were greatest for those users that purchased a combination of food, curios, and personal services -- some \$24.32. Other expenditures over \$20.00 included purchases of (1) food, recreation and personal services at \$22.50, and (2) food, curios, recreation, and personal services at \$22.59. Low expenditures (other than those who purchased nothing) were purchases of (1) recreation only at \$4.50, (2) curios and personal services at \$5.63, and (3) other goods at \$6.41.

Visits in Past Year

The incidence of preceding visits to the Paseo del Rio is emphasized in Table 16. The average number of visits of users in the past year is 3.26 times and the standard deviation is 3.92. Those who had not been there in the past year are 38.69 percent of the total sample while those making more than ten visits in the past year are 19.64 percent of the total. Some users are frequent visitors.

Table 14. Distribution of Users of the Paseo del Rio, by plans for purchase of goods and services and by season, San Antonio, Texas 1971-72

Goods and Services	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
1. Food	252	359	274	261	1,146	33.65
2. Curios	11	23	24	4	62	1.82
3. Recreation	33	85	53	19	190	5.58
4. Personal Services	0	3	5	4	12	0.35
5. 1 and 2	19	83	52	39	193	5.67
6. 1 and 3	122	138	121	86	467	13.71
7. 1 and 4	1	3	5	5	14	0.41
8. 2 and 3	0	11	3	1	15	0.44
9. 2 and 4	1	0	0	0	1	0.03
10. 3 and 4	0	7	0	1	8	0.23
11. 1, 2, and 3	50	56	43	33	182	5.34
12. 1, 2, and 4	0	13	0	3	16	0.47
13. 1, 3, and 4	0	10	1	3	14	0.41
14. 2, 3, and 4	1	0	2	0	3	0.09
15. 1, 2, 3, and 4	0	9	8	10	27	0.79
16. Other	5	10	4	2	21	0.62
17. Did Not Plan to Spend	<u>271</u>	<u>357</u>	<u>272</u>	<u>135</u>	<u>1,035</u>	<u>30.39</u>
Totals	766	1,167	867	606	3,406	100.00

Table 15. Distribution of Users of Paseo del Rio by actual purchase of goods and services and by season, San Antonio, Texas, 1971-72

Goods and Services	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
1. Food	211	272	215	261	959	28.16
2. Curios	19	21	21	8	69	2.03
3. Recreation	45	83	43	15	186	5.46
4. Personal Services	0	3	6	1	10	0.29
5. 1 and 2	9	39	26	24	98	2.88
6. 1 and 3	95	119	59	63	336	9.86
7. 1 and 4	1	0	4	6	11	0.32
8. 2 and 3	0	8	6	0	14	0.41
9. 2 and 4	2	0	0	0	2	0.06
10. 3 and 4	0	3	1	0	4	0.12
11. 1, 2, and 3	29	44	22	30	125	3.67
12. 1, 2, and 4	0	9	2	0	11	0.32
13. 1, 3, and 4	0	5	1	0	6	0.18
14. 2, 3, and 4	0	0	3	0	3	0.09
15. 1, 2, 3, and 4	0	8	9	10	27	0.79
16. Other	13	6	5	9	33	0.97
17. Did Not Purchase	<u>342</u>	<u>549</u>	<u>443</u>	<u>178</u>	<u>1,512</u>	<u>44.39</u>
Totals	766	1,169	866	606	3,406	100.00

Time Spent on the Paseo del Rio

The amount of time spent on the Paseo del Rio at the time of the interview average 1.88 hours with a standard deviation of 1.06 hours (Table 17). The length of time recorded was one to more than five hours. These users spending the least time were the most numerous, 45.96 percent of the sample, and those spending the longest time period were the least numerous, 3.70 percent of the sample. The users spent more time on the Paseo del Rio in the fall and winter months than in the spring and summer months.

Activities

The activities of the users were recorded in terms of sightseeing, resting, shopping, and eating. The sightseeing activity occupied the largest number of persons in the sample, some 30.99 percent (Table 18). The next most popular activities are (1) eating, 15.74 percent, and (2) eating and sightseeing, 15.72 percent of those in the sample. These three categories account for almost two-thirds of the activities on the Paseo del Rio.

The expenditures that are associated with these activities range from \$1.22 for resting to \$12.71 for the combination of shopping and eating. The three most popular activities produced expenditures of (1) \$2.77 for sightseeing, (2) \$6.62 for eating, and (3) \$8.24 for eating and sightseeing.

Reactions to the Paseo del Rio

Plans to Return

Most of the users of the Paseo del Rio plan to return. Table 19 shows returnees to be 97.94 percent of those interviewed. For the 2.06 percent

Table 16. Distribution of Users of the Paseo del Rio by number of visits in past year and by season, San Antonio, Texas, 1971-72.

Visits	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
0	255	611	314	166	1,316	38.69
1	99	123	112	89	423	12.44
2 - 3	133	131	117	117	498	14.64
4 - 6	87	84	75	78	324	9.53
7 - 10	65	14	46	47	172	5.06
11 +	<u>156</u>	<u>201</u>	<u>202</u>	<u>109</u>	<u>668</u>	<u>19.64</u>
Total	765	1,164	866	606	3,401	100.00
Average	3.76	2.51	3.59	3.60	3.26	
Standard Error	3.92	3.75	4.09	3.77	3.92	

Table 17. Distribution of Users of the Paseo del Rio by length of visit and by season, San Antonio, Texas 1971-72.

Time	Season				Total	
	Spring	Summer	Fall	Winter	Number	%
0 - 1	325	590	379	272	1,566	45.96
1 - 2	283	367	267	184	1,101	32.32
2 - 3	100	134	118	83	435	12.77
3 - 5	39	44	58	38	179	5.25
6 +	<u>19</u>	<u>34</u>	<u>45</u>	<u>29</u>	<u>126</u>	<u>3.70</u>
Totals	766	1,168	867	606	3,407	100.00
Average	1.88	1.77	1.99	1.96	1.88	
Standard Error	0.98	0.98	1.14	1.07	1.06	

Table 18. Distribution of Users of the Paseo del Rio, by type of activity and by season, San Antonio, Texas, 1971-72.

Activity	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
1. Sightseeing	159	530	252	112	1,053	30.99
2. Shopping	44	29	41	12	126	3.71
3. Resting	3	7	7	5	22	0.65
4. Eating	121	79	166	169	535	15.74
5. 1 and 2	61	45	33	2	141	4.15
6. 1 and 3	14	42	19	11	86	2.53
7. 1 and 4	137	169	117	111	534	15.72
8. 2 and 3	1	0	5	0	6	0.18
9. 2 and 4	9	8	7	3	27	0.79
10. 3 and 4	0	4	8	5	17	0.50
11. 1, 2, and 3	6	9	4	2	21	0.62
12. 1, 3, and 4	35	83	67	58	243	7.15
13. 2, 3, and 4	1	0	1	2	4	0.12
14. 1, 2, 3 and 4	32	81	22	39	174	5.12
15. 1, 2, and 4	103	60	98	63	324	9.54
16. Other	<u>40</u>	<u>16</u>	<u>17</u>	<u>12</u>	<u>85</u>	<u>2.50</u>
Totals	766	1,162	864	606	3,398	100.00

Table 19. Distribution of Users of the Paseo del Rio by plans to return and by season, San Antonio, Texas, 1971-72

Response	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
Will return	757	1,145	853	578	3,333	97.94
Will not return	<u>9</u>	<u>19</u>	<u>14</u>	<u>28</u>	<u>70</u>	<u>2.06</u>
Totals	766	1,164	867	606	3,403	100.00

Table 20. Distribution of reasons offered by Users for not returning to the Paseo del Rio, by season, San Antonio, Texas, 1971-72

Reason	Season				Total
	Spring	Summer	Fall	Winter	Number
Not returning ^{a/}	9	19	14	28	70
Unattractive	0	0	0	0	0
Lack of security	0	0	0	0	0
High prices	9	3	0	15	27
Poor service	0	1	0	1	2
Other	2	9	6	20	37
No reason given	0	6	8	0	14

that are not returning, reasons are shown in Table 20. High prices, poor service, and other are the only reasons given for not returning. The largest of these is other reasons with 1.09 percent of the total. Most of this classification is composed of users who will never be in the vicinity of the Paseo del Rio again. The overriding consideration is that very few have indicated that they will not return.

Reaction to the Paseo del Rio

Four reactions to the Paseo del Rio are recorded. These are pleased, indifferent, disappointed and displeased. Users who were pleased with the area composed 98.15 percent of the total sample as shown in Table 21. Those indifferent to the area are 1.41 percent of the total sample. The remainder, which is less than one percent, ~~include those who were disap-~~ pointed and displeased with the Paseo del Rio. It should be noted that the disappointed and displeased responses came only in the fall and winter months and may be a result of inclement weather.

The expenditures of the Paseo del Rio users whose reactions were (1) pleased, average \$5.52, (2) indifferent, averaged \$5.47, (3) disappointed, averaged \$2.56, and (4) displeased, averages \$0.00. This is not contrary to any expectations.

The Proposed Extension of the Paseo del Rio

The user reaction to the proposed Paseo del Rio extension shows 74.30 in favor of it, while 10.74 percent do not favor it (Table 22). The remaining users are indifferent to an extension. The users' main reason for favoring the extension is to gain access to other attractions (Table 23).

Table 21. Distribution of Users of the Paseo del Rio, by reaction to the river area and by season, San Antonio, Texas, 1971-72.

Reaction	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
Pleased	758	1,153	852	578	3,341	98.15
Indifferent	8	12	11	17	48	1.41
Disappointed	0	0	4	9	13	0.38
Displeased	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>2</u>	<u>0.06</u>
Totals	766	1,165	867	606	3,404	100.00

Table 22. Distribution of Users of the Paseo del Rio, by reaction to a proposed extension and by season, San Antonio, Texas, 1971-72.

Reaction	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
Favor	660	777	627	468	2,532	74.30
Disfavor	23	241	73	29	366	10.74
No Opinion	<u>83</u>	<u>151</u>	<u>167</u>	<u>109</u>	<u>510</u>	<u>14.96</u>
Totals	766	1,169	867	606	3,408	100.00

Table 23. Distribution of Users of the Paseo del Rio, by reason for favoring proposed extension and by season, San Antonio, Texas, 1971-72.

Reason	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
No or No Opinion	110	411	253	143	917	26.92
1. Gain Access To Other Attractions	262	568	214	121	1,165	34.19
2. Transporta- tion Facility	17	12	8	14	51	1.50
3. Sites for Busi- ness Establish- ments	54	51	57	42	204	5.99
4. Sites for Living Accomodations	10	16	10	16	52	1.53
5. 1 and 3	14	97	21	8	140	4.11
6. 1 and 2	131	4	102	85	322	9.45
7. 1 and 4	9	4	20	5	38	1.12
8. 2 and 3	4	0	7	0	11	0.32
9. 2 and 4	17	0	2	4	23	0.68
10. 3 and 4	4	0	16	24	44	1.29
11. 1, 2, and 3	36	4	10	23	73	2.14
12. 1, 2, and 4	1	1	15	14	31	0.91
13. 1, 3, and 4	14	0	24	14	52	1.53
14. 2, 3, and 4	6	0	4	12	22	0.62
15. 1, 2, 3, and 4	55	1	52	59	167	4.90
16. Other	22	0	51	22	95	2.79
Totals	766	1,169	866	606	3,407	100.00

The reasons for favoring the extension of the Paseo del Rio are as follows: (1) to gain access to other attractions, (2) to provide a transportation facility, (3) to provide sites for business establishments, and (4) to provide living accommodations. The first reason was most popular, accounting for 34.19 percent of the total responses. Gaining access to other attractions and providing a transportation facility was the second most named reason for favoring extensions. Providing additional sites for business establishments is the next most evident reason, and it accounts for 5.99 percent of all responses.

Opinions and preferences concerning the mix of business and park areas in an extension of the Paseo del Rio are shown in Table 24. Of the total number of users, 50.81 percent favored an area containing the same mix of business and parks that now exists. Some 70 percent of the users that favor an extension want the same mix of business and park areas. A second group (11.68 percent) preferred more open or park areas.

Total Paseo del Rio Use

Total Number of Users

The total number of users of the Paseo del Rio is estimated in Table 25. This estimate was derived by the following equation

$$(T.R.) (1/P)$$

where:

T.R. = the total number of taxi riders by season.

P = the proportion of those in the users survey that rode the river taxi.

Table 24. Distribution of Users of the Paseo del Rio, by preference for mix of open space and businesses on the Riverwalk and by season, San Antonio, Texas, 1971-72.

Preference	Season				Totals	
	Spring	Summer	Fall	Winter	Number	%
Non-responsive	108	409	244	145	906	26.59
Same as Existing Mix	464	536	437	294	1,731	50.81
More Open Areas	78	144	98	78	398	11.68
More Businesses	106	76	73	69	324	9.51
Some Other Mix	<u>10</u>	<u>3</u>	<u>15</u>	<u>19</u>	<u>47</u>	<u>1.38</u>
Totals	766	1,168	867	606	3,407	100.00

Table 25. Numbers of Users, as estimated by receipts from the river taxi of the Paseo del Rio, by season, San Antonio, Texas 1971-72.

Season	Proportion Using Taxi	Taxi Riders	Total Number of Users Per Week	Total for Season
Spring	.2848	5,519	19,379	251,927
Summer	.3302	9,988	30,248	393,224
Fall	.1807	3,564	19,723	256,399
Winter	.1413	<u>187</u>	<u>1,323</u>	<u>17,199</u>
Totals		19,258	70,673	918,749

As can be seen, the week of most intense use was the week of the summer survey with an estimated total use of 30,248 visitors. For the spring and fall survey there were 19,000 estimated users, while the winter survey resulted in an estimate of 1,323 visitors. The estimate of use of the Paseo del Rio for a one year period (summer 1971 to spring 1972) is 918,749 visitors.

Total of Expenditures

The average expenditure of each user group is \$5.4956 and the average number of members in a group is 2.5942 persons, hence, \$2.1178 is the average expenditure per person. Expenditures by the 918,749 visitors to the Paseo del Rio, with each spending \$2.1178 are then \$1,945,703. This total reflects the ordinary use of the Riverwalk, since the user surveys did not include any of the special activities promoted by the city which utilize the area of the Paseo del Rio.

BUSINESSES IN THE PASEO DEL RIO VICINITY

Characteristics

Strata

The central business district of San Antonio, Texas is the general area covered by the business survey. The actual population included all business establishments within two census blocks of the Paseo del Rio. The population of businesses was then stratified according to location around the river area (Table 26).

The strata were sampled in uneven proportions because it was expected that the degree of variation in the amount of gross receipts attributable to the Paseo del Rio would be greater in the strata that were closer to the area. With this in mind, stratum I, which contained businesses located on the Paseo del Rio, was sampled at a higher rate, 74.19 percent of the total. The remaining strata were sampled almost equally at approximately 14 percent of total businesses (Table 27). The total sample was 18.2 percent of all businesses in the four strata, 83 of 456 business enterprises.

Retail and Wholesale Classification

One of the business characteristics expected to influence significantly the relationship of the business to the Paseo was its type, i.e., wholesale, retail or other. Types of businesses in the area studied are shown in Table 28. The businesses in the sample were almost entirely retail, with only 7 percent being wholesale or other. All of the businesses on the Paseo del Rio (stratum I) were retail.

Table 26. Stratification of business enterprises according to location around the Paseo del Rio, central business district, San Antonio, Texas, 1971-72.

Stratum	Definition
I	All businesses located on the Paseo del Rio.
II	All businesses inside blocks which are crossed or bordered by the Paseo del Rio, excluding stratum I.
III	All businesses inside blocks which are located one block away from a block crossed or bordered by the Paseo del Rio.
IV	All businesses inside blocks which are located two blocks away from a block crossed or bordered by the Paseo del Rio.

Table 27. Sampling rates for businesses in study area, by strata, San Antonio, Texas, 1971-72.

Stratum	Population	Sample	Sampling Portion
I	31	23	.7419
II	97	15	.1546
III	244	33	.1352
IV	<u>84</u>	<u>12</u>	<u>.1429</u>
Totals	456	83	.1820

General Classification of Product Sold

Businesses were classified according to their product orientation, with the categories being specialty, multiproduct, general merchandise, and other. Table 29 gives the classes by stratum. Almost 70 percent of the businesses fell into the specialty classification, meaning they sold a special kind of product. Eighteen percent were classified as multiproduct, while the general merchandise and other classification contained 12 percent. Most of the special businesses were in stratum I, i.e., they were located on the Paseo del Rio.

Principle Product

A more specific classification of businesses by principle product sold is shown in Table 30. The prepared food kind of business was the largest in number, being 20.48 percent of the total sample. Other significant kinds of businesses were clothing, 18.07 percent, and finance businesses, 8.43 percent of the total sample. Arts and crafts, furniture and jewelry businesses were the next most important kinds. The most numerous kind of business in stratum I was prepared food, 34.78 percent of the total businesses on the Paseo del Rio.

Orientation

The orientation of the businesses to their customers is indicated in Table 31. Orientation is determined by the type of customers that purchase the business' wares. Four responses were allowed and a combination of any two of these was also accepted. Customer classes were local households, local businesses, tourists, and other visitors. The

Table 28. Types of business enterprises in study area, by strata, San Antonio, Texas, 1971-72.

Stratum	Retail	Wholesale	Other	Total
I	23	0	0	23
II	13	1	1	15
III	32	0	1	33
IV	<u>9</u>	<u>1</u>	<u>2</u>	<u>12</u>
Totals	77	2	4	83
Percent	92.77	2.41	4.82	100.00

Table 29. Classes of business enterprises in study area, by strata, San Antonio, Texas, 1971-72.

Stratum	Specialty	Multiproduct	General Merchandise	Other
I	18	3	2	0
II	11	1	2	1
III	22	8	3	0
IV	<u>7</u>	<u>3</u>	<u>0</u>	<u>2</u>
Totals	58	15	7	3
Percent	69.88	18.07	8.43	3.61

Table 30. Kinds of business enterprises in study area, by strata,
San Antonio, Texas, 1971-72.

Kind of Business Enterprise	Stratum				Totals	
	I	II	III	IV	Number	%
Clothing	1	0	11	3	15	18.07
Arts and Crafts	2	0	3	0	5	6.02
Entertainment	4	0	0	0	4	4.81
Lodging	2	0	1	0	3	3.61
Prepared Food	8	3	5	1	17	20.48
Liquor	1	0	1	0	2	2.41
Parking	0	0	1	0	1	1.20
Finance	1	2	2	2	7	8.43
Furniture	0	1	3	0	4	4.81
Jewelers	0	2	1	1	4	4.81
Insurance	0	0	2	0	2	2.41
Other	<u>4</u>	<u>7</u>	<u>3</u>	<u>5</u>	<u>19</u>	<u>22.89</u>
Totals	23	15	33	12	83	100.00

most important customer class was local households. Some 31.33 percent of the business establishments were oriented to them. Those businesses selling to local households and tourists were next most numerous, being 27.71 percent of the total sample. About 35 percent of businesses in stratum I sold to local households and tourists while the majority of businesses in the remaining strata sold primarily to local households.

Percent of Gross Receipts Received by Quarter

An important statistic for all businesses is the fiscal quarter in which they receive the highest percentage of annual gross receipts. Most businesses in the sample reported higher gross receipts in the fourth quarter of the calendar year than in any other quarter. But the businesses in strata I, located on the Paseo del Rio, received 34.14 percent of annual gross receipts in the third quarter and only 19.50 percent in the fourth quarter. They tend to be tourist oriented; they are significantly affected by changing, natural seasons; and they do not share significantly in the year-end holiday sales and receipts. Lower percentages of annual gross receipts were realized in the first quarter for businesses in all strata. There is greater variability in quarterly receipts for businesses in strata I than for businesses in strata II, III and IV. This is explained by the orientation of businesses in strata I to tourists and other visitors and the seasonality of business activity.

Inventories

The inventories of businesses surveyed, by stratum, and the percent of the inventories that are maintained to serve visitors to the Paseo del Rio

Table 31. Orientation of businesses to their customers, the study area, by strata, San Antonio, Texas, 1971-72.

Orientation	Stratum				Totals	
	I	II	III	IV	Number	%
1. Local Households	1	4	15	6	26	31.33
2. Local Businesses	2	4	0	1	7	8.43
3. Tourists	1	0	0	0	1	1.20
4. Other Visitors	1	0	0	0	1	1.20
5. 2 and 3	4	0	4	0	8	9.64
6. 3 and 4	5	1	1	0	7	8.43
7. 1 and 3	9	3	8	3	23	27.71
8. 1 and 2	<u>0</u>	<u>3</u>	<u>5</u>	<u>2</u>	<u>10</u>	<u>2.05</u>
Totals	23	15	33	12	83	100.00

Table 32. Distribution of gross receipts by quarter, businesses of study area, by strata, San Antonio, Texas, 1971-72.

Quarter	Stratum				Total
	I	II	III	IV	
I	17.36	24.23	21.16	23.64	20.95
II	29.00	24.00	26.52	25.45	26.65
III	34.14	24.39	24.16	24.09	27.04
IV	<u>19.50</u>	<u>27.38</u>	<u>28.16</u>	<u>26.82</u>	<u>25.36</u>
Totals	100.00	100.00	100.00	100.00	100.00

are given in Table 33. The total inventory of the responding businesses was \$4,509,400, and 24.76 percent of this is maintained to serve users of the Paseo del Rio. The highest percent of inventory maintained for visitors to the Paseo del Rio is 80.50 percent in stratum I. The lowest is in strata III and IV, about 2 percent.

Years at Present Locations

In Table 34 there is recorded the number of years at present locations for businesses included in the survey. The businesses on the Paseo del Rio (stratum I) have been at their present location for about 6 years. Other businesses in the other three strata have been at their present locations from 17 to 24 years. Thirty-six businesses in strata II, III and IV have been at present locations more than thirty years. The youth of the strata I businesses is due to the fairly recent commercial development of the Paseo del Rio. It was pointed out in the introduction that Hemis-fair '68 was the stimulant to development of the Paseo del Rio. Many of the strata I businesses are relatively new.

Location and Dependency

Location of businesses and indications of dependency on the Paseo del Rio are shown in Tables 35, 36 and 37. In determining dependency one question was asked about relocation if the Paseo del Rio were to be destroyed. Businesses were classed as:

1. Those businesses that would not change location if the Paseo del Rio did not exist.
2. Those that would change their location to another place in San Antonio, Texas.

Table 33. Business inventories and percentages maintained to serve Users of Paseo del Río, businesses of study area, by strata, San Antonio, Texas, 1971-72.

	Stratum				Total
	I	II	III	IV	
Inventory	477,600	1,741,400	2,199,700	90,700	4,509,400
Amount for Paseo del Río User	360,390	712,710	41,580	2,000	1,116,680
Percent	80.50	40.93	1.89	2.21	24.76

Table 34. Years at present locations, businesses in the study area, by strata, San Antonio, Texas, 1971-72.

Time					Totals
	I	II	III	IV	
Years					
Less than 1	2	0	0	0	2
1 - 3	8	2	4	2	16
4 - 9	10	0	3	2	15
10 - 19	1	1	2	2	6
20 - 29	1	1	5	1	8
More than 30	<u>1</u>	<u>11</u>	<u>19</u>	<u>5</u>	<u>36</u>
Totals	23	15	33	12	83
Average	5.91	24.40	21.73	17.17	17.22

Table 35. Relationship of business locations and the Paseo del Rio, by strata, study area, San Antonio, Texas, 1971-72.

Response*						
	I	II	III	IV	Number	%
#1	6	14	32	12	64	77.11
#2	6	1	1	0	8	9.64
#3	<u>11</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>11</u>	<u>13.25</u>
Totals	23	15	33	12	83	100.00

- * #1. Yes, business would be at its present location if the Paseo del Rio were not here.
- #2. No, business would not be at its present location if the Paseo del Rio were not here; but it would be elsewhere in San Antonio, Texas.
- #3. No, business would not be at its present location if the Paseo del Rio were not here; and it would not be in San Antonio, Texas.

3. Those that would change their location to another place outside San Antonio, Texas.

Of those businesses included in the survey, about 77 percent would not change their location, 9 percent would move to another San Antonio location, and 13 percent would move out of San Antonio. Thus, about 22 percent of the businesses were dependent upon the Paseo del Rio for their location. When viewing dependency by strata, a sharp decrease in dependency occurs as distance from the river area increases. Approximately 74 percent of the businesses in stratum I are dependent upon the Paseo del Rio for location, 6.67 percent in stratum II are dependent, 3.03 percent in stratum III are dependent, and 0.00 percent in stratum IV are dependent on the Paseo del Rio.

The importance of access to the Paseo del Rio was measured as distance from an entrance to the business' location. Table 36 shows access to the river by stratum. The average distance of all businesses surveyed from a Paseo del Rio entrance is 0.98 blocks. The average distance from an entrance was (1) 0.00 blocks for stratum I, (2) 1.07 blocks for stratum II, (3) 1.12 blocks for stratum III, and (4) 2.67 blocks for stratum IV.

The third measure of location and dependency with respect to the Paseo del Rio is distance away from a block crossed or bordered by the Paseo del Rio. It was found that 42.19 percent of the businesses surveyed were within a block crossed by the Paseo del Rio; 40.96 percent were one block away from the developed river area, and 16.87 percent were two blocks removed from the area. The open end of the Paseo del Rio included 6.02 percent of the total sample, while the remainder were located on or around the Riverwalk.

Table 36. Distance from business locations to entrances to Paseo del Rio, by strata, study area, San Antonio, Texas, 1971-72.

Access*	Stratum				Total
	I	II	III	IV	
1. On the Paseo del Rio	23	0	0	0	23
2. One block	0	14	29	0	43
3. Two blocks	0	1	4	8	13
4. More than two blocks	<u>0</u>	<u>0</u>	<u>0</u>	<u>4</u>	<u>4</u>
Totals	23	15	33	12	83
Average	0.00	1.07	1.12	2.67	0.98

*Access is measured in distance from a Paseo del Rio entrance.

Table 37. Distance from business locations to block crossed by Paseo del Rio, by strata, study area, San Antonio, Texas, 1971-72.

Location*	Stratum				Total
	I	II	III	IV	
Paseo del Rio block	23	11	1	0	35
One block away	0	4	27	0	31
Two blocks away	0	0	2	10	12
Open end, one block away	0	0	3	0	3
Open end, two blocks away	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>2</u>
Totals	23	15	33	12	83

*Location is measured in terms of distance from a block crossed by the Paseo del Rio.

Reaction to the Proposed Paseo del Rio Extension

Reaction to an extension of the Paseo del Rio was solicited with respect to three developmental alternatives. An extension of the Paseo del Rio was proposed which would cause it to reach from Brackenridge Park in the north to the city limit in the south. This extension was considered (1) with no further commercial development, (2) with commercial development 50 percent greater than presently exists, and (3) with commercial development 100 percent greater than presently exists (Table 38).

When considering the Paseo del Rio extension with no further commercial development, 31.33 percent of all the businesses surveyed felt that it would have a favorable impact on them. Only 1.20 percent felt that the impact would be unfavorable. The remaining 67.47 percent said that there would be no effect on their business.

Reaction to the Paseo del Rio extension with a level of commercial development 50 percent greater than presently exists is also shown in Table 38. A total of 51.81 percent of the sample felt that the extension with this level of development would have a favorable impact on their concern; 2.41 percent expected an unfavorable impact. The remaining 45.78 percent of the businesses were indifferent.

An extension of the Paseo del Rio with commercial development 100 percent greater than now exists found 51.81 percent of the businesses expecting a favorable impact; 43.37 percent expecting no impact.

As distance of businesses from the Paseo del Rio increases, the expectation of no effect of extension and development of the river increases.

Table 38. Impact on businesses in study area of extension of Paseo del Rio, with alternative commercial developments, San Antonio, Texas, 1971-72.

Development Effect	Stratum				Totals	
	I	II	III	IV	Number	Percent
No further commercial development:						
No effect	8	12	24	12	56	67.47
Favorable	15	3	8	0	26	31.33
Unfavorable	0	0	1	0	1	1.20
Totals	<u>23</u>	<u>15</u>	<u>33</u>	<u>12</u>	<u>83</u>	<u>100.00</u>
Commercial development fifty percent greater than present:						
No effect	3	10	18	7	38	45.78
Favorable	19	5	14	5	43	51.81
Unfavorable	1	0	1	0	2	2.41
Totals	<u>23</u>	<u>15</u>	<u>33</u>	<u>12</u>	<u>83</u>	<u>100.00</u>
Commercial development one hundred percent greater than present:						
No effect	3	8	18	7	36	43.37
Favorable	18	7	13	5	43	51.81
Unfavorable	2	0	2	0	4	4.82
Totals	<u>23</u>	<u>15</u>	<u>33</u>	<u>12</u>	<u>83</u>	<u>100.00</u>

But the suggestion of commercial development caused some respondents with businesses in strata III and IV to shift from a no effect answer to a favorable effect response.

Percent of Gross Receipts Attributable
to the Paseo del Rio

Gross receipts of the businesses in the vicinity of the Paseo del Rio and estimates of percentage of receipts attributable to the Riverwalk were obtained by interview with business managers. They were carefully questioned about this relationship of their business to the Paseo del Rio (Table 39). Gross receipts attributable to the Paseo del Rio grew from an estimated \$1,749,602 in 1967 to \$22,216,339 in 1971. This is an average increase of over \$5,000,000 per year. The total gross receipts attributable to the Paseo del Rio in 1971 were comprised of (1) \$5,322,476 from stratum I, (2) \$12,183,713 from stratum II, (3) \$4,453,360 from stratum III, and (4) \$256,790 from stratum IV. The percent of gross receipts attributable to the Paseo del Rio diminish sharply as distance from the area increases. In 1971, businesses in stratum I attributed 43.26 percent of their gross receipts to the Paseo del Rio; those in stratum II attributed 15.00 percent; managers of businesses in stratum III attributed 4.53 percent, and stratum IV businesses attributed 0.74 percent to the Riverwalk. Through the period 1967-71, owners of businesses in strata II, III and IV increased their estimates of percentage of gross receipts attributable to the Paseo del Rio, while businessmen in strata I reduced somewhat their estimates of impact of the Paseo del Rio on gross receipts.

Table 39. Percent of gross receipts and total gross receipts attributable to the Paseo del Rio, by stratum, 1967-1971.

Stratum	Year					Average Change
	1967	1968	1969	1970	1971	
I Percent	55.88	79.92	41.16	42.02	43.26	
Gross Receipts	166,250	1,176,000	2,352,450	3,041,170	5,322,476	1,289,056
II Percent	0.36	1.10	14.36	15.36	15.00	
Gross Receipts	288,991	862,255	8,777,428	8,336,867	12,183,713	2,973,546
III Percent	1.06	1.48	1.96	3.36	4.53	
Gross Receipts	1,125,752	1,699,880	2,104,054	3,427,631	4,453,360	831,902
IV Percent	0.40	0.64	0.82	0.82	0.74	
Gross Receipts	<u>168,609</u>	<u>281,697</u>	<u>300,978</u>	<u>279,889</u>	<u>256,790</u>	<u>22,045</u>
Total Gross Receipts	1,749,602	4,019,832	13,534,910	14,085,557	22,216,339	4,116,684

EFFECTS OF THE USER'S CHARACTERISTICS, ACTIVITIES, AND
REACTIONS ON THEIR EXPENDITURES AT THE PASEO DEL RIO

The Analytical Model

As previously mentioned, the expenditures of the users of the Paseo del Rio are expected to be explained by (1) the user's characteristics, (2) their activities, and (3) their reactions. These three are incorporated in the theoretical and statistical models which are described below.

Theoretical Model

The model which will explain the expenditures is of the general form:

$$E = f (I, O, D, A, E, N, R, T, P, R_t, Pr, Do, Re, S)$$

where:

E = expenditures on the Paseo del Rio

I = income of the user

O = occupation of the user

D = distance traveled by the user to reach the area

A = age of the user

E = level of education of the user

N = size of the user group

R = relationship of members of the user group

T = time spent on the paseo del Rio that day

P = previous visit to the area by the user

R_t = whether or not the user and his group rode the river taxi

Pr = purchases of goods and services while on the Paseo del Rio

Do = activity of the user while on the Paseo del Rio

Re = the user's reaction to the Paseo del Rio

S = season during which the user was interviewed

These variables have been statistically tested for their "explanation" of variations in expenditures.

Statistical Model

The functional relationship described in the preceding paragraph is assumed to be linear and the statistical model for the relationship is as follows:

$$Y = \sum_{i=0}^n B_i X_i + e$$

where: Y = expenditures

n = number of variables tested

B_i = constants of regression equation

X_i = variables included

e = error term

In this model, $B_0 X_0$ is the intercept term and X_0 always has the value of one.

Procedure for Analysis

The method of least squares has been chosen as the procedure by which to evaluate the proposed relationship of variables to expenditures. This leads to the regression (or predicting) equation:

$$\hat{Y} = b_0 X_0 = b_1 X_1 + \dots + b_n X_n$$

where:

\hat{Y} = estimate of Y

n = number of variables

The associated statistical equation that has been presented is:

$$Y = B_0 X_0 + B_1 X_1 + \dots + B_n X_n + E$$

The error term, E, is assumed to be (1) normally and independently distributed and (2) to have mean = 0 and standard deviation, s_E .

In the regression equation, zero-one variables have been used for the following variables because they are qualitative: season, purchases, previous visit, user reaction to the Paseo del Rio, whether or not the user rode the river taxi, and occupation. Continuous variables are used for the remaining quantitative variables such as income, distance traveled, age, level of education, size of group with the user, and time spent on the Paseo del Rio.

The adjusted mean for each of the qualitative variables has been determined. It is derived from the regression equation after the effect of each quantitative variable has been removed, and the effect of each class of a particular qualitative variable is added. This is shown by the following equation:

$$\bar{Y}_{adj} = b_0 X_0 + b_1 \bar{X}_1 + b_2 \bar{X}_2 + b_3 \bar{X}_3 + b_4 \bar{X}_4$$

where:

$$\bar{Y}_{adj} = \text{the adjusted mean of the quantitative or continuous variables, } X_1, X_2, X_3, X_4.$$

The qualitative variable, season, has four classes: spring, summer, fall, and winter. The adjusted mean for each season would be:

$$\text{Season}_i = \bar{Y}_{adj} + b_i X_i \quad i = 1, \dots, 4$$

where:

$$b_i = \text{constant for zero-one variable, seasons}$$

$$X_i = \text{one}$$

The four variables for season could be X_5, X_6, X_7, X_8 . Thus, the adjusted mean for spring would be $\bar{Y}_{adj} + b_5X_5$, and the remaining seasons would be computed in a similar manner. Because of the uneven sampling numbers for each class of qualitative variables, the conventional methods for comparison of treatment means are invalid. Because of this, suggested differences in treatment means are reported if the F statistic is large in relation to the number of degrees of freedom, and if the differences are relatively great.^a

Effects of the Specified Variables on the User's Expenditures at the Paseo del Rio

The significance of the total regression equation and the quantitative variables and the qualitative variables are discussed below. The assigned variables for each X_i are shown in Table 40. X_0 is the intercept variable, X_1 through X_6 are the quantitative variables, and X_7 through X_{63} are qualitative variables in the regression equation.

Significance of the Regression Equation

The total regression equation was highly significant with an F statistic equal to 86.63. It is significant at the .0001 level. The analysis of variance results are shown in Table 41. All but two of the variables in the regression equation, previous visit and reaction, were significant. All significant variables except age were significant at the .01 level, and age was significant at the .05 level. The variables which seem to hold the most importance in the regression equation are income, time spent on the Paseo

^aThis method of evaluation has been suggested by Dr. R. J. Freund, Associate Director, Institute of Statistics, Texas A&M University.

Table 40. Variables employed in the statistical analysis of expenditures, by users, the Paseo del Rio, San Antonio, Texas, 1971-72.

X_i		Variable
X_0	=	intercept
X_1	=	income of user
X_2	=	age of user
X_3	=	level of education of the user
X_4	=	distance traveled by the user to the Paseo del Rio
X_5	=	size of group with the user
X_6	=	time spent on the Paseo del Rio that day
X_7	=	occupation - proprietor
X_8	=	occupation - housewife
X_9	=	occupation - other
X_{10}	=	occupation - salesman
X_{11}	=	occupation - laborer
X_{12}	=	occupation - professional
X_{13}	=	occupation - clerk
X_{14}	=	occupation - technician
X_{15}	=	occupation - military
X_{16}	=	relation - other relatives
X_{17}	=	relation - business associates
X_{18}	=	relation - other
X_{19}	=	relation - family
X_{20}	=	relation - alone
X_{21}	=	relation - friends

Table 40. Continued

X_i		Variable
X_{22}	=	ride river taxi - yes
X_{23}	=	ride river taxi - no
X_{24}	=	activities - shopping and eating
X_{25}	=	activities - sightseeing, shopping and resting
X_{26}	=	activities - eating
X_{27}	=	activities - shopping
X_{28}	=	activities - sightseeing, shopping, resting and eating
X_{29}	=	activities - sightseeing, shopping, eating
X_{30}	=	activities - sightseeing and eating
X_{31}	=	activities - sightseeing, resting and eating
X_{32}	=	activities - sightseeing and shopping
X_{33}	=	activities - sightseeing and resting
X_{34}	=	activities - sightseeing
X_{35}	=	activities - shopping and resting
X_{36}	=	activities - shopping, resting and eating
X_{37}	=	activities - resting and eating
X_{38}	=	activities - other
X_{39}	=	activities - resting
X_{40}	=	purchases - food, curios and personal services
X_{41}	=	purchases - food, curios, recreation and personal services
X_{42}	=	purchases - food, recreation and personal services
X_{43}	=	purchases - food, curios and recreation

Table 40. Continued

X_i		Variable
X_{44}	=	purchases - curios, recreation and personal services
X_{45}	=	purchases - food and personal services
X_{46}	=	purchases - food and curios
X_{47}	=	purchases - food and recreation
X_{48}	=	purchases - personal services
X_{49}	=	purchases - curios and recreation
X_{50}	=	purchases - recreation and personal services
X_{51}	=	purchases - food
X_{52}	=	purchases - curios
X_{53}	=	purchases - other
X_{54}	=	purchases - recreation
X_{55}	=	purchases - curios and personal services
X_{56}	=	purchases - nothing
X_{57}	=	reaction - indifferent
X_{58}	=	reaction - displeased
X_{59}	=	reaction - pleased
X_{60}	=	reaction - disappointed
X_{61}	=	previous visit - yes
X_{62}	=	previous visit - no
X_{63}	=	season - fall
X_{64}	=	season - summer
X_{65}	=	season - winter
X_{66}	=	season - spring

Table 41. Relationship of User characteristics, activities and reactions to expenditures, the Paseo del Rio, San Antonio, Texas, 1971-72

Sources of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Regression	57	129,219.00	2,084.18	86.63 **
Income	1	23,078.15	23,078.15	959.21 **
Occupation	8	1,635.43	204.43	8.50 **
Distance	1	7,325.73	7,325.73	304.48 **
Number With Time Spent Relation	1	6,428.32	6,428.32	267.18 **
Previous Visit	1	26,290.53	26,290.53	1,092.72 **
Activities	5	1,706.82	341.36	14.19 **
Reaction	1	3.29	3.29	0.14
Age	14	11,634.02	831.00	34.54 **
Education	3	89.92	29.97	1.25
Taxi Ride	1	181.71	181.71	7.55 *
Season	1	802.21	802.21	33.34 **
Purchases	1	5,830.73	5,830.73	121.17 **
Error	3	661.32	220.44	9.16 **
Total	16	43,550.81	2,721.93	113.13 **
	3,331	80,022.41	24.06	
	3,388	209,241.41		

$R^2 = 0.6176$

* indicates significant at 5 percent level

** indicates significant at 1 percent level

del Rio, activities, and purchases. These four variables account for 80.91 percent of the explained variation. The coefficient of determination, R^2 , is equal to 0.6176, and it is significant at the .0001 level.

The Quantitative Variables in the Regression Equation

The quantitative variables in the regression equation, X_1 through X_6 , are income, age, time spent, distance traveled, level of education, and size of group. The beta coefficients for these variables are listed in Table 42. A t-test was used to determine if the beta coefficient for each of the variables was different from zero. The test rejected the hypothesis that the $B_i = 0$ in all cases except for the intercept and age coefficients. The remaining five coefficients were significantly different from zero. The beta coefficient for income suggests that for each additional thousand dollars income a user earns, he will spend an additional \$0.1476. Likewise, for every additional hundred miles a user must travel to reach the Paseo del Rio, it is expected that he will spend an additional \$2.015. The most significant of all the quantitative variables is time spent on the Paseo del Rio. The beta coefficient is 0.8221, which means for each additional hour spent in the area, a user will spend \$0.8221 more.

The adjusted mean of the quantitative variables is equal to

$\sum_{i=0}^n b_i \bar{X}_i$. Thus, the mean expenditure equals \$5.0012, when it has been adjusted

for distance traveled, size of group, time spent on the Paseo del Rio, age, education, income, and the intercept.

Table 42. Beta coefficients, level of significance, and their means for the quantitative variables and the intercept for the Paseo del Rio Users

Variable	B_i	Significance Level	\bar{X}_i
X_0	-.75932371	insignificant	
X_1	.00014755	.0001	8,986.7371
X_2	.00603514	insignificant	33.8953
X_3	.10630515	.05	14.5037
X_4	.00201516	.0001	232.5934
X_5	.42118635	.0001	1.5934
X_6	.82aa4879	.0001	1.8855

Table 43. Relationship of occupation to User expenditures, the Paseo del Rio, San Antonio, Texas, 1971-72

Occupation	Adjusted Mean	Difference
1. Proprietor	5.6361	
2. Housewife	5.3660	0.2701
3. Other	5.0135	0.3525
4. Salesman	4.9909	0.0226
5. Laborer	4.9367	0.0542
6. Professional	4.9000	0.0367
7. Clerk	4.8456	0.0544
8. Technician	4.8009	0.0447
9. Military	4.5211	0.2768

The Qualitative Variables in the Regression Equation

The qualitative variables in the regression equation are occupation, relationship of the user to his group, whether or not the user rode the river taxi, the activities of the user while on the Paseo del Rio, the types of purchases made by the user, the user's reaction to the Paseo del Rio, the user's previous visits, and the season. Each of the means of the various classes within the variables such as the mean of each type of occupation is presented in terms of its adjusted mean.

Occupation includes nine classes which have been previously described. The adjusted means of each occupation are presented in Table 43. These values have been determined by the following equation.

$$\bar{Y}_j = 5.0012 + 0_j$$

where:

\bar{Y}_j = the adjusted mean for occupation, j

5.0012 = the value of the mean adjusted for the quantitative variables

0_j = the effect of occupation, j, on user expenditures

Also reported in Table 43 are differences among the adjusted means for occupational classes. The F statistic for occupation is 8.50. Although this is significant at the .01 level, it is not extremely high when considering the eight degrees of freedom. Expenditures of users in the various occupational classes are logically organized into three groups. Those spending the greater amounts are found in the proprietor and housewife occupational classes, with adjusted mean expenditures of \$5.6361 and \$5.3660, respectively. The middle group includes the other, salesman, laborer, professional, clerk, and technician occupations, with adjusted mean expenditures

in the vicinity of \$4.90. The class with the lowest adjusted mean expenditure is the military, with \$4.5211. The difference between the highest and lowest adjusted mean expenditure is \$1.1150.

The next qualitative variable, relationship of members of a user group, has an F statistic of 14.19 with 5 degrees of freedom. There are six classes of relationship which include other relatives, business associates, other, family, alone, and friends. The adjusted means for relationship and their differences are given in Table 44. Those persons on the Paseo del Rio with other relatives had the highest adjusted mean expenditures at \$5.5058. It is \$0.24 higher than the adjusted mean expenditure for business associates. Business associates and group members having other relationship had adjusted mean expenditures close to \$5.25. The remaining three relationships, family, alone, and friends are grouped at about \$5.00 adjusted mean expenditure. Those who were with relatives other than family tended to spend more while on the Paseo del Rio. The difference between the highest and lowest adjusted mean expenditure is \$0.5607.

Table 45 shows the adjusted mean expenditures for the users that did or did not ride the river taxi. The F statistic for this variable is highly significant at 121.17 with one degree of freedom. The adjusted mean expenditure for those riding the river taxi was \$5.0384 and was higher than that for the non-riders by \$0.0745. The difference cannot be regarded as significant because \$0.0745 is only a small fraction of the actual price of a ride on the river taxi.

The activities of the Paseo del Rio user were very significant in explaining his expenditures. There were four classes of activities, including resting, shopping, eating, and sightseeing. Any combination of these four

Table 44. Effect of relationship of members of a User group on User expenditures, Paseo del Rio, San Antonio, Texas, 1971-72

Relationship	Adjusted Mean	Difference
1. Other Relatives	5.5058	0.2369
2. Business Associates	5.2689	0.0368
3. Other	5.2321	0.2134
4. Family	5.0187	0.0106
5. Alone	5.0081	0.0630
6. Friends	4.9451	

Table 45. Relationship of use of the river taxi to User expenditures, the Paseo del Rio, San Antonio, Texas, 1971-72

Ride Taxi	Adjusted Mean	Difference
1. Yes	5.0384	0.0745
2. No	4.9639	

were allowed in the analysis. The highest adjusted mean for activities was for the combination of shopping and eating; it was \$8.0396. The lowest adjusted mean expenditure was \$3.5773 for the activity of resting. These values are shown in Table 46. The F statistic is 34.54 with 14 degrees of freedom. This is not large when the number of degrees of freedom are considered. The top two classes, combinations of (1) shopping and eating, and (2) shopping, sightseeing, and eating seem to be set apart from the remaining classes. The difference between their adjusted mean expenditures is insignificant. The adjusted mean expenditures for the third, fourth, and fifth classes of activities composed the next grouping. They are (1) eating, (2) shopping, and (3) sightseeing, **shopping**, eating and resting. Expenditures for these three classes of activities cluster around an adjusted mean expenditure of \$6.00. These first five classes with adjusted mean expenditures between \$8.0396 and \$5.9297 are obviously activities which lead to greater spending on the Paseo del Rio. The four classes of activities which have the lowest adjusted mean expenditures are (1) shopping, resting, and eating at \$3.6585, (2) resting and eating at \$3.6290, (3) other at \$3.6161, and (4) resting at \$3.5773. Those who use the Paseo del Rio for resting or loafing seem to be light spenders.

Types of goods purchased are very important in determining the expenditures of users on the Paseo del Rio since they accounted for about one-third of the explained variation in the analysis of variance table. Table 47 presents the types of purchases, their adjusted means and their differences. The four main types of purchases are (1) food, (2) curios, (3) recreation, and (4) personal services. Any combination of these four was permitted in the analysis. The combination of food, curios, and personal services had the

Table 46. Relationship of activities to User expenditures, the Paseo del Río, San Antonio, Texas, 1971-72

Activities	Adjusted Mean	Difference
1. Shopping and eating	8.0396	0.7037
2. Sightseeing, shopping and eating	7.3359	1.1808
3. Eating	6.1551	0.0065
4. Shopping	6.1486	0.2189
5. Sightseeing, shopping, eating and resting	5.9297	0.5005
6. Sightseeing, shopping and eating	5.4292	0.1037
7. Sightseeing and eating	5.3255	0.0224
8. Sightseeing, resting and eating	5.3031	0.1470
9. Sightseeing and shopping	5.1561	0.2995
10. Sightseeing and resting	4.8566	0.0396
11. Sightseeing	4.8203	0.0579
12. Shopping and resting	4.7624	0.1039
13. Shopping, resting and eating	3.6585	0.0295
14. Resting and eating	3.6290	0.0129
15. Other	3.6161	0.0338
16. Resting	3.5773	

Table 47. Relationship of types of purchases to User expenditures, Paseo del Rio, San Antonio, Texas, 1971-72

Purchases	Adjusted Mean	Difference
1. Food, curios, and personal services	15.3974	
2. Food, curios, recreation and personal services	13.7928	1.6046
3. Food, recreation and personal services	13.5325	0.2603
4. Food, curios and recreation	10.9298	2.6027
5. Curios, recreation and personal services	10.0434	0.8864
6. Food and personal services	9.3859	0.6575
7. Food and curios	7.2362	2.8072
8. Food and recreation	6.0961	1.1401
9. Personal services	2.9283	3.1678
10. Curios and recreation	1.4148	1.5135
11. Recreation and personal services	1.4126	0.0022
12. Food	0.9566	0.4560
13. Curios	0.5310	0.4256
14. Other	0.5028	0.0282
15. Recreation	-0.9202	1.4320
16. Curios and personal services	-2.2271	1.3069
17. Nothing	-5.0928	2.8657

highest adjusted mean expenditure at \$15.3974, and the difference of \$1.6046 between it and the next class suggests that it is significantly different from the others. The lowest adjusted mean expenditure was ^{1/}-\$5.0928 for those who purchased nothing on the Paseo del Rio. The second and third highest adjusted mean expenditures were for purchases of (1) food, curios, recreation, and personal services at \$13.7928 and (2) food, recreation, and personal services at \$13.5325. These two classes of purchases are approximately the same, but each suggest greater expenditures than the remaining fourteen classes of purchases. The fact that food is included in eight of the top nine classes of purchases suggests that it is very important as an item contributing to expenditures. Another important observation that can be made is that the top five classes of purchases involve the purchase of three or more of the four basic goods and services. Thus, multiple purchases seem to be important to level of expenditures on the Paseo del Rio.

Relationship of users' reactions to the Paseo del Rio and expenditures is suggested in Table 48. The highest adjusted mean expenditure was for those users that were indifferent to the area at \$6.1677. Second were those that were displeased, with an adjusted mean expenditure of \$5.4847. Mean

^{1/} The negative adjustment mean expenditures for the last three classes of purchases indicate some inadequacy of the analytical model for this particular variable. Obviously, the adjusted mean expenditure for no purchases should be zero. But the bias introduced by the model is not significant to the analysis of the variable. There is still a correct ordering of the classes of purchases and the adjusted mean expenditures adequately express the magnitude of expenditures by class of purchases.

Table 48. Relationship of User reaction to the Paseo del Rio to expenditures, the Paseo del Rio, San Antonio, Texas, 1971-72

Reaction	Adjusted Mean	Difference
Indifferent	6.1677	
Displeased	5.4847	1.1330
Pleased	4.8845	0.6002
Disappointed	3.4678	1.4167

Table 49. Relationship of previous visits to User expenditures, the Paseo del Rio, San Antonio, Texas, 1971-72

Previous Visit	Adjusted Mean	Difference
Yes	5.0183	
No	4.9841	0.0342

Table 50. Relationship of seasons to User expenditures, the Paseo del Rio, San Antonio, Texas, 1971-72

Season	Adjusted Mean	Difference
Fall	5.3905	
Summer	5.2880	0.1025
Winter	4.8301	0.4579
Spring	4.4961	0.3340

expenditures of the classes pleased and disappointed ranked third and fourth. This was a relationship which was surprising but explainable upon reflection. Reaction to the riverwalk is a quite subjective thing, difficult to quantify and perhaps related to expenditure only remotely. Expectations of a visitor might not have been realized, but that may have been no deterrent to eating and drinking, shopping and sightseeing. The variable, reaction, needs more study. Since it was not significant in the analysis of variance, no concern is felt about it in this study of user characteristics and expenditures.

The adjusted means for those who had previously visited the area and those who had not been there before are shown in Table 49. The adjusted mean for those who had visited before was highest at \$5.0183. For those who had not visited the adjusted mean was \$4.9841. The difference between the two is \$0.0342. The F statistic is not significant; therefore, the two values are not statistically different. Because of this, very little importance can be placed on these adjusted means.

The final qualitative variable in the regression analysis on expenditures by users on the Paseo del Rio is season. The adjusted means for each season and their differences are shown in Table 50. The highest adjusted mean expenditure was \$5.3905 in the fall while the lowest was \$4.4961 in the spring. The F statistic for season is 9.16. This is significant at the .01 level, but it is not relatively high when considering the number of degrees of freedom. Expenditures for the fall and summer seasons are higher than expenditures in the winter and spring seasons. This indicates that there is a seasonal effect on expenditures on the Paseo del Rio. The observation could be important to business entrepreneurs concerned about inventory, clerical help, etc.

Conclusions

There are seven variables used in the regression equation for user expenditures on the Paseo del Rio which account for 87.09 percent of the explained variation. Four are quantitative variables (income, time spent, distance traveled, and number with the user) and three qualitative variables (activities, purchases, and season). The beta coefficient for income is 0.00014755. This value means that a user with an income of \$10,000 will be expected to spend \$0.1476 more on the Paseo del Rio than a user with an income of \$9,000. The most important quantitative variable which explains expenditures is time spent in the area. The beta coefficient is 0.82114879 which means that for each additional hour a user spends in the area, he will be expected to spend an additional \$0.8211. Distance traveled by the user has a beta coefficient of .00201516. This value can be interpreted to mean that user who traveled 100 miles will be expected to spend \$2.02 less than a user who traveled 200 miles. The final quantitative variable of great importance is the number in the group with the user. The beta coefficient for number in group is 0.42118635. This indicates that for each additional person in a group, that group will be expected to spend \$0.4212 more.

The three qualitative variables which are most important in the predicting equation are activities, purchases, and season. The four most important classes of activities and their adjusted mean expenditure are (1) shopping and eating at \$8.04, (2) sightseeing, shopping, and resting at \$7.3359, (3) eating at \$6.1551, and (4) shopping at \$6.1486. These

four types of activities result in the highest expenditures along the Paseo del Rio. Types of purchases was the most important qualitative variable in the regression analysis. The types of purchases with the highest adjusted means were those which involved the purchase of three or all four of the classes of goods and services. The four classes of purchases with the highest adjusted mean expenditures are (1) food, curios, and personal services at \$15.40, (2) food, curios, recreation, and personal services at \$13.79, (3) food, recreation, and personal services at \$13.53, and (4) food, curios, and recreation at \$10.93. Because food is a member of all groups, it can reasonably be concluded that purchases of food with other activities will lead to large expenditures. The effect of seasons on expenditures is shown by the adjusted mean expenditures for (1) fall at \$5.3905, (2) summer at \$5.2880, (3) winter at \$4.8301, and (4) spring at \$4.4961. Fall and summer adjusted mean expenditures seem to be equal as do the winter and spring adjusted mean expenditures. The summer and fall expenditures are suggested to be greater than the winter and spring expenditures.

In this section the characteristics of the users have been identified and their spending patterns noted. However, this is only one part of the total picture. This expenditure by the user is realized as income by the businesses in the area. Therefore, it is appropriate to evaluate the income of businesses associated with the Paseo del Rio.

EFFECTS OF BUSINESS CHARACTERISTICS ON THE PERCENT OF
GROSS RECEIPTS ATTRIBUTABLE TO THE PASEO DEL
RIO BY THE SURROUNDING BUSINESSES

The Analytical Model

As previously mentioned, the percent gross receipts attributable to the Paseo del Rio is expected to be explained by (1) the characteristics of the businesses, (2) the relationship of the business to the Paseo del Rio, and (3) the stratification of the businesses according to distance from the Paseo del Rio. These are included in the theoretical and statistical models.

Theoretical Model

The model which is expected to explain percent of gross receipts attributable to the Paseo del Rio is of the general form:

$$\text{PERCENT} = f(P1, P2, P3, T, D, A, S, De, Ps, Ty, L, O)$$

where:

PERCENT = the percent of gross receipts attributable to the
Paseo del Rio by businesses in the surrounding
area

P1 = the percent of gross receipts received in the first
quarter of the year

P2 = the percent of gross receipts received in the second
quarter of the year

P3 = the percent of gross receipts received in the third
quarter of the year

T = time at present location
 D = distance from the Paseo del Rio
 A = access to the Paseo del Rio
 S = stratum
 De = dependency upon the Paseo del Rio for location
 Ps = product sold
 Ty = type of business, wholesale or retail
 L = location on main sector or open end
 O = orientation to customers

These variables have been statistically tested for their "explanation" of the variation in percent gross receipts attributable to the Paseo del Rio.

Statistical Model

The functional relationship described by the theoretical model is assumed to be linear and the statistical model for such a relationship is as follows:

$$Y = \sum_{i=0}^n B_i X_i + e$$

where:

Y = percent gross receipts attributable to the Paseo del Rio
by the businesses in the surrounding area

n = number of variables tested

B_i = constants of regression equation

X_i = variables included

e = error term

In this model, $B_0 X_0$ is the intercept term and X_0 always has the value of one.

Procedure for Analysis

As in the users regression, the method of least squares analysis has been chosen as the procedure by which to determine the constants or beta coefficients in the statistical models. The regression or predicting equation is:

$$\hat{Y} = b_0 X_0 + b_1 X_1 + \dots + b_n X_n$$

where:

\hat{Y} = estimate of Y's

b_i = estimate of B_i 's

$Y - \hat{Y} = e$

n = number of variables, X_i

The assumptions concerning the error term, e , have been presented in the preceding section.

In the regression equation, zero-one variables have been used for (1) stratum, (2) dependency, (3) product sold, (4) type of business, (5) location on the main sector, and (6) orientation to customers, because these are qualitative characteristics. Continuous variables are used for the remaining characteristics which are quantitative. They are (1) percent of gross receipts received in first quarter, (2) percent of gross receipts received in second quarters, (3) percent of gross receipts received in third quarters, (4) number of years at the present location, (5) distance from the Paseo del Rio, and (6) access to the Paseo del Rio.

As with the analysis of user expenditures, the adjusted mean for each of the qualitative variables has been determined. It is derived from the regression equation after the effect of each quantitative variable

has been removed and the effect of each class of a particular qualitative variable is added.

Suggested differences in treatment means are reported if the F statistic is large in relation to the number of degrees of freedom and if the differences are relatively great.

Effects of the Specified Variables on Percent of Gross Receipts Attributable to the Paseo del Rio

The significance of the total regression equation, the quantitative variables, and the qualitative variables are discussed below. The assigned variables for each X_i are shown in Table 51. X_0 is the intercept variable, X_1 through X_6 are the quantitative variables, and X_7 through X_{37} are the qualitative variables in the regression equation.

Significance of the Regression Equation

The total regression equation was significant at the .01 level with an F statistic equal to 8.12. This and other results of the analysis of variance are shown in Table 52. The significant variables were (1) stratum, (2) type of business, (3) product sold, (4) orientation to customers, (5) percent of gross receipts received in the second quarter, and (6) percent of gross receipts received in the third quarter. The remaining six variables were insignificant at the .05 level. The variables which seem to be the most important in explaining the variation are stratum, product sold, orientation to customers, and type of business (wholesale or retail). These four variables accounted for 90.09 percent of the "explained" variation of gross receipts attributable to the Paseo

Table 51. Variables employed in the statistical analysis of gross receipts attributable to the Paseo del Rio, by businesses, the central business district, San Antonio, Texas, 1971-72

X_i	Variable
X_0	= intercept
X_1	= percent gross receipts received first quarter
X_2	= percent gross receipts received second quarter
X_3	= percent gross receipts received third quarter
X_4	= number of years at present location
X_5	= distance from the Paseo del Rio
X_6	= access to the Paseo del Rio
X_7	= stratum I
X_8	= stratum II
X_9	= stratum III
X_{10}	= stratum IV
X_{11}	= dependency - would move elsewhere in San Antonio
X_{12}	= dependency - would move out of San Antonio
X_{13}	= dependency - would not move
X_{14}	= product sold - arts and crafts
X_{15}	= product sold - entertainment
X_{16}	= product sold - lodging
X_{17}	= product sold - other
X_{18}	= product sold - jewelers
X_{19}	= product sold - prepared food
X_{20}	= product sold - clothing
X_{21}	= product sold - liquor
X_{22}	= product sold - insurance
X_{23}	= product sold - furniture
X_{24}	= product sold - finance

Table 51. Continued

X_i	Variable
X_{25}	= type - other
X_{26}	= type - wholesale
X_{27}	= type - retail
X_{28}	= location - open end
X_{29}	= location - main sector
X_{30}	= orientation - local businesses and tourists
X_{31}	= orientation - tourists and other visitors
X_{32}	= orientation - local households and tourists
X_{33}	= orientation - local households and local businesses
X_{34}	= orientation - local businesses
X_{35}	= orientation - local households
X_{36}	= orientation - other visitors
X_{37}	= orientation - tourists

Table 52. Relationship of business characteristics, the central city, to percent of gross receipts attributable to the Paseo del Río, San Antonio, Texas, 1971-72

Sources of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Regression	31	51,750.11	1,669.36	8.12 **
Stratum	3	22,124.33	7,374.78	35.87 **
Type	2	3,554.09	1,777.39	8.64 **
Product	10	17,597.32	1,759.73	8.56 **
Orientation	7	3,346.85	478.12	2.33 *
Access	1	101.12	101.12	0.49
Distance	1	74.27	74.27	0.36
Dependency	2	365.82	182.91	0.88
Time here	1	87.77	87.77	0.43
% 1st quarter	1	127.49	127.49	0.62
% 2nd quarter	1	3,004.13	3,004.13	14.61 **
% 3rd quarter	1	961.43	961.43	4.68 *
Open end	1	405.50	405.50	1.97
Error	45	9,251.96	205.60	
Total	76	61,002.08		
$R^2 = 0.8483$				

* indicates significance at the 5 percent level

** indicates significance at the 1 percent level

del Rio by businesses in the surrounding area. The coefficient of determination or R^2 is .8483, and it is significant at the .0001 level.

The Quantitative Variables in the Regression Equation

The quantitative variables in the regression equation, X_1 through X_6 , are percent gross receipts received in the first, second, and third quarter, number of years at the present location, distance from the Paseo del Rio, and access to the Paseo del Rio. The beta coefficients, significance level and mean for these groups are listed in Table 53. The fourth quarter was not included in the regression, hence, the values are interpreted relative to the fourth quarter. A t-test was used to determine if the beta coefficient for each of the variables was significantly different from zero. The t-test rejected the hypothesis that $B_i = 0$ in the cases of (1) percent gross receipts received in the second quarter and (2) percent gross receipts received in the third quarters. The beta coefficient for percent gross receipts received in the second quarter is 1.75515126. This can be interpreted as meaning that a business who receives 25.0 percent of its gross receipts from April through June will be expected to attribute 1.76 percent more of its gross receipts to the Paseo del Rio than will a business that received only 24.0 percent of its gross receipts during the same time period. The beta coefficient for percent of gross receipts received in the third quarter is 1.02280504. As in the previous coefficient, for each additional percent gross receipts received in the third quarter, July through September, a business is expected to attribute 1.02 percent more of its gross receipts to the Paseo del Rio.

Table 53. Beta coefficients, level of significance, and their means for the quantitative variables and the intercept for the businesses along the Paseo del Rio, San Antonio, Texas, 1971-72

Variable	B_1	Significance Level	\bar{X}_1
X_0	-69.28418079	.05	
X_1	0.60725349	insignificant	20.9481
X_2	1.75515123	.001	26.6494
X_3	1.02280504	.05	27.0390
X_4	0.10800501	insignificant	16.8052
X_5	11.05392331	insignificant	0.7273
X_6	0.65680659	insignificant	0.9481

Table 54. Relationship of location (strata) of businesses to percent of gross receipts attributable to the Paseo del Rio, San Antonio, Texas, 1971-72

Stratum	Adjusted Mean	Difference
I	48.6430	
II	34.7492	13.8938
III	25.7888	8.9604
IV	4.1902	21.5986

The mean value for percent gross receipts attributable to the Paseo del Rio by surrounding businesses after it has been adjusted for percent gross receipts received in the first, second, and third quarters, number of years at the present location, distance from the Paseo del Rio, and access to the Paseo del Rio is 28.3428 percent.

Qualitative Variables in the Regression Equation

The qualitative variables in the regression equation are stratum, dependency on Paseo del Rio for location, product sold, type of business, location on main sector or open end, and orientation to customers. The adjusted mean for each class within a qualitative variable are presented in the following tables, as are differences among adjusted means for classes.

There are four strata which have been delineated according to locations of businesses around the Paseo del Rio. The adjusted means of these strata are shown in Table 54. The adjusted mean percent of gross receipts attributable to the Paseo del Rio is 48.6430 for stratum I. It is significantly greater than the adjusted means for strata II, III and IV, which are 34.7492, 25.7888, and 4.1902, respectively. The effect of the Paseo del Rio diminishes greatly as business locations are increasingly removed from it.

The amount of dependency of a business upon the Paseo del Rio was expected to be related to the percent of gross receipts attributable to the area. The data of Table 55 support this hypothesis. The adjusted mean for those who would move elsewhere in San Antonio if there were no Riverwalk was 32.66 percent. For those who would move out of San Antonio

Table 55. Relationship of dependency of businesses to percent of gross receipts attributable to the Paseo del Rio, San Antonio, Texas, 1971-72

Dependency	Adjusted Mean	Difference
1. Would move elsewhere in San Antonio	32.6612	3.3441
2. Would move out of San Antonio	29.3171	11.2234
3. Would not move		

Table 56. Relationship of product sold by businesses to percent of gross receipts attributable to the Paseo del Rio, San Antonio, Texas, 1971-72

Product	Adjusted Mean	Difference
1. Arts and crafts	55.5734	13.0093
2. Entertainment	42.5641	4.9308
3. Lodging	37.6333	8.0667
4. Other	29.5666	0.4844
5. Jewelers	29.0822	4.3629
6. Prepared food	24.7193	2.7249
7. Clothing	21.9944	1.3109
8. Liquor	20.6835	1.2842
9. Insurance	19.3993	0.8590
10. Furniture	18.5403	6.5262
11. Finance	12.0141	

it was 29.32 percent, and for those who would not change their location it was 18.09 percent. The difference between the adjusted means for those who would move does not appear significant. The adjusted mean percent of those who would not change their location if the Paseo del Rio were to disappear was significantly lower than that of those who would change location. These businesses are not dependent on the Riverwalk.

Product sold by the businesses surrounding the Paseo del Rio was important to the percentage of gross receipts attributable to the Paseo del Rio. There are eleven classes for products sold; adjusted means are presented in Table 56. The most important products sold, in terms of gross receipts attributable to the Paseo del Rio, were arts and crafts. The adjusted mean percent for this class was significantly greater than all of the remaining classes of product sold. It was 55.57 percent. Next most important in terms of percent gross receipts attributable to the Paseo del Rio was entertainment, with an adjusted mean of 42.56 percent. The adjusted mean for entertainment was significantly greater than those for remaining businesses selling other products. The adjusted mean percentage for lodging is also significantly different from the remaining businesses. It is 37.63 percent. Prepared food, clothing, liquor, insurance, furniture, and finance are definitely classes of products for which sales are not dependent on the Paseo del Rio. These are classes with adjusted means ranging from 24.72 percent to 12.01 percent. The difference between these bottom six businesses is insignificant.

The three classifications of business types are wholesale, retail, and other. The highest adjusted mean was found for the other type of

business, with 59.69 percent of gross receipts attributed to the river area. This adjusted mean is significantly greater than those for the other two types of business. The wholesale and retail types of business had adjusted means of 12.84 percent and 12.51 percent, respectively. There was not a significant difference between these two means. These adjusted means are presented in Table 57.

Location on the main sector or the open end of the Paseo del Rio was expected to be an important factor in the percent of gross receipts attributed to the area by surrounding businesses. This was not borne out by the data. The variable itself was insignificant in the regression analysis and the two adjusted means were not significantly different from each other. The adjusted means and the difference are shown in Table 58.

The final qualitative variable that was used in the regression analysis was orientation to customers. Four types of customers were analyzed: those from local businesses, those from local households, tourists, and other visitors. Businesses' orientation to customers, the adjusted mean percentages of gross receipts attributable to the area, and differences are shown in Table 59. Businesses oriented to tourists and (1) local businesses, (2) other visitors, and (3) local households had the highest adjusted mean percentages and they are not significantly different from each other. But these three classes do appear to be different from other classes, which include businesses with orientation to local businesses and households.

Table 57. Relationship of type of business to percent of gross receipts attributable to the Paseo del Rio, San Antonio, Texas, 1971-72

Type of Business	Adjusted Mean	Difference
1. Other	59.6879	46
2. Wholesale	12.8352	46.8527
3. Retail	12.5052	0.3300

Table 58. Relationship of location (main sector, open end) of businesses to percent of gross receipts attributable to the Paseo del Rio, San Antonio, Texas, 1971-72

Location	Adjusted Mean	Difference
1. Open end	30.0729	
2. Main sector	26.6126	3.4603

Table 59. Relationship of business orientation to percent of gross receipts attributable to the Paseo del Rio, San Antonio, Texas, 1971-72

Orientation	Adjusted Mean	Difference
1. Local businesses and tourists	49.1616	3.2198
2. Tourists and other visitors	45.9418	0.6451
3. Local households and tourists	45.2967	8.5401
4. Local households and local businesses	36.7566	0.9500
5. Local businesses	35.8066	0.8343
6. Local households	34.9723	40.2186
7. Other visitors	- 5.2463	10.7009
8. Tourists	-15.9472	

Conclusions

Four variables in the regression analysis account for over 90 percent of the explained variation in percent of gross receipts attributable to the Paseo del Rio. These variables are (1) stratum, (2) type of business, (3) product sold, and (4) orientation to customers. Most of the remaining variables were insignificant in the regression analysis. The most important variable in explaining variation is strata. The four strata were all significantly different from each other.

There was no significant difference between the retail and wholesale businesses in terms of percentage of gross receipts attributable to the Paseo del Rio. Those that were not retail or wholesale had a significantly larger adjusted mean than the others (59.69 percent of gross receipts attributable to the Paseo del Rio). The products sold by businesses which were affected by the Paseo del Rio were arts and crafts, entertainment and lodging. Businesses selling these three types of products attributed a considerable amount of gross receipts to the Paseo del Rio (from 37.63 percent to 55.57 percent). Businesses which attributed little of their gross receipts to the Paseo del Rio are the insurance, furniture, and finance businesses. The final variable of importance to the regression equation is orientation to customers. The classes which showed the highest percent of their gross receipts attributable to the Paseo del Rio catered to (1) tourists and local businesses, (2) tourists and other visitors, (3) tourists and local households. Thus, it seems that businesses who sell to some combination of tourists and the remaining three types of customers are the ones affected most by the Paseo del Rio.

As a concluding comment, a curious relationship exists between percent of sales in a particular quarter (seasonal influence) and some other independent variables. This means all relationships are not evident from the analysis and would require other regressions with perhaps one of the quarters as the dependent variable.

SECTION VI

SAN ANTONIO RESIDENTS AND THE PASEO DEL RIO

To determine the attitudes of San Antonio residents toward the Paseo del Rio and their customary uses of the development, a survey of households was conducted. A one-half percent sample of the city's population was drawn and questionnaires were mailed to 1200 households (the sample size). The households included in the survey were selected from the 1971 San Antonio City Directory. A random number table was used to establish the columns to be used on each two pages of this directory. One household was selected from each column. The number of the particular household in each column to be drawn was also established with a random number table.

Out of the 1200 questionnaires mailed, 204 households responded. From the completed questionnaires, data were assembled which were descriptive of socio-economic characteristics of households and householders and their uses of the Paseo del Rio, expenditures associated with visits to the Riverwalk, and reactions to proposals for further development of the river.

Composition of Households

The mean number of members in the households from which there was response to the questionnaire was 3.23, slightly lower than the mean number of 3.39 found in the 1970 Census of Population. About two-thirds of the respondents indicated they had no children or teenagers in their household (Table 60). Of those with children and teenagers, only 12 percent had as many as two children and 11 percent had as many as two teenagers.

Table 60. Distribution of households, by class of members, San Antonio, Texas, 1971-72

Number in Household	Adults		Teenagers		Children	
	Number of Households	Percent	Number of Households	Percent	Number of Households	Percent
0	--	--	137	67	132	65
1	31	15	39	19	35	17
2	128	62	22	11	24	12
3	38	19	5	2	9	4
4	5	2	1	--	4	2
5	1	--	--	--	--	--
6	<u>1</u>	--	<u>--</u>	--	<u>--</u>	--
Totals	204		204		204	

Table 61. Distribution of households, by class and age of adult members, San Antonio, Texas, 1971-72

Ages of Household Members	Fathers		Mothers		Other Adults	
	Number of Households	Percent	Number of Households	Percent	Number of Households	Percent
under 21	27	13	13	6		
21-30	12	6	15	7	36 ^{1/}	17
31-40	35	17	41	20		
41-50	38	19	49	24	7 ^{2/}	3
51-60	51	25	44	22		
over 60	<u>41</u>	20	<u>42</u>	21	13 ^{3/}	6
Totals	204		204			

^{1/} Other adults less than 30 years of age

^{2/} Other adults 31-60 years of age

^{3/} Other adults more than 60 years of age

Most households were headed by husbands and wives, who in Table 61 are designated fathers and mothers. Others in the household, at least 20 years of age, were classed as other adults. This group was fairly small, but 63 percent of them were adults under 30 years of age, while 6 percent were over 60 years of age. The average age of fathers was 50.25 years compared to 49.09 for mothers.

There were seventeen more adult females than males in the households surveyed but more male teenagers and children than females. In neither case were differences significant (Table 62).

Characteristics of Household Head

Age of Household Head

The father was found to be the head of the household in 85.29 percent of the households. More than half (56.37 percent) of these household heads were at least 51 years old. The average age of the household head was found to be 49.30 years. Only 6.86 percent were under 30, as shown in Table 63. Because of the small percentage of younger household heads, the responses to the questions on the survey might therefore be taken as indicative of persons somewhat older than those who make the most frequent use of the Paseo del Rio. The average age of users was found to be about 35 years.

Education of Household Head

A rather high level of education was found for the household heads. Data in Table 64 show 43 percent of them to have a high school education and 30.39 percent have a college education.

Table 62. Distribution of households, by class and sex of members,
San Antonio, Texas, 1971-72

Number and sex of household members	Adults		Teenagers		Children	
	Number of Households	Percent	Number of Households	Percent	Number of Households	Percent
Males:						
0	26	13	159	78	152	75
1	157	77	37	18	37	18
3	20	10	7	3	12	6
4	1	--	1	--	2	1
5	--	--	--	--	1	--
Totals	204		204		204	
Females:						
0	9	4	167	82	164	80
1	165	81	27	13	29	14
2	24	12	10	5	10	5
3	4	2	--	--	--	--
4	2	1	--	--	1	--
5	--	--	--	--	--	--
Totals	204		204		204	

Table 63. Distribution of households by age of householder, San Antonio, Texas, 1971-72

Age of Household Head	Number of Households	Percent
Years		
21-30	14	6.86
31-40	34	16.67
41-50	41	20.10
51-60	59	28.92
61 +	<u>56</u>	<u>27.45</u>
Totals	204	100.00

Table 64. Distribution of households, by level of education, of household head, San Antonio, Texas, 1971-72

Level of Education	Number of Households	Percent
Grade school	27	13.24
Junior high school	13	6.37
High school	88	43.14
Vocational school	11	5.39
College	62	30.39
None	<u>3</u>	<u>1.47</u>
Totals	204	100.00

Occupation of Household Head

The occupational categories of the household heads are shown in Table 65. Evidence of the relatively high level of education of the household heads is seen in the high percentage of household heads who are professionals, proprietors, and skilled craftsmen. Those who indicated their occupation as professional were most numerous, followed by those in the "other" classification, which was composed of carpenters, plumbers, proprietors, and students. Almost 20 percent of the household heads were retired.

Income of Household Head

Additional evidence of the relatively high level of education among household heads was found in the income levels reported. The average annual income of the householders was found to be \$11,367. This is somewhat higher than the average income for all San Antonio residents, which was \$9,516 in 1970 as reported by the U. S. Bureau of the Census. As shown in Table 66, almost 26 percent of the householders had incomes between \$5001 and \$10,000. About 55 percent of household heads had incomes between \$5000 and \$20,000. Those with incomes greater than \$20,000 amounted to 16 percent of all household heads. It is interesting to note that of the total questionnaires completed and returned, only eleven householders (5.92 percent) chose not to respond to this particular question.

Characteristics of Other Working Members of the Household

Age

In almost 35 percent of the households in the sample there was at

Table 65. Distribution of households, by occupation of household head,
San Antonio, Texas, 1971-72

Occupation	Number of Households	Percent
Professional	13	6.37
Other	42	20.59
Retired	39	19.12
Manager	20	9.81
Technician	18	8.82
Clerk	14	6.86
Laborer	13	6.37
No Response	<u>4</u>	<u>1.96</u>
Total	204	100.00

Table 66. Distribution of households, by income of household head,
San Antonio, Texas, 1971-72

Income	Number of Households	Percent
Dollars		
0-5,000	44	21.57
5,001-10,000	53	25.98
10,001-15,000	37	18.14
15,001-20,000	26	12.75
20,001-30,000	18	8.82
30,000 +	15	7.35
No Response	<u>11</u>	<u>5.39</u>
Total	204	100.00

least one other working member in the household. An additional 6.37 percent reported two or three additional working members. Some 44.04 percent of the household members were 41 years old or older and about 40 percent of the other working household members were less than 30 years old (Table 67). Most members in this second group were between 21 and 30 years old.

Education

The educational levels of the other working members were similar to those of the household heads. As in the case of the household heads, data in Table 68 indicate the high level of education of the other household members. Exactly 50 percent of the other working household members had a high school education. An additional 28.57 percent had a college education.

Occupation

The occupational categories recorded for the other working household members were identical to those of the household heads. Table 69 shows the distribution among the households. About 40 percent of the total number of other working members were employed as clerks. A little over one-third of these members classified themselves as professionals.

Income

Compared to the household heads, the other working members had generally lower levels of income. The incomes of these household members were found to be something less than \$10,000 in about 93 percent of the households that reported other working members (Table 70). Of the total

Table 67. Distribution of households, by other working members, by age of members, San Antonio, Texas, 1971-72

Age	Number of Households			Totals	
	With 1 Additional Working Member	With 2 Additional Working Members	With 3 Additional Working Members		
<u>Years</u>				<u>Number</u>	<u>Percent</u>
11-20	10	3	0	13	15.48
21-30	18	5	0	23	27.38
31-40	10	1	0	11	13.10
41-50	20	1	1	22	26.19
51-60	12	0	0	12	14.28
60 +	<u>1</u>	<u>2</u>	<u>0</u>	<u>3</u>	<u>3.57</u>
Totals	71	12	1	84	100.00

Table 68. Distribution of households, by other working members, by education of members, San Antonio, Texas, 1971-72

Education Level	Number of Households			Totals	
	With 1 Additional Working Member	With 2 Additional Working Members	With 3 Additional Working Members		
				<u>Number</u>	<u>Percent</u>
Grade School	1	2	1	4	4.76
Jr. High School	5	1	0	6	7.14
High School	37	6	0	42	50.00
College	21	3	0	24	28.57
Vocational School	<u>7</u>	<u>1</u>	<u>0</u>	<u>8</u>	<u>9.52</u>
Totals	71	12	1	84	100.00

Table 69. Distribution of households, by other working members, by occupation of members, San Antonio, Texas, 1971-72

Occupation	Number of Households				
	With 1 Additional Working Member	With 2 Additional Working Members	With 3 Additional Working Members		
				<u>Number</u>	<u>Percent</u>
Laborer	3	0	1	4	4.94
Technician	4	3	0	7	8.64
Manager	2	1	0	3	3.70
Clerk	28	4	0	32	39.51
Professional	26	3	0	29	35.80
Other	<u>6</u>	<u>0</u>	<u>0</u>	<u>6</u>	<u>7.41</u>
Totals	69	11	1	81	100.00

Table 70. Distribution of households by other working members, by income of members, San Antonio, Texas, 1971-72

Income	Number of Households				
	With 1 Additional Working Member	With 2 Additional Working Members	With 3 Additional Working Members		
				<u>Number</u>	<u>Percent</u>
0-5,000	27	6	1	34	40.48
5,001-10,000	38	6	0	44	52.38
10,001-15,000	5	0	0	5	5.95
15,001-20,000	1	0	0	1	1.19
20,001-30,000	0	0	0	0	--
30,000 +	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>--</u>
Totals	71	12	1	84	100.00

number of other working household members, only one was in the income class \$15,001 to \$20,000, and there were no members with incomes greater than this class. The average total income (income of the household head plus the incomes of the other working members) for the households in the sample was found to be \$13,805.

Knowledge and Use of the Paseo del Rio by the San Antonio Householders

An effort was made to determine the extent of San Antonio residents' use and knowledge of the Paseo del Rio. In order to make this determination, the householders were asked to answer questions regarding their activities, expenditures, frequency of visits, and obstacles to their use of the Riverwalk. Also included were questions concerning the residents' reactions toward the previously mentioned plans for extending the Paseo del Rio.

Sources of Information about the Paseo del Rio

As expected, the householders of San Antonio are well aware of the Paseo del Rio. In fact, 98.04 percent of the householders indicated that they were aware of the Riverwalk. Several sources of information about the area are available to the residents of San Antonio. A majority of the people used a combination of these sources for their information about the activities. As Table 71 indicates, the city newspapers were the most frequently used source of information; 74.51 percent of the residents acquired their information about the Paseo del Rio from the newspapers. Radio and television advertisements were the next most

Table 71. Distribution of households, by sources of information about the Paseo del Rio, San Antonio, Texas, 1971-72

Source of Information	Number of Households	Percent
The "Showboat" Magazine	12	5.88
City Newspapers	152	74.51
Radio and Television Advertisements	123	60.29
Conversations with Acquaintances	113	55.39

Table 72. Distribution of households by season visits to the Paseo del Rio, San Antonio, Texas, 1971-72

Times Visited	Number of Households				Total
	Spring	Summer	Fall	Winter	
1	47	38	39	31	155
2	44	42	32	15	133
3	15	19	14	11	59
4	5	10	5	2	22
5	1	3	2	1	7
6	2	1	2	1	6
7	0	0	1	0	1
8	1	1	0	0	2
10	2	0	1	0	3
12	3	4	4	3	14
15	0	0	1	0	1
20	2	2	1	0	5
Totals	122	120	102	64	759
Percent of total households visiting each season	59.80	58.82	50.00	31.37	
Average visits	2.63	2.80	2.81	2.31	2.64

frequent source of information, while acquaintances were also a good source of information. That only 5.8 percent of the householders used the Showboat magazine as a source of information can be explained by the fact that this magazine is normally displayed and circulated throughout the hotels and motels for the benefit of tourists and conventioners.

Frequency and Seasonality of Visits to the Paseo del Rio

The householders were asked how often they usually visited the Paseo del Rio during each season of the year. Spring and summer were the most popular seasons for visiting the Riverwalk. Table 72 shows the seasonality of visits to the Paseo del Rio. The data indicate that approximately 60 percent of householders with families visited the Paseo del Rio during the spring and summer seasons. In the spring, members of households averaged 1.51 visits to the Riverwalk. In the summer, the average was only slightly higher, 1.62 visits. Fall was also a popular time to visit the Riverwalk. One-half of the householders indicated they visited the Riverwalk during this time of the year. Only during the winter months did visits decrease significantly. Only 31.37 percent of the householders indicated that they visited the Paseo del Rio during this time of the year.

A very high percentage (77.45) of the household members had visited the Paseo del Rio at least once within the six months immediately preceding the date of the survey (Table 73). These six months included all of the spring and summer months. Almost 20 percent of the householders had visited the Riverwalk in the past 90 days, and about 30 percent had visited within the past 30 days.

Table 73. Distribution of households, by most recent visit to the Paseo del Rio, San Antonio, Texas, 1971-72

Days Since Last Visit	Number of Households	Percent
30 days	62	30.39
90 days	39	19.12
6 months	<u>57</u>	<u>27.94</u>
	158	77.45
Have <u>not</u> visited in past 6 months	<u>46</u>	<u>22.55</u>
	204	100.00

Table 74. Distribution of households, by activity during visits to the Paseo del Rio, San Antonio, Texas, 1971-72

Purpose of Visit	Number of Households	Percent
Sightseeing	120	58.82
Relaxation	83	40.69
Shopping	29	14.22
Eating	117	57.35
Entertainment	111	54.41

Activities of Residents on the Paseo del Rio

The activities of household members who visited the Paseo del Rio were classed as entertainment, sightseeing, shopping, eating, and relaxation. Any of these activities could have been specified by the householder. In terms of frequency, the sightseeing activity was the most popular with 58.82 percent of the household members in the sample specifying it as one of their activities (Table 74). The next most frequently specified activities were eating, 57.35 percent, and entertainment, 54.41 percent of the householders in the sample. The least popular activities were relaxing, 40.69 percent, and shopping, 14.22 percent of those in the sample. The low percentage of residents specifying shopping as an activity may be due to familiarity with the Paseo del Rio and lack of interest in purchase of souvenirs or curios.

Relationship of Householder to Those With Whom He Visits the Paseo del Rio

The householder was asked to indicate with whom he normally visited the Paseo del Rio. Any combination of the following relationships could have been specified by householders: out-of-town guests, friends and relatives, business associates, and family. Table 75 shows that 63.73 percent of the householders visited the Paseo del Rio with out-of-town guests. Visits with friends and relatives was specified by an almost equal (59.14 percent) number of residents. Only 18.14 percent of the residents in the sample specified that they visited the Riverwalk with business associates.

Table 75. Distribution of households, by the relationship of householder to those with whom he visits the Paseo del Río, San Antonio, Texas, 1971-72

Relation to Householder	Number of Households ^{1/}	Percent
As a family	112	54.90
With friends and relatives	121	59.31
With out-of-town guests	130	63.73
With business associates	37	18.14

^{1/} More than one response was permitted so the total of responses exceeds number of households.

Table 76. Distribution of households, by usual expenditures on the Paseo del Río, San Antonio, Texas, 1971-72

Dollars	Number of Households	Percent
0	18	8.82
0-1.00	2	.98
1.01-2.50	5	2.45
2.51-5.00	39	19.12
5.01-10.00	51	25.00
10.01-25.00	51	25.00
25.01 +	9	4.41
No response	29	14.22

Expenditures on the Paseo del Rio

When asked the question, "How much do you usually spend on the Riverwalk?", 25 percent of the householders indicated that they would usually spend between \$5.00 and \$10.00 (Table 76). An identical percentage of householders indicated that they would usually spend between \$10.01 and \$25.00 when they visited the Paseo del Rio. Only 8.82 percent of the respondents indicated that they would normally spend nothing. Based on these responses, the average expenditure on the Riverwalk would be \$8.99 per household. This is about \$3.00 greater than actual expenditures of users interviewed on the Paseo del Rio.

Purchases on the Paseo del Rio

The questionnaire sent to households listed four types of goods or services which might be purchased on the river. These were food, recreation, curios and personal services. Any of these four items could be specified by the respondent. The largest percentage of residents went to the Riverwalk for the purpose of eating (Table 74) and the class of goods most frequently purchased was food (Table 77). It was specified by 74.51 percent of the residents sampled. Approximately 40 percent of the residents in the sample indicated that they spent their money on some form of recreation.

Obstacles to Use of the Paseo del Rio by the San Antonio Householders

While the study indicated that the Riverwalk is an extremely popular attraction among residents of San Antonio, most of them expressed some

Table 77. Distribution of households, by types of purchases made on the Paseo del Rio, San Antonio, Texas, 1971-72

Product or Service Purchased	Number of Households	Percent
Food	152	74.51
Recreation	81	39.71
Curios	42	20.10
Personal Services	11	5.39

Table 78. Distribution of households by obstacles to their use of the Paseo del Rio, San Antonio, Texas, 1971-72

Obstacle	Number of Households	Percent
Lack of downtown parking	108	52.94
Concern with personal safety on Paseo del Rio	80	39.22
Lack of interesting activities on the Paseo del Rio	36	17.65
Limited access to Paseo del Rio	30	14.71

reservations about their use of it. Questions were asked about obstacles to the use of the Paseo del Rio and many householders responded to them (Table 78). The lack of downtown parking was the most frequently specified obstacle, with 52.94 percent of total householders registering this complaint. Since there appeared to be an abundance of parking lots in the downtown San Antonio area, some of those specifying parking as an obstacle might have been including other parking-related problems, such as cost and proximity to the Riverwalk.

Although protection of the visitors to the Riverwalk has been significantly upgraded in the last several years, more than a third (39.22 percent) of the householders still registered concern with their personal safety as an obstacle to their use of the Riverwalk. A lack of interesting activities on the Riverwalk was considered an obstacle by 17.65 percent of the householders. Only 14.71 percent of the San Antonio householder indicated that access to the Riverwalk was an obstacle to their use of it, even though there are relatively few identifying signs at the entrances to the Paseo del Rio.

Opinions and Preferences Toward Extension of the Paseo del Rio

One purpose of this study was to provide information that would be of assistance for future planning and development. A series of questions focused on the householders' awareness, opinions, and preferences regarding the extension of the Riverwalk. As shown in Table 79 most (66.18 percent) of the householders in San Antonio are aware of the plans to

extend the Paseo del Rio beyond its present developed area. Almost 80 percent of the residents (161) were in favor of such an extension, while only 8.82 percent of the residents (18) indicated that they were not in favor of extension. Twenty-five of the householders expressed no opinion. Plans for extending the Paseo del Rio would probably include an increase in the number of shops, as well as an increase in the recreation facilities and entertainment spots, e.g., baseball diamonds, tennis courts, night clubs, amusement parks. Apparently, this would be very popular with the residents because 74.02 percent of them (151) indicated that they would visit the Riverwalk more often with such development.

In an attempt to provide planners with some measure of the resident's preferences concerning extension of the Riverwalk, respondents were asked what combination of open space, housing, and business establishments they would prefer if the Paseo del Rio was extended. Only one expression of preference per household was allowed on the questionnaire. Preferences are shown in Table 80. Of the total number of householders in the sample 41.67 percent favored an area containing the same mix of businesses and open space that presently exists. The second largest group, 25 percent of the householders in the sample, preferred more businesses in the Riverwalk area. At this time, only a very few residents (10.87 percent) would favor additional housing along the Paseo del Rio.

Table 79. Distribution of households, by reaction toward extension of the Paseo del Rio, San Antonio, Texas, 1971-72

Question	Response from Households			Total
	Yes	No	No Response	
Aware of plans to extend Paseo del Rio?	135	56	13	204
Favor such an extension?	161	18	25	204
Visit more if Paseo del Rio extended?	151	34	19	204

Table 80. Distribution of households, by preference for open space, housing, and businesses in an extension of the Paseo del Rio, San Antonio, Texas, 1971-72

Preference	Response from Households					
	Favoring		Not Favoring		Total	
	Number	Percent	Number	Percent	Number	Percent
Same mix as on present river "loop"	85	41.67	119	58.33	204	100.00
More open space	46	22.55	158	77.45	204	100.00
More business establishments	51	25.00	153	75.00	204	100.00
More housing	22	10.78	182	89.22	204	100.00

SECTION VII

EFFECTS OF RESIDENTS' CHARACTERISTICS, ACTIVITIES AND
ATTITUDES ON THEIR EXPENDITURES AT THE PASEO DEL RIO

The expenditures of the San Antonio householders on the Paseo del Rio are expected to be explained by (1) their socio-economic characteristics, (2) their purposes for visiting the Paseo del Rio, (3) the frequency of their visit, (4) their purchases on the Paseo del Rio, (5) the obstacles to their use of the Paseo del Rio, and (6) the relationship of the householder to those that accompany him on visits to the Paseo del Rio.

Both the theoretical and statistical models which are used to explain the expenditures of the householders are similar to those used to explain the effect of the user's expenditures. The variables that have been statistically tested for their explanation of variations in household expenditures are also similar to the variables tested in the user study.

Procedure for Analysis

As in the study of the Paseo del Rio users, the method of least squares has been chosen as the procedure by which to evaluate the relationship of variables to expenditures.

In the regression equation, $Y = b_0 X_0 + b_1 X_1 + \dots + b_n X_n$, dummy or zero one variables have been used for all the variables except age, income of the household heads, total income of the household, number of members in the household, the number of times each householder usually visits the Paseo del Rio during each season, and the expenditures of

the householders while visiting the Riverwalk. Continuous variables are used for the above quantitative variables.

As in the study of the effects of the user's characteristics, activities, and reactions on their expenditures, the adjusted mean for each of the qualitative variables has been determined. It is derived from the regression equation after the effect of each quantitative variable has been removed, and the effect of each class of a particular qualitative variable is added. This is shown by the following equation.

$$\bar{Y}_{adj} = b_0 X_0 + b_1 \bar{X}_1 + b_2 \bar{X}_2 + b_3 \bar{X}_3 + b_4 \bar{X}_4$$

where:

$$\bar{Y}_{adj} = \text{the adjusted mean of the quantitative or continuous variables, } X_1, X_2, X_3, X_4$$

The adjusted mean for each qualitative variable would be:

$$\text{Variable } i = \bar{Y}_{adj} + b_i X_i \quad i = 1, \dots, 4$$

where

$$b_i = \text{constant for the zero-one variable}$$

$$X_i = \text{one}$$

Thus, the adjusted mean for variable X_4 would be $\bar{Y}_{adj} + b_4 X_4$. The method of evaluation is identical to that method used in the study of the users of the Paseo del Río. Suggested differences in treatment means are reported if the F statistic is large in relation to the number of degrees of freedom, and if the differences are relatively great.

Effects of the Specified Variables on the Resident's Expenditures at the Paseo del Río

The significance of the regression equation and the quantitative and qualitative variables are discussed below. The assigned variables

for each X_i are shown in Table 81. X_1 through X_8 are quantitative variables, while X_9 through X_{25} are qualitative variables in the regression equation.

Significance of the Regression Equation

With an F statistic of 4.93, the total regression equation was significant at the .0001 level. As can be seen in Table 82, only twelve variables were significant. Ten were significant at the .05 level; six variables were significant at the .01 level. The variables which are apparently the most important in the regression equation are income of the household head, age of the household head and the activities of eating and entertainment. These variables account for 60 percent of the explained variation. The coefficient of determination, R^2 , is 0.5252, and is significant at the .0001 level.

The Qualitative Variables in the Regression Equation

The qualitative variables in the regression equation (variables X_9 through X_{25}) are divided into six groups, (1) occupation of household head, (2) education of household head, (3) purpose of visit to the Paseo del Rio, (4) purchases, (5) householder's relation to those with whom he visits the Riverwalk, and (6) obstacles to householders' use of the Paseo del Rio. Each of the means of the various classes within the variables, such as the mean of each type of occupation, is presented in terms of its adjusted mean.

Table 81. Variables employed in the statistical analysis of expenditures, by households, the Paseo del Rio, San Antonio, Texas, 1971-72

X_i		Variable
X_0	=	intercept
X_1	=	age of household head
X_2	=	income of household head
X_3	=	total income of household members
X_4	=	number of times usually visit in spring
X_5	=	number of times usually visit in summer
X_6	=	number of times usually visit in fall
X_7	=	number of times usually visit in winter
X_8	=	total number of household members
X_9	=	activity - sightseeing
X_{10}	=	activity - relaxation
X_{11}	=	activity - shopping
X_{12}	=	activity - eating
X_{13}	=	activity - entertainment
X_{14}	=	purchase - food
X_{15}	=	purchase - curios
X_{16}	=	purchase - recreation
X_{17}	=	purchase - personal services
X_{18}	=	relation - family
X_{19}	=	relation - out-of-town guests
X_{20}	=	relation - friends
X_{21}	=	relation - business associates
X_{22}	=	obstacle - lack of downtown parking
X_{23}	=	obstacle - limited access to the Paseo del Rio
X_{24}	=	obstacle - concern with personal safety
X_{25}	=	obstacle - lack of interesting events and activities

Table 82. Relationship of household characteristics, activities, purchases and reactions to expenditures, the Paseo del Rio, San Antonio, Texas, 1971-72

Sources of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Regression	37	4875.54	131.77	4.93
Age	1	206.73	206.73	7.74 *
Education	6	499.96	83.35	3.12 *
Occupation	7	493.06	70.44	2.64 **
Income	1	1045.50	1045.50	39.13 *
Total income	1	76.65	76.65	2.87 ***
Spring	1	4.54	4.54	0.17
Summer	1	1.42	1.42	0.05
Fall	1	146.01	146.01	5.47 **
Winter	1	51.01	51.01	1.91
Sightsee	1	8.10	8.10	0.30
Relaxation	1	9.59	9.59	0.36
Shop	1	204.63	204.63	7.66 *
Eat	1	1089.99	1089.99	40.80 *
Entertainment	1	574.63	574.63	21.51 *
Food	1	174.64	174.64	6.54 **
Curios	1	.01	.01	0.00
Recreation	1	99.63	99.63	3.73 ***
Personal services	1	.01	.01	.00
Total number in household	1	6.51	6.51	.24
Family	1	1.45	1.45	.05
Friends	1	32.07	32.07	1.20
Out-of-town guests	1	2.63	2.63	0.10
Business associates	1	8.03	8.03	0.30
Access	1	18.88	18.88	0.71
Safety	1	13.84	13.84	0.52
Events	1	106.02	106.02	3.97 **
Park	1	.21	.01	.93
Error	164			
Total	202			
$R^2 =$	0.5252			

* Indicates significant at 1 percent level
 ** Indicates significant at 5 percent level
 ***Indicates significant at 10 percent level

As reported in Table 83 there are seven classes of occupation. The adjusted means of each occupation are presented, as well as the differences among the adjusted means for occupational classes. Although the occupation variable is significant at the .05 level, it is not very high when considering the seven degrees of freedom and the relatively low F statistic, 2.64.

The expenditures of the householders in the various occupational classes are organized into three groups. Managers are found to have the highest adjusted mean expenditure with \$10.2664. The middle group includes the occupations of other, retired, and professional with adjusted mean expenditures of \$9.6328, \$9.2867, and \$9.1179, respectively. The classes with the lowest adjusted mean expenditures are the occupations of technician, laborer, and clerk. The difference between the highest and lowest adjusted mean expenditures is \$5.414.

Table 84 shows the adjusted means of each level of education, as well as the differences among the adjusted means for educational levels. The F statistic for education is 3.12. Although it is significant at the .05 level, it is not very high when considering the six degrees of freedom. The expenditures of the residents in the various educational levels are organized into three groups. Householders spending the greatest amounts were found to be those with as much as a junior high school education, with an adjusted mean expenditure of \$10.9669. The next group includes those householders with a college education, those with a high school education, and those with a grade school education. Their adjusted mean expenditures are \$9.1447, \$9.1090, and \$8.6435, respectively. Householders

Table 83. Relationship of occupation of household head to household expenditures, the Paseo del Rio, San Antonio, Texas, 1971-72

Occupation Class	Adjusted Mean	Difference
Manager	10.2664	
Other	9.6328	.6336
Retired	9.2867	.3461
Professional	9.1179	.1688
Technician	8.4807	.6372
Laborer	7.9996	.4811
Clerk	5.6523	2.3473

Table 84. Relationship of education of household head to household expenditures, the Paseo del Rio, San Antonio, Texas, 1971-72

Education	Adjusted Mean	Difference
Junior High School	10.9669	
College	9.1447	1.8222
High School	9.1090	0.0357
Grade School	8.6435	0.4655
No education	7.7046	0.9389
Vocational School	6.4136	0.2910

with the lowest adjusted mean expenditures are those with no education (\$7.7046) and those with a vocational school education (\$6.4136).

The third group of qualitative variables are descriptive of householders' purposes for visiting the Paseo del Rio. The first variable is that of sightseeing as a purpose for visiting. Data in Table 85 indicate that those ~~householders~~ who go to the Riverwalk for the purpose of sightseeing have a lower adjusted mean expenditure than those who do not. But we should not conclude that sightseeing as a purpose is not important. There is a small F statistic associated with the one degree of freedom (0.30316), too small for significance.

Table 86 shows the adjusted mean expenditures for residents that do and do not consider relaxation as a purpose for visiting the Paseo del Rio. The difference between the adjusted mean expenditures is only \$0.4268. Again, the low F statistic (.35905) rules out any significance between the level of expenditures and whether or not a person visits the Paseo del Rio for the purpose of relaxation.

The next qualitative variable, shopping as a purpose for visiting the Paseo del Rio, is significant, with an F statistic of 7.66 and one degree of freedom (Table 87). The adjusted mean expenditure for those who specified shopping as a purpose for visiting was \$12.0789. This was \$3.6050 higher than the adjusted mean expenditure for those that did not consider shopping as a purpose.

Whether or not a householder goes to the Paseo del Rio for the purpose of eating significantly affects his expenditures while on the Riverwalk. As shown by Table 88, those that do go to the Riverwalk to eat have an adjusted mean expenditure of \$11.1778, which is \$5.1075

Table 85. Relationship of sightseeing as a purpose for visiting to household expenditures, the Paseo del Rio, San Antonio, Texas, 1971-72

Sightseeing as a purpose	Adjusted Mean	Difference
Is considered a purpose for visiting	8.7169	
Is not considered a purpose for visiting	9.3742	.6573

Table 86. Relationship of relaxation as a purpose for visiting to household expenditures, the Paseo del Rio, San Antonio, Texas, 1971-72

Relaxation as a purpose	Adjusted Mean	Difference
Is considered a purpose for visiting	9.2433	
Is not considered a purpose for visiting	8.8165	.4268

Table 87. Relationship of shopping as a purpose for visiting to household expenditures, the Paseo del Río, San Antonio, Texas, 1971-72

Shopping as a purpose	Adjusted Mean	Difference
Is considered a purpose for visiting	12.0789	3.6050
Is not considered a purpose for visiting	8.4739	

Table 88. Relationship of eating as a purpose for visiting to household expenditures, the Paseo del Río, San Antonio, Texas, 1971-72

Eating as a purpose	Adjusted Mean	Difference
Is considered a purpose for visiting	11.1778	5.1075
Is not considered a purpose for visiting	6.0703	

higher than the adjusted mean expenditures of those that do not go for the purpose of eating. This difference between the adjusted mean expenditures can be considered very significant because of the high F statistic, 40.80 associated with one degree of freedom.

Whether or not a householder goes to the Paseo del Rio for the purpose of entertainment is also very important in determining the expenditures of the residents on the Riverwalk (Table 89). The F statistic for this variable is 21.51 with one degree of freedom, indicating that the difference between the two adjusted mean expenditures is significant. The adjusted mean expenditure for those that visit the Paseo del Rio for entertainment purposes is \$11.0760, while those that do not go for entertainment have an adjusted mean expenditure of only \$6.5204.

The fourth group of qualitative variables includes those variables relating to the items purchased by the householders when they visit the Paseo del Rio. There were four classes of purchases, including food, recreation, curios, and personal services. Any of these four could be specified by respondents. The highest adjusted mean expenditure for purchases was for those who purchased personal services, \$11.9015 (Table 90). Although this is considerably greater than the adjusted mean expenditure of those who did not purchase personal services, the difference between them cannot be considered significant because of the very low F statistic, 0.0096.

However, whether or not a householder purchases food on the Paseo del Rio does significantly affect the amount of money he spends on the

Table 89. Relationship of entertainment as a purpose for visiting to household expenditures, the Paseo del Rio, San Antonio, Texas, 1971-72

Entertainment as a purpose	Adjusted Mean	Difference
Is considered a purpose for visiting	11.0760	
Is not considered a purpose for visiting	6.5204	4.5556

Table 90. Relationship of purchases to household expenditures, the Paseo del Rio, San Antonio, Texas, 1971-72

Service or good purchased	Adjusted Mean	Difference
Food		
Purchased	10.4141	
Not purchased	4.8504	5.5637
Curios		
Purchased	10.5507	
Not purchased	8.5936	1.9571
Recreation		
Purchased	11.5524	
Not purchased	7.3216	4.2308
Personal Services		
Purchased	11.9015	
Not purchased		3.0795

Riverwalk. Food, as an item purchased, has a relatively high F statistic of 6.54 with one degree of freedom. The difference between the two adjusted mean expenditures is \$5.5637, which is greater than the differences between any of the other pairs of adjusted means.

Whether or not a householder purchases curios on the Paseo del Rio has little or no effect on the amount of money he spends. Those who do purchase curios have an adjusted mean expenditure of \$10.5507, while those that do not purchase curios have an adjusted mean expenditure of \$8.5936. Although the latter figure is \$1.9571 less than the former this cannot be considered a significant difference because of the extremely low F statistic of 0.0074 with one degree of freedom.

Recreation as a purchased service seems to be important in determining the expenditures of the householders on the Paseo del Rio. The F statistic for recreation is only 3.73, but compared to the F statistics of the other purchase classes, this is a relatively high figure. The difference between the adjusted mean expenditures of those who spend their money on recreation and those who do not is \$4.7308.

The next group of qualitative variables is the householder's relationship to those with whom he usually visits the Paseo del Rio. There are four classes of relationship, including family, friends and relatives, out-of-town guests, and business associates. The adjusted means for these relationships and their differences are given in Table 91. Because of the low F statistics associated with each variable, the difference between the adjusted mean expenditures are not statistically significant. In other words, whether or not a householder visits the Paseo del Rio with

Table 91. Relationship of the householder to those that accompany him on visits to household expenditures, the Paseo del Rio, San Antonio, Texas, 1971-72

Relationship	Adjusted Mean	Difference
Family		
Visits with	9.6911	
Does not visit with	8.1417	1.5494
Friends and relatives		
Visits with	10.1320	
Does not visit with	7.3362	2.7958
Out-of-town guests		
Visits with	9.8382	
Does not visit with	7.5083	2.3299
Business associates		
Visits with	11.6922	
Does not visit with	8.4062	3.2860

Table 92. Relationship of obstacles to use of Paseo del Rio to household expenditures, the Paseo del Rio, San Antonio, Texas, 1971-72

Obstacle	Adjusted Mean	Difference
Limited access		
Considered an obstacle	11.0321	
Not considered an obstacle	8.6346	2.3975
Concern with safety		
Considered an obstacle	8.6486	
Not considered an obstacle	9.2103	.5617
Lack of interesting events and activities		
Considered an obstacle	7.7300	
Not considered an obstacle	9.2603	1.5303
Lack of downtown parking		
Considered an obstacle	9.7990	
Not considered an obstacle	8.0679	1.7311

his family, his friends and relatives, his business associates, or out-of-town guests has little or no effect on his expenditures on the Riverwalk.

The final group of qualitative variables includes those factors that might be considered as obstacles to the householders' use of the Paseo del Rio. The obstacles in this group include (1) lack of interesting activities and events on the Paseo del Rio, (2) lack of downtown parking, (3) limited access to Paseo del Rio, and (4) concern with personal safety on the Paseo del Rio. The adjusted means for these obstacles and their differences are reported in Table 92. It appears that the lack of interesting activities and events is the only obstacle that has any effect on the householders' expenditures. The F statistic for this obstacle is 3.97. Although this is low in relation to some of the other significant variables, it is relatively high when compared to the remaining obstacles, which have F statistics of 0.93, 0.71, and 0.52, respectively. Those householders that consider a lack of interesting activities as an obstacle to their use of the Paseo del Rio had an adjusted mean expenditure of \$7.73 which is \$1.53 less than those that did not consider this to be an obstacle. This is a significant difference.

SECTION VIII

SUMMARY AND CONCLUSIONS

The primary goal of this study was to determine the economic impact of the Paseo del Rio in San Antonio, Texas. The study involved (1) an examination of users of the Riverwalk, their characteristics and activities, (2) an analysis of businesses on and around the Paseo del Rio, their operations and relationships to the Riverwalk, and (3) a survey of households of San Antonio, to determine awareness and use of the Paseo del Rio. Expenditures of users were related to socio-economic characteristics and activities. The relationships of businesses to the Riverwalk were expressed in terms of receipts attributable to the Paseo del Rio. Use of the Riverwalk by residents was described in terms of activities and expenditures.

The Paseo del Rio User

Users of the Paseo del Rio were found to be single persons, couples and groups of three to six people. The individual interviewed was most frequently a male, approximately 30 years of age, a professional or businessman or a young person in school or in military service. His average income was \$9000 and he had two or more years of college level education. He was usually with one other person who was likely to be a friend. Larger groups tended to be families. The user is almost certainly Euro- or Mexican-American, of United States citizenship. Most users come from the San Antonio area, but a large number come from more than five hundred miles in distance. Expenditures of the typical user group were \$5.50 while they were on the Paseo del Rio.

The most important purchase was a combination of food and some other good or service and users' activities were mainly eating and sightseeing. The total time spent on the Paseo del Rio was about two hours. Visitors are likely to return to the area and are very pleased with it. About one million people visited the Paseo del Rio in the year of the study and expenditures, not including those of special events and activities, were approximately two million dollars.

The Businesses Surrounding the Paseo del Rio

The businesses in the area were almost entirely retailers and they tended to specialize in particular types of product. The businesses are varied in type of product sold, with many being jewelry stores, finance companies, prepared food establishments, and clothing stores. Most of their customers are local residents and tourists. Very few of the businesses are new and most have been at their present location for more than fifteen years. Most would not be forced to move their establishment if they no longer received support from the Paseo del Rio. The total effect of the Paseo del Rio in terms of gross receipts, was estimated to be twenty-two million dollars in 1971. This amount has increased very much in the past five years.

San Antonio Residents and the Paseo del Rio

Households from which there was response in the survey were found to include slightly more than three (3.2) persons. Only a third of these reported children or teenagers. Most were, however, headed by husbands and wives. The household head was found to be 49 years old, on the average, and to have a high school education. A high percentage of them were

professionals, proprietors and skilled craftsmen. They earned an average annual income of \$11,367.

Household members visited the Paseo del Rio in all seasons, but especially in spring and summer. About three-fourths of them had visited the Paseo del Rio within the six months preceding the survey. Sightseeing was the most popular activity, but more than 50 percent of householders purchased meals and sought entertainment while on the Riverwalk. The average expenditure was \$8.99 per household.

The Paseo del Rio is a popular attraction among residents of San Antonio. About two-thirds of the householders were found to be aware of plans to extend it and 80 percent of these were in favor of extension. About 40 percent favor the present mix of business and open space if there is an expansion; 25 percent would prefer more business.

Effect of the Paseo del Rio on Economic Activity

User Expenditures

The most important variables explaining user expenditures were (1) income, (2) time spent, (3) distance traveled, (4) group size, (5) activities, (6) purchases, and (7) season. As income, time spent, distance traveled, and group size increases, the expenditures by users increase accordingly. The purchases which resulted in highest expenditures included food and some other good or service. The activities resulting in the highest expenditures by users were those that included shopping and eating. The seasons during which there were highest expenditures were fall and summer.

Expenditures by user groups are probably underestimated. This is due to the time of the interview, which took place between the time when the users first reached the Paseo del Rio and had spent nothing and the time they left the area and had completed their expenditures. In addition, the surveys of users were timed to avoid very large crowds and perhaps unusual expenditures during special events, like the Fiesta del Noche. Average user expenditures and the estimate of total expenditures reflect only usual or customary use of the Riverwalk. Case studies will be necessary to determine the impacts of special events on user expenditures.

Business Receipts Attributable to the Paseo del Rio

The regression equation predicting percent of gross receipts attributable to the Paseo del Rio was significant at the one percent level. Only two of six of the quantitative variables were significant at the five percent level. These were percent of gross receipts received in the second and third quarter of business. The coefficients of these variables indicate that businesses receiving the majority of annual receipts during the period April through August are likely to attribute a considerable amount of gross receipts to the developed river area. The most important of the qualitative variables in the equation were the stratification of businesses by distance, and location with respect to the river area. Each stratum is significantly different from the others. Judging by the values of the mean, the effect of the Paseo del Rio diminishes sharply after distance from the river increases to two blocks. The Riverwalk greatly affects all businesses which have entrances on the

river and which are located on a block crossed or bordered by the river. The products sold by the businesses which resulted in the highest percent of gross receipts attributable to the river area were (1) arts and crafts, (2) entertainment, and (3) lodging. Products sold which are not related to the Paseo del Rio are insurance, furniture, and finance. The businesses who claimed tourists as a sizeable portion of their customers, generally attributed large amount of their gross receipts to the developed river area. These businesses seemed to rely heavily on tourism and local customers, both businesses and households. Those businesses relying upon just one type of customer, such as local households, or other visitors, attributed a smaller percent of their gross receipts to the area.

Conclusions

The analysis shows that the effect of the Paseo del Rio on businesses does extend beyond the entrances of the area. Those businesses which are affected generally sell items which are of interest to tourists such as arts and crafts, entertainment and lodging. However, they do not depend entirely on tourism for their trade. The users of the developed river area are local people and visitors from out of the area, in about equal numbers. Those who are on the river to buy food and entertainment generally spend the most. The activities that are most conducive to spending are sightseeing and eating. Other items affecting user spending are income, size of group, and distance traveled to reach the Paseo del Rio.

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