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Inc.

Market study for a residential development in Barrio Quebrada Grande, Mayagüez

Final Report

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INTRODUCTION

The objective of this report is to evaluate the residential market's capacity to absorb a residential development of 380 single-family detached units in individual lots of 350 m², as well as the project's financial viability given current and projected market conditions. Although the project is to be developed at a site of 59.7 cuerdas in Mayagüez, Puerto Rico, granted this municipality's cohesion to neighboring towns in terms of geographic and socioeconomic trends, the primary market area is here defined as Mayagüez, Cabo Rojo, Añasco and Rincón. The secondary market area is comprised by the municipalities of Aguada, Aguadilla, Isabela, Guánica and Lajas. Finally, the tertiary market area includes the municipalities of Quebradillas, Moca, Maricao, San Germán, Hormigueros, Las Marías, San Sebastián and Sabana Grande.

This report provides a description of Puerto Rico's economic outlook as well as an analysis of socio-demographic conditions in the market area. The analysis of current and projected housing demand and supply is also presented as a foreword to the determination of need, with a special focus on social interest housing price brackets. In order to determine the potential absorption rate, the report compares the proposed development to similar projects within the region.

HIGHLIGHTS

- This analysis shows that historically privately developed social interest housing supply has been limited both in Puerto Rico as in this region. This fact on itself constitutes a great opportunity for the developer of the proposed project.
- The stock of housing within the less than \$90,000 bracket that have entered the region's market in the last few years amounts to almost 700 units; however, this has not been enough to meet existing demand, thus creating a need for this type of housing that exceeds 15,000 units.
- In addition, social interest housing both in Puerto Rico and the region tends to exhibit higher absorption rates than market-priced units, mainly due to pent-up demand, that is, need that has gone unattended for a long period of time. Absorption for social interest housing during the last year has varied from 1 to 17 units per month, with an average of roughly 8.0 units per month. With this absorption rate the project should sell completely in no more than 16 quarters.
- This project will cost approximately \$27.3 million, of which \$23.7 million cover land and direct infrastructure and construction costs. In addition, the developer will incur in an expense of \$3.6 million in soft costs for the project.
- Projected annual cash flow for the project looks promising for the developer with earnings before interests and taxes at the end of the 16-quarters period would be around \$6.3 million. The project also generates positive cash flows to the developer after the first year on average of at least \$1.5 million annually for the same period.
- The project also would generate total revenues of \$33.6 million. The internal rate of return (IRR) for the project is 12.7 percent and a return on investment (ROI) of 21.8 percent. All in all, the project will generate a profit margin of 13.6 percent of all revenues derived from sales for a total profit of \$4.3 million.

- These results are highly dependent not only on selling price per square foot but also on the expected absorption rate for this type of development. As a matter of fact, the absorption rate could increase through aggressive advertisement within and beyond the market area as here defined.
- All-in-all, the proposed project seems financially feasible under the existing market conditions and development trends.

1. PUERTO RICO'S PRIVATE CONSUMPTION PATTERNS AND ITS CONTRIBUTION TO ECONOMIC GROWTH

Contrary to what might have been expected, consumer spending sustained aggregate demand in Puerto Rico in 2005. The year began under the threat of a fiscal crisis and the onslaught of high petroleum prices, all of which pointed to an adjustment that seemed likely to fall mostly on households. Indeed, the new index of consumer confidence inaugurated early in 2005 reflected a gloomy economic outlook on the part of consumers. In the event, however, indicators of private consumer spending continued to be positive in the year.

Looking at the individual components of aggregate spending, it seems clear that only private consumption showed strength. Government spending was weak, owing to the Commonwealth's tight fiscal situation, and is actually estimated to have dropped moderately in real terms. Investment in machinery and equipment is thought to have risen modestly, but construction, which accounts for about half of total investment, did not have as strong a year as in the recent past. As for external demand, merchandise exports showed little growth up to the third quarter of year 2005 and most likely remained weak in the last quarter also. Adding it all up, economic growth is estimated to have been close to 2.5%, supported mostly by personal and household spending.

1.1 Consumption in the past ten years

Consumption's leading role in aggregate demand is not a new development in Puerto Rico. This component, which is about 85% of the Gross National Product (GNP), has contributed consistently more than 4 percentage points each year to the growth of total spending. What is somewhat surprising in the relatively strong growth of consumption in 2005 is that conditions early in the year suggested otherwise.

The following table shows the average annual contribution to GNP growth of the major components of aggregate spending during the past nine fiscal years. As may

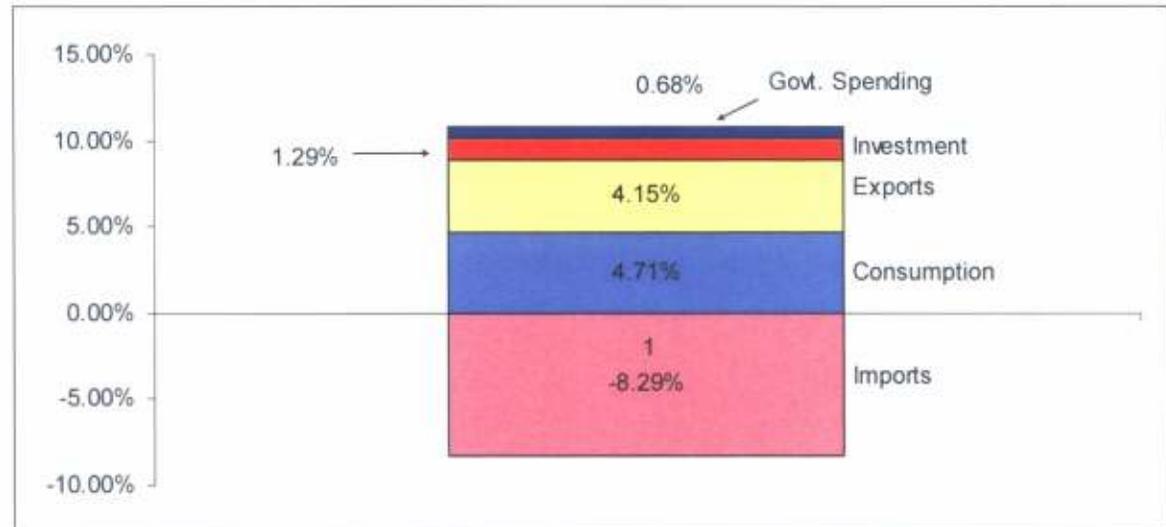
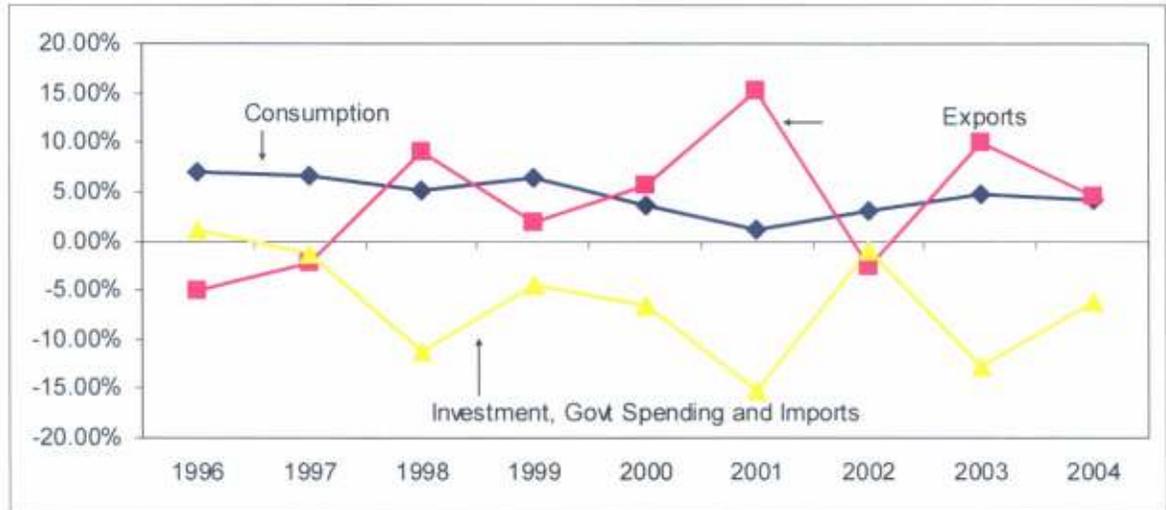
be seen on the table, private consumption contributed on average 4.7 percentage points to the 2.6% average annual growth rate in aggregate demand. This contribution is more than one half of a percentage point higher than that of the second largest contributor, which are exports of goods and services. Gross total investment and government spending have made relatively small contributions, 1.3 and 0.7 percentage points, respectively, while the negative contribution from imports of goods and services has been quite strong. The latter fact underscores the high degree of openness of the Puerto Rico economy and its heavy dependence on imports of consumer goods, intermediate products and capital equipment.

Percent Contribution to GNP Growth (Average FY1996-FY2004)	
Private Consumption	4.71%
Exports	4.15%
Investment, total	1.29%
Government spending	0.68%
Imports	-8.29%
GNP	2.55%

Source: Puerto Rico Planning Board, Program of Economic and Social Planning, Subprogram of Economic Analysis.

The chart on the next page illustrates an interesting fact. That chart shows the annual contribution to GNP growth from three sources; namely a) private consumption, b) exports and c) the remaining components of aggregate demand—investment, government spending and imports of goods and services. Note the symmetry between the line representing the contribution of exports, imports and that corresponding to the contribution of the other three sectors, which suggests that these two sources of growth essentially cancel each other out. In other words, the growth of GNP is very close to the growth of private consumption. Again, this should not come as a surprise in a very open economy in which consumption is almost as large as the GNP.

Annual Contribution to GNP Growth from Private Consumption, Exports, Imports, Government Spending and Investment: FY1996-FY2004



Source: Puerto Rico Planning Board, Program of Economic and Social Planning, Subprogram of Economic Analysis & Estudios Técnicos, Inc..

1.2 The Composition of Consumption

In the national income and product accounts, the Puerto Rico Planning Board breaks private consumption down into fourteen major categories of spending. Data for fiscal year 2004—the last for which official figures are available—are presented on the following table.

Major Consumption Categories in FY 2004 (Million current dollars)	
Medical care and funeral expenses	7,335.3
Housing	6,525.1
Food	6,043.9
Transportation	5,260.6
Household operations	4,776.1
Recreation	3,940.1
Business services	2,972.4
Clothing and accessories	2,854.8
Alcoholic beverages and tobacco products	1,540.8
Foreign travel	1,450.1
Education	1,365.1
Personal care	780.5
Miscellaneous purchases	582.1
Non-profit organizations	473.7

Source: Puerto Rico Planning Board, Program of Economic and Social Planning, Subprogram of Economic Analysis.

It is of some interest that the largest category in spending volume is medical and funeral home services, which is mostly health care expenditures (funeral services has a relatively small share). Housing and food are second and third in importance, and transportation comes in fourth place. These four categories make up more than half of total consumer expenditures. Adding expenditures on education and personal care, it turns out that almost two thirds of household spending goes to basic needs.

Even so, consumer spending over and above basic needs is fairly impressive. For example, it is noteworthy that expenditures on travel abroad in fiscal year 2004 were greater than spending on education. Of course, a large share of total spending on education is borne by the public sector, and thus is not counted as part of private consumption, but it is still interesting that households use more of their own income for travel than for education.

The large share of transportation expenses in the budgets of Puerto Rican households is also noteworthy. This item tests the distinction between basic needs and luxuries. The virtual lack of a mass transit system has led Puerto Ricans to rely

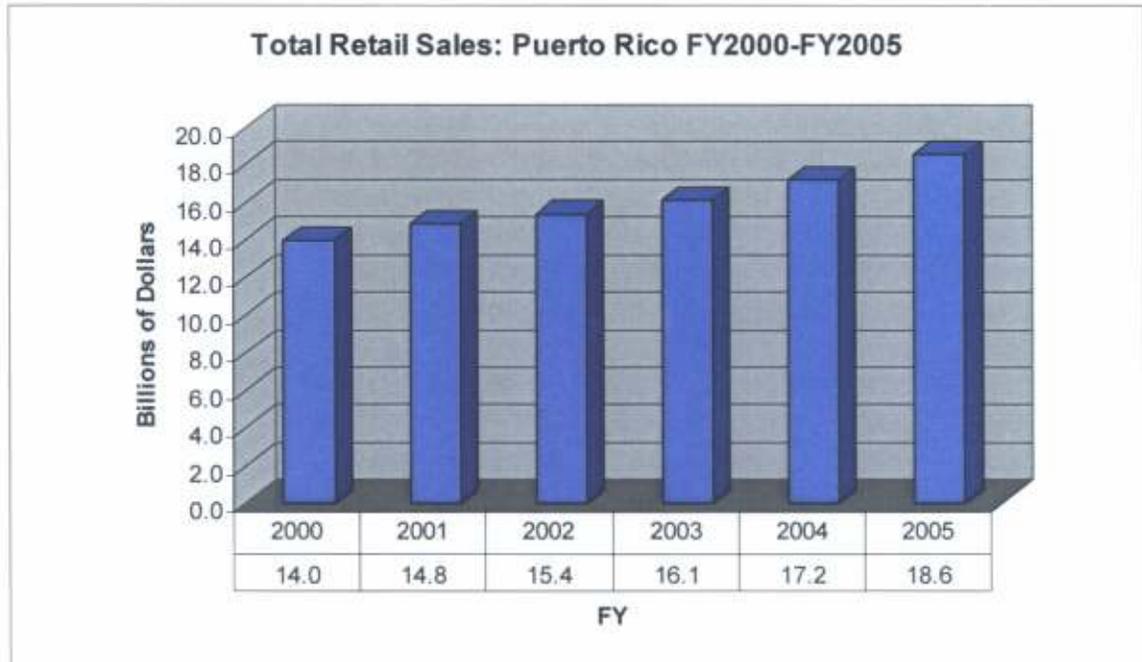
almost exclusively on private automobiles for transportation. And while distances on the Island are relatively short and gasoline is not as expensive as in other countries—owing to relatively low taxes—the typical family spends a substantial sum on transportation. In that sense, this category of consumption is doubtless a basic need. On the other hand, it also has something of the character of spending on luxuries, since very few families can carry-on their daily work- and family-related responsibilities without a privately owned vehicle.

Another noteworthy fact is that the four larger spending categories have also been high growth categories in the last nine fiscal years. The sum of these four spending categories increased at an average annual rate of 6.3% in fiscal years 1996 through 2004, while total consumption grew at a 5.7% annual rate. This result may seem contrary to the economic consensus, according to which people tend to spend a declining share of income on basic needs as income grows over time. However, most likely this result is due more to increases in the prices of medical care and housing than to the growth in the real volume of consumption of these items.

1.3 Retail Sales

Retail sales increased substantially in fiscal year 2005. In fiscal year 2004, which ended on June 30, sales increased 8% compared to the year-earlier figure, rising to a total value of \$18.6 billion. This is the strongest increase recorded since the start of the decade. As may be seen on the following chart, sales have increased more than 6% per year in the past three years. In contrast, annual growth in sales in the three previous years have been between 3% and slightly over 5%.

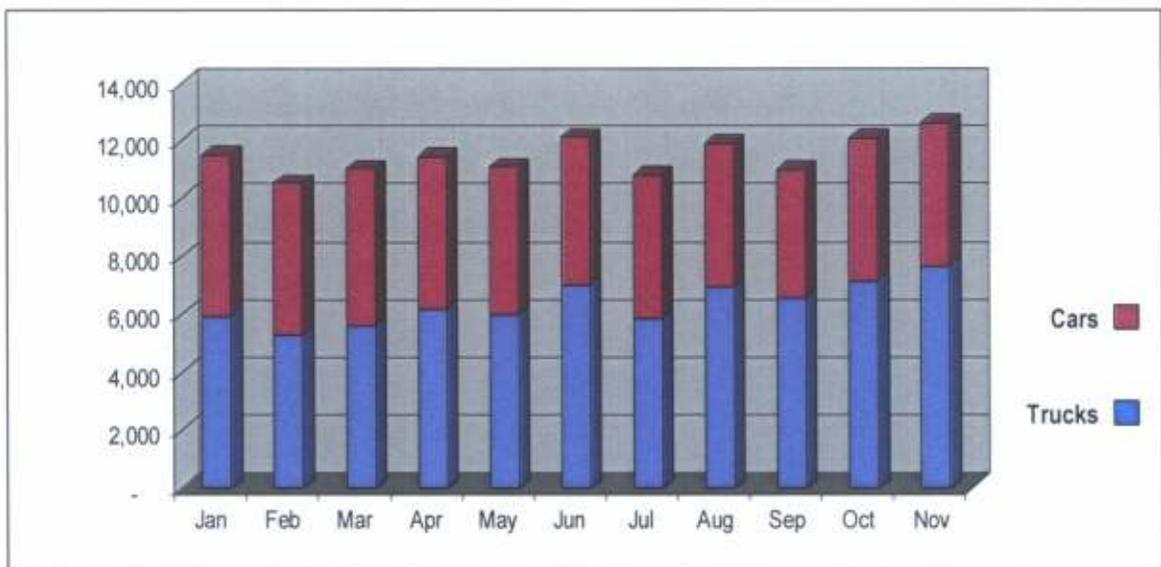
Preliminary data from industry sources suggests that the Christmas shopping season was a good one. If so, it is likely that total sales in calendar year 2005 increased more than 8%, which would set a record for the decade.



Source: Puerto Rico Planning Board, Program of Economic and Social Planning, Subprogram of Economic Analysis.

As in 2004, sales of new motor vehicles were a particularly dynamic category in total retail sales, increasing 4.5% in the year. A total of 140,401 new vehicles were sold, an all-time record that broke the earlier mark set in 2004.

Total Sales: Cars vs. Trucks, 2004

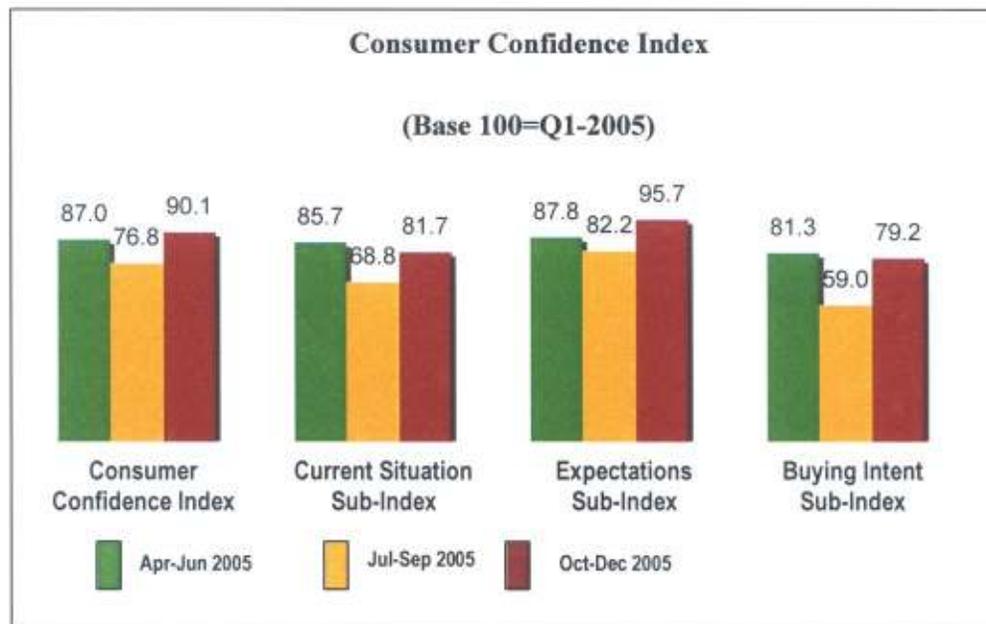


Source: Estudios Técnicos, Inc.,

1.4 The Consumer Confidence Index and Expected Economic Growth

The Association of Food Importers and Distributors (MIDA, by its Spanish acronym) and Estudios Técnicos, Inc. introduced Puerto Rico's first ever Index of Consumer Confidence in 2005. The Index dropped sharply in the second quarter of the year and then fell again in the third quarter. As of September, it had lost more than 23 points from its 100-point base in the first quarter.

However, the Index bounced back in the fourth quarter, rising to 84.3 points from the 76.8 reading of the third quarter. While the average value of the Index for the whole year was well below 100, the turnaround in the last quarter suggests a significant improvement in household's attitudes. Such an interpretation fits with the observed behavior of retail sales.



Source: Estudios Técnicos, Inc.

It is worth noting that the sharpest increase was recorded in the expectations sub-index, while the sub-index for current conditions and the sub-index for buying intent posted smaller yet positive gains. The expectations sub-index rose to 95.6 in the fourth quarter, indicating that consumers expect to see better economic conditions in the coming months. It seems that the crisis psychology that was so widespread in

the early months of 2005 has gradually yielded to a more sober evaluation of the government's fiscal condition and its possible effects. Granted this more-optimistic attitude of consumers, the short-term outlook for Puerto Rico is for moderate growth (2.2%) in 2006 and a subsequent increase to 3.0% in 2007. Furthermore, projections for 2008 and 2009 continue a similar trend.

2. REGIONAL OVERVIEW

Mayagüez is the main city on the western coast of Puerto Rico, approximately 93 miles (2 hours driving distance) from the San Juan Metropolitan Area. In order to better understand the area where the Mayagüez site is located, it is necessary to know the demographic, economic and social conditions of the area. For this reason, this section provides an analysis of the main demographic and socio-economic variables of the area and its surrounding region.

In order to define a market area for this study several factors were considered: the socio-economic profile, travel time, closeness to employment centres, road access, urban growth patterns, physical and psychological barriers, among other factors. The market area as defined in this report is comprised of seventeen municipalities. The primary market area is comprised of Mayagüez, Cabo Rojo, Añasco and Rincón. The secondary market area is comprised by the municipalities of Aguada, Aguadilla, Isabela, Guánica and Lajas. Finally, the tertiary market area includes the municipalities of Quebradillas, Moca, Maricao, San Germán, Hormigueros, Las Marías, San Sebastián and Sabana Grande. s

2.1 Demographics

Population in the market area was 594,295 in 2000, according to the Census. The primary market area accounted for 31.7 percent of total population of the region, the secondary area for 33.5 percent, and the tertiary market area accounted for the remaining 34.8 percent of the total. The entire market area represented 15.6 percent of the population of Puerto Rico.

Population in the market area has been forecast to increase to 635,912 by 2010, an increase of 7.0 percent during the current decade. This increase will be slightly larger than the forecast increase in population in Puerto Rico for the same period (5.8%). However, population increase will differ in different sectors of the market area. Population in the primary market area has been forecast to increase 4.5

percent in the current decade, an increase much smaller than the one forecast for the secondary (8.0%) and the tertiary (8.3%) market areas.

Population in the Market Area and Puerto Rico		
	2000	2010
Primary Market Area	188,460	196,916
Secondary Market Area	199,320	215,355
Tertiary Market Area	206,515	223,641
Total Market Area	594,295	635,912
Puerto Rico	3,808,610	4,030,152

Sources: Census of Population and Housing, 2000, and forecast by Estudios Técnicos, Inc.

2.2 Educational attainment

More than half of residents of the market area who are ages 25 and older (51.6%) have a high school diploma or college education; this proportion, however is below the value for this segment of the population in the totality of Puerto Rico (60.0%). This proportion varies from 53.1 percent in the primary market area to 50.2 percent in the tertiary market area. The proportion of persons in this age group with a Bachelor's or higher degree in the market area (14.7%) is also lower than in Puerto Rico (18.3%).

	Educational Attainment, Persons 25 years and older				
	Market Areas			Total	
	Primary	Secondary	Tertiary	Market Area	Puerto Rico
No diploma	46.9%	48.7%	49.8%	48.4%	40.0%
High School	22.4%	23.7%	23.2%	23.1%	22.3%
Some College	8.8%	8.7%	8.2%	8.6%	12.2%
Associate	4.8%	5.2%	5.8%	5.2%	7.2%
Bachelor	12.5%	10.8%	10.4%	11.3%	13.6%
Graduate or higher	4.7%	3.0%	2.6%	3.4%	4.7%

Source: US Census of Population and Housing, 2000.

2.3 Housing units

There are 234,696 housing units in the market area, of which 86.2 percent are occupied. The proportion of vacant units (13.8%) is slightly higher than the proportion for the totality of Puerto Rico (11.1%). The proportion of vacant housing units is higher in the primary market area (17.1%) than in other parts of the market area.

	Occupancy of housing units									
	Primary Market Area		Secondary Market Area		Tertiary Market Area		Total Market Area		Puerto Rico	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Occupied housing units	66,401	82.9%	66,875	86.4%	69,033	89.5%	202,309	86.2%	1,261,325	88.9%
Vacant housing units	13,695	17.1%	10,559	13.6%	8,133	10.5%	32,387	13.8%	157,151	11.1%
Total	80,096	100.0%	77,434	100.0%	77,166	100.0%	234,696	100.0%	1,418,476	100.0%

Source: US Census of Population and Housing, 2000.

2.4 Household income

More than two thirds of households in the entire market area have average annual incomes below \$20,000. The proportion of households in the market area is 69.4 percent, a proportion higher than the proportion of households in Puerto Rico in that income bracket (61.6%). The proportion in the subareas within the market area varies from 67.4 percent in the primary market area to 70.7 percent in the secondary market area.

On the other hand, the proportion of households in the market area with incomes of at least \$50,000 6.2 percent, a proportion lower than that of Puerto Rico (10.1%). The proportion of households in this income bracket within the entire market area varies from 5.2 percent in the tertiary market area to 7.7 percent in the primary market area.

	Household Income in 1999				
	Market Areas			Total	
	Primary	Secondary	Tertiary	Market Area	Puerto Rico
Less than \$10,000	41.7%	45.3%	42.2%	43.1%	37.1%
\$10,000 to \$19,999	25.7%	25.4%	27.7%	26.3%	24.5%
\$20,000 to \$34,999	18.1%	16.8%	18.1%	17.6%	19.4%
\$35,000 to \$49,999	6.9%	6.6%	6.9%	6.8%	8.9%
\$50,000 to \$74,999	4.2%	3.3%	3.1%	3.5%	5.7%
\$75,000 or more	3.5%	2.7%	2.1%	2.7%	4.4%

Source: US Census of Population and Housing, 2000.

2.5 Employment

The three industry sectors which have the highest proportion of employment in the market area and Puerto Rico are services, manufacturing and retail trade, mostly concentrated in Mayagüez. These three industry sectors represent approximately two thirds of employment both in the market area (66.5%) and Puerto Rico (63.2%).

The services industry accounts for more than one third of employment in both the market area (34.6%) and Puerto Rico (38.0%). The proportion of service workers in the market area varies from 36.4 percent in the primary market area to 33.5 percent in the tertiary market area.

The manufacturing industry accounts for 20.2 percent of employment in the market area, a proportion that is significantly higher than that proportion for Puerto Rico (13.5%). This proportion varies within the market area from 19.6 percent in the primary market area to 20.7 percent in the secondary market area.

Retail trade represents 12.2 percent of employment in the market area and 11.7 percent in Puerto Rico. This proportion varies within the market area from 13.5 percent in the primary market area to 11.3 percent in the secondary market area.

	Employment by Industry				
	Market areas			Total	
	Primary	Secondary	Tertiary	Market Area	Puerto Rico
Agriculture, forestry, fishing and hunting, and mining	1.8%	2.1%	3.9%	2.7%	1.7%
Construction	8.4%	9.7%	9.7%	9.3%	8.6%
Manufacturing	19.6%	20.7%	20.3%	20.2%	13.5%
Wholesale trade	3.0%	2.3%	2.2%	2.5%	4.4%
Retail Trade	13.5%	11.3%	11.7%	12.2%	11.7%
Transportation and warehousing, and utilities	2.6%	3.9%	3.4%	3.3%	4.2%
Information	1.7%	1.0%	1.1%	1.3%	2.2%
Finance, insurance, real estate and renting and leasing	3.4%	2.9%	3.0%	3.1%	5.0%
Services	36.4%	33.7%	33.5%	34.6%	38.0%
Public administration	9.6%	12.3%	11.1%	11.0%	10.7%

Source: US Census of Population and Housing, 2000.

3. MARKET OVERVIEW

The analysis uses data gathered in the field by ETI; the Puerto Rico Planning Board, the Puerto Rico Ports Authority and the *Construction and Sales Activity Report*, an ETI quarterly report that tracks sales of new housing projects in Puerto Rico.

Since the first quarter of 2003, housing sales in Puerto Rico have been accelerating. From 1,229 housing units sold in that quarter, they increased to 3,117 in the 2005 third quarter. The highest quantity of units sold by quarter was in the third quarter of 2004, when 4,082 housing units were sold.

Total housing units sold in Puerto Rico by project type by quarter 2003-2005						
	2003				2003 Average	
	Q1	Q2	Q3	Q4	#	%
Single housing	754	749	1,724	1,726	1,238	62.8%
Walk-up	310	308	988	500	527	26.6%
Apartments	76	73	86	59	74	3.7%
Townhouses	68	65	22	230	96	4.9%
Mix	4	4	55	53	29	1.5%
Villa	17	16	-	24	14	0.7%
Total	1,229	1,215	2,875	2,592	1,978	100.0%
	2004				2004 Average	
	Q1	Q2	Q3	Q4	#	%
Single housing	1,691	2,143	2,642	2,090	2,142	63.8%
Walk-up	691	786	836	742	764	22.8%
Apartments	321	263	308	130	256	7.6%
Townhouses	14	21	37	31	26	0.8%
Mix	7	186	121	99	103	3.1%
Villa	12	98	138	17	66	2.0%
Total	2,736	3,498	4,082	3,109	3,356	100.0%
	2005				2005 Average*	
	Q1	Q2	Q3	Q4	#	%
Single housing	2,352	1,793	2,196		2,114	68.1%
Walk-up	595	560	519		558	18.0%
Apartments	221	278	274		258	8.3%
Townhouses	136	12	3		50	1.6%
Mix	47	128	102		92	3.0%
Villa	33	42	23		33	1.1%
Total	3,384	2,813	3,117		3,105	100.0%

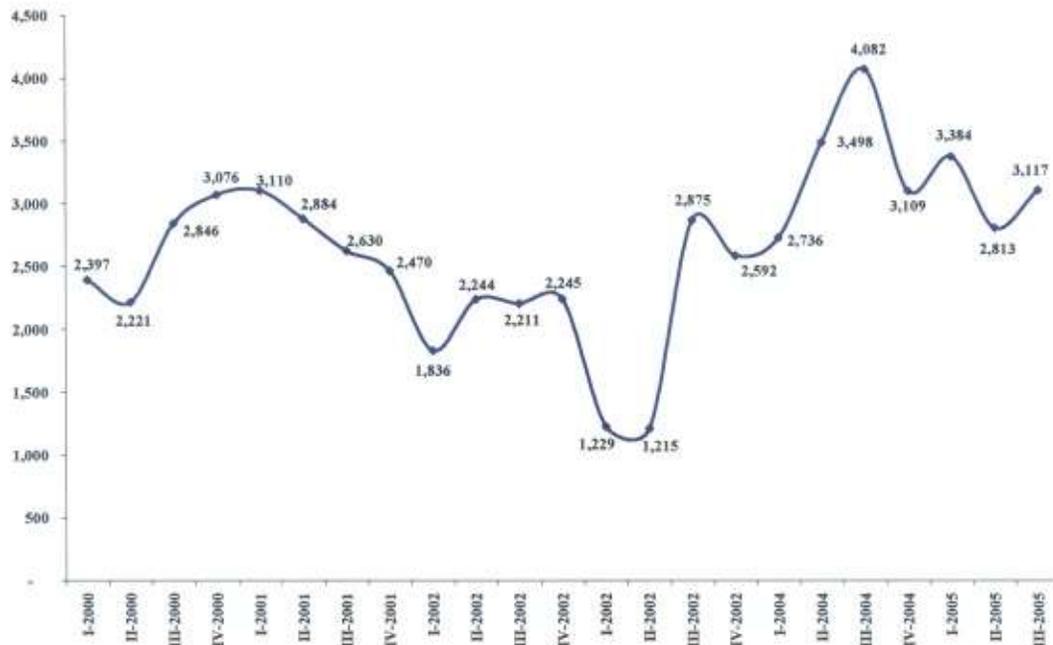
*Note: Data up to 2005 third quarter.

Source: Construction and Sales Activity Report, Estudios Técnicos, Inc.

Single-family housing units were the most preferred type, followed by walk-ups and apartments. The highest average sales by project type during 2003 and 2005 period were single-family housing (68.1% in 2005). Walk-ups' average sales had been

decreasing, from 26.6% in 2003 to 18.0% in 2005. Meanwhile, apartments' average sales rose from 3.7 percent in 2003 to 8.3 percent in 2005. Similarly, villas and mixed projects (apartments and single housing/villas) had an increase in their average sales during the last two years.

Total housing units sold in Puerto Rico by quarter



Source: Construction and Sales Activity Report, Estudios Técnicos, Inc.

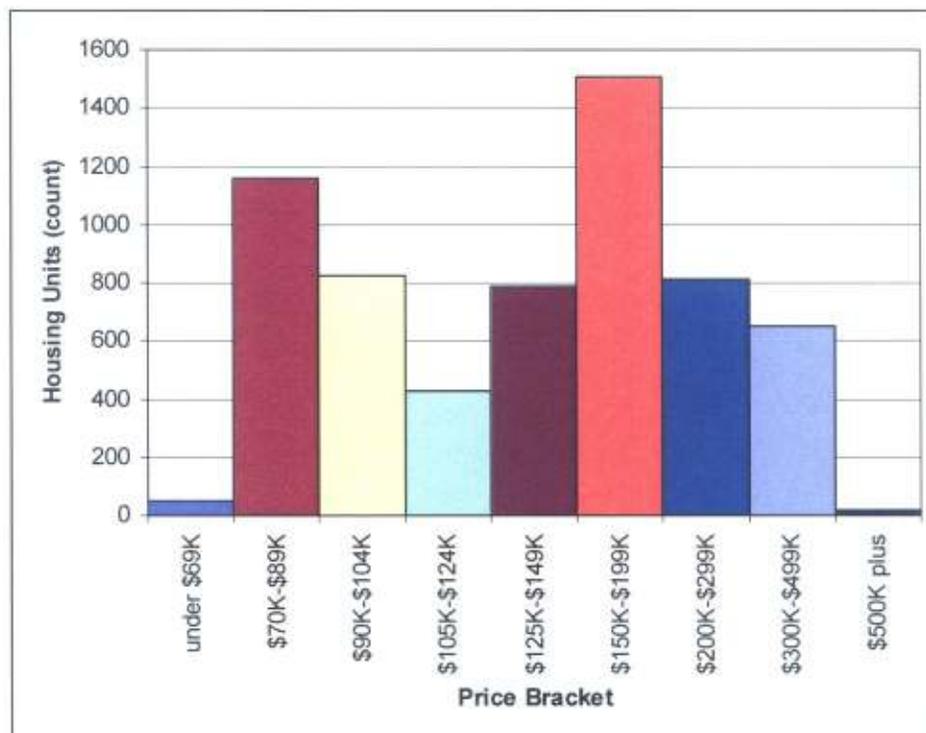
The region's behavior is somewhat different from that of Puerto Rico. Although the region contains housing developments of all types, villas, walk-ups and mixed projects are not characteristic of these municipalities. Still single-family units are the preferred type of housing for the region, followed by apartments. Sales for this type of unit in the area have risen and continue to grow. Sale prices for units in the area have been primarily in the \$150,000-to-\$199,999 and the \$70,000-to-\$89,999 brackets, mainly in response to but lagging behind growth in need.

Historically privately developed social interest housing supply has been limited in Puerto Rico. Social interest housing in this region is limited as well. The existing inventory includes only apartments and single-family detached units, excluding all

other types that are present throughout the Island. The stock of housing within the less than \$90,000 bracket that have entered the region's market in the last few years amounts to almost 700 units. Many projects offering housing units at these prices combine other housing types and/or price ranges with the already mentioned.

It is worth mentioning that social interest housing both in Puerto Rico and the region tends to exhibit higher absorption rates than market-priced units, mainly due to pent-up demand, that is need that has gone unattended for a long period of time. Absorption for social interest housing during the last year has varied from 1 to 17 units per month, with an average of roughly 8.0 units per month. The following chapter analyses historical trends as well as projections regarding not only the social housing inventory (supply) but also with regards to demand, in order to determine need for the proposed development.

Housing Stock Entering the Market by Type: Market Area 2003-2005



Source: Construction and Sales Activity Report, Estudios Técnicos, Inc.

Selected Characteristics for Housing Units Developed in Market Area: 2003-2005

Municipality	Project Name	Address	Type	Total Units	Sold	Optioned	Minimum Price	Maximum Price	Absorption Rate
Aguada	Eco Resort	Road 441 Km 2	Apartment	14	12	0	\$ 136,000	\$ 350,000	1.3
Aguada	Ocean Walk	Road 441 Km 2, Hm 4	Apartment	5	5	0	\$ 158,000	\$ 189,900	0.7
Añasco	Salto de la Encantada Apartments	Road 4202	Apartment	90	0	0	\$ 90,000	\$ 90,000	
Cabo Rojo	Bañita Serena		Apartment	28	0	0	\$ 155,000	\$ 195,000	
Cabo Rojo	Boqueron Beach Villas	PR 101 Road	Apartment	50	8	49	\$ 339,000	\$ 407,000	2.0
Cabo Rojo	Los Corales de Boqueron	Road 307 Km 7.9	Apartment	32	30	1	\$ 134,500	\$ 180,000	1.3
Cabo Rojo	Paseo del Faro I	Road 301 Km 7.3	Apartment	143	0	104	\$ 185,000	\$ 300,000	
Cabo Rojo	Paseo del Faro II & III	Road 301 Km 7.3	Apartment	175	0	0	\$ 185,000	\$ 300,000	
Cabo Rojo	Puerto Dorado en El Combate		Apartment	36	0	35	\$ 155,000	\$ 225,000	
Cabo Rojo	Sea View	Road 102 Km 706	Apartment	80	1	30	\$ 177,244	\$ 177,244	0.3
Cabo Rojo	Terrazas del Mar	Cambale Beach	Apartment	15	2	8	\$ 190,000	\$ 190,000	0.7
Cabo Rojo	Torre Puerta del Sol	Road 102 Km 14.6	Apartment	47	41	2	\$ 177,913	\$ 251,000	4.6
Cabo Rojo	Vistas de Boqueron	Road 307 Km 7.7	Apartment	5	0	0	\$ 214,500	\$ 214,500	
Guánica	Torre de Playa Santa	Sector Caleta Salinas	Apartment	42	0	42	\$ 100,000	\$ 400,000	
Isabela	Isabela Beach Court	Road 456	Apartment	132	125	1	\$ 230,000	\$ 295,000	3.1
Isabela	Isabela del Mar	Road 4465 Km 1.9	Apartment	150	0	27	\$ 200,000	\$ 200,000	
Isabela	Isabela Beach Resort		Apartment	108	84	24	\$ 190,000	\$ 190,000	9.3
Isabela	La Poota	Near Montones Beach	Apartment	72	0	0	\$ 300,000	\$ 300,000	
Isabela	Sea Side Court		Apartment	18	9	9	\$ 120,000	\$ 120,000	3.0
Mayagüez	Branas del Bosque	Bosque St #10	Apartment	24	0	0	\$ 122,950	\$ 122,950	
Mayagüez	Plaza Venecia	Ramirez Silva Ave # 59	Apartment	32	0	0	NA		
Rincón	Rincón Reef	Rincón Beachfront	Apartment	52	47	0	\$ 185,000	\$ 650,000	5.2
San Sebastián	San Sebastián Court	JM Calvero Street # 82	Apartment	86	0	26	\$ 80,000	\$ 95,500	
				1,369	367	358			4.7
Aguada	Las Casitas	Road 411 Km 1.5	Detached	24	8	5	\$ 258,000	\$ 300,000	0.7
Aguada	Villas de Sotomayor	Road 417	Detached	47	13	0	\$ 166,000	\$ 212,500	2.2
Aguadilla	Jardines de Guerrero II	Road 485 Km 1.0	Detached	82	0	27	\$ 86,000	\$ 86,000	
Aguadilla	Parque de la Arboleda		Detached	44	22	1	\$ 158,000	\$ 158,000	3.7
Aguadilla	Paseo de Aguadilla	PR-2 Km 120.8	Detached	21	20	0	\$ 215,000	\$ 255,000	0.6
Aguadilla	Paseos de Campo Alegre	Urb. Campo Alegre 459 Road km 9	Detached	130	23	14	\$ 114,500	\$ 135,000	2.6
Aguadilla	Paseos Reales	Road 450 Km 8.8	Detached	373	252	99	\$ 80,000	\$ 195,000	16.8
Añasco	Estancias de Sierra Maestra	Road 2, Km. 26.9	Detached	60	0	60	\$ 110,000	\$ 130,000	
Añasco	Valle Real I (Phase 2)	402 Road	Detached	75	48	2	\$ 87,000	\$ 87,000	5.3
Añasco	Valle Real 3	402 Road	Detached	32	32	0	\$ 87,000	\$ 87,000	10.7
Cabo Rojo	Estancias de Kuarar	PR 100	Detached	57	0	36	\$ 249,500	\$ 249,500	
Cabo Rojo	Estancias de Miramar	Road 102 Km 10.6	Detached	42	36	4	\$ 148,000	\$ 148,000	0.9
Cabo Rojo	Estancias de Montegrande	PR-102 Km 223	Detached	175	170	5	\$ 203,500	\$ 295,000	14.2
Cabo Rojo	Estancias de Villa Real	Road PR 102 Km 17.4	Detached	112	0	74	\$ 142,000	\$ 142,000	
Cabo Rojo	Haciendas de Miramar	Sajus & Guaymá ward	Detached	179	65	124	\$ 70,000	\$ 90,000	6.1
Cabo Rojo	Llanos Costas	Road 301	Detached	119	0	0	\$ 180,000	\$ 185,000	
Cabo Rojo	Mansiones	Road 100	Detached	217	0	204	\$ 180,000	\$ 295,000	
Cabo Rojo	Mansiones de Cabo Rojo - Phase II	Road 308 KM 5.8	Detached	30	0	9	\$ 148,000	\$ 149,000	
Cabo Rojo	Mónica del Mar	Road 100	Detached	9	0	2	\$ 295,000	\$ 320,000	
Cabo Rojo	Montecarlo I (Phase 2)	Road 27 Jaguas Ward	Detached	50	50	0	\$ 80,000	\$ 81,000	16.7
Isabela	Brisas del Mar	Road 113 Km 2.2	Detached	162	0	79	\$ 80,000	\$ 80,000	
Isabela	Mansiones Mirador del Gale	PR 459 Km 1.0	Detached	18	8	3	\$ 285,000	\$ 310,000	0.7
Isabela	Quintas del Atarico	Road # 459 Km 14.2	Detached	45	18	0	\$ 255,000	\$ 275,000	0.4
Isabela	Villas de Kateri	Road 112 Km 2.1	Detached	46	46	0	\$ 95,950	\$ 112,000	0.7
Isabela	Villas de Isabela	PR 112	Detached	221	0	49	\$ 70,000	\$ 70,000	
Lajas	Estancias de Lajas	Road 101 Km 8.0	Detached	46	0	27	\$ 80,000	\$ 82,500	
Lajas	Estancias de Playa II		Detached	155	0	60	\$ 85,000	\$ 95,000	
Lajas	Pargueruzú	Road #304 Km 1.2	Detached	60	0	0	\$ 239,500	\$ 239,500	
Las Marias	Innovada Concepción	Road 119	Detached	8	0	0	\$ 88,000	\$ 75,000	
Mayagüez	Estancias del Rio	Sabales ward	Detached	121	0	0	NA		
Mayagüez	Los Vencedores en Paseo Los Robles	Ricardo Cezari Ave.	Detached	40	28	7	\$ 245,000	\$ 295,000	1.5
Mayagüez	Los Verdes	Mirador Sector	Detached	102	88	21	\$ 280,000	\$ 450,000	1.3
Mayagüez	Paraiso de Mayagüez	PR 2 Camino Bachana	Detached	217	106	11	\$ 219,900	\$ 219,900	11.8
Moca	Estancias de Moca (Alturas de Moca)	Road 110 Km 11.5	Detached	5	2	1	\$ 105,000	\$ 120,000	0.2
Moca	Estancias Primavera	Road #110 Km 11.5	Detached	22	4	18	\$ 124,999	\$ 136,999	1.3
Quebradillas	Brisa Tropical	PR-485 Km 1.2 Interior	Detached	200	130	25	\$ 78,000	\$ 78,000	4.3
Rincón	Villas de la Pradera II	Road 115	Detached	102	7	95	\$ 70,000	\$ 85,000	0.8
Sabana Grande	Brisa de la Playa	Road 117 Km 13.0	Detached	17	13	4	\$ 108,000	\$ 108,000	1.4
Sabana Grande	Camino Real	Hacienda San Francisco	Detached	10	5	2	\$ 170,000	\$ 175,000	0.8
Sabana Grande	Hacienda Marchany	Road 368 Km 10	Detached	12	7	5	\$ 190,000	\$ 196,000	0.8
Sabana Grande	Playas del Río Flores	Road 368 San Jose Ward	Detached	160	0	32	\$ 98,000	\$ 98,000	
San Germán	Chalets Antonia		Detached	17	8	0	\$ 160,000	\$ 160,000	2.7
San Germán	Garden Village	Road 102 Km 33.9	Detached	6	6	0	\$ 250,000	\$ 380,000	0.5
San Germán	Quintas del Rey (Phase 2)	Road #114 Km 14.5	Detached	67	4	53	\$ 142,500	\$ 191,900	1.3
San Sebastián	Mansiones Loma Linda	Road 445 Km 1.4	Detached	121	0	0	\$ 180,000	\$ 180,000	
				3,891	1,207	1,158			8.9

Source: Construction and Sales Activity Report, Estudios Técnicos, Inc.

4. HOUSING DEMAND ESTIMATES

This estimate provides a general sense of how Puerto Rico's housing market is behaving, particularly with regards to the social interest segment in the area subject of analysis. This section looks at Mayagüez, Rincón, Añasco, and Cabo Rojo as a primary area of impact; Aguada, Aguadilla, Isabela, Guánica, and Lajas as a secondary area; and Quebradillas, Moca, Maricao, San Germán, Hormigueros, Las Marías, San Sebastián, and Sabana Grande as a tertiary area.

In addition, this section identifies those areas which present housing needs within the price range corresponding to the proposed development, as potential marketing targets. In the same way, this section provides an inventory of municipalities that should be considered as competitors from the perspective of the developer of this residential project in Mayagüez.

Methodology

The analytical model applied to the Island's housing market forecasts demand that is generated from household creation as well as from inadequate housing and transitional housing, which account for frictional demand. It also takes into consideration the housing stock currently available and approved units that are on the pipeline until 2010. The primary objective of this methodology is to determine the absorption rate (as measured by units sold each month) that the development could enjoy given specific traits, such as price range.

The absorption rate depends on three factors:

1. housing need,
2. housing demand, and
3. housing supply (competition).

Housing need is determined with another set of three factors, mainly:

1. population growth,
2. household size shrinkage, and
3. economic migration (location and movement of employment and economic activity across regions).

Housing demand is derived, in turn, from:

1. housing need.
2. internal mobility factors, mainly:
 - a. households seeking larger or smaller units due to changes in household size or changes in household preferences or income.
 - b. households who are moving from one unit to the next. It is worth mentioning that an average of 20% of all households in the United States move each year. In Puerto Rico, households spend an average of 14 years in their housing unit, according to the U.S. Census.
 - c. households seeking adequate housing, that is, those who currently occupy units that are in bad or suboptimal condition.
3. seasonal housing or second, third or fourth homes.

As a matter of fact, Puerto Rico exhibits 12% more housing units than households, which should not be considered as excess supply, but as falling in the abovementioned categories. This correction is already incorporated into the results here reported.

Demand Estimation

In order to appreciate projected population growth in each municipality included in the analysis, this estimate utilizes the population reported by the 2000 U.S. Census and 2010 population projections by the Puerto Rico Planning Board. A process of interpolation was used to calculate population at each municipality in 2005, 2006, 2007, 2008 and 2009.

Population Forecast

2010 Planning Board population forecasts

	2005	2006	2007	2008	2009	2010	Growth 2005-2010
Mayagüez	97,865	97,720	97,574	97,429	97,285	97,140	-0.15%
Rincón	15,568	15,702	15,837	15,973	16,110	16,248	0.86%
Añasco	29,644	29,849	30,055	30,262	30,471	30,681	0.69%
Cabo Rojo	49,655	50,116	50,581	51,050	51,524	52,002	0.93%
Aguada	44,686	45,135	45,589	46,047	46,510	46,977	1.00%
Aguadilla	67,147	67,513	67,880	68,250	68,621	68,995	0.54%
Isabela	46,474	46,815	47,158	47,503	47,851	48,202	0.73%
Guánica	22,733	22,866	23,000	23,135	23,271	23,407	0.59%
Lajas	27,291	27,454	27,618	27,784	27,950	28,117	0.60%
Quebradillas	27,007	27,278	27,553	27,830	28,109	28,392	1.01%
Moca	42,451	42,925	43,404	43,888	44,378	44,873	1.12%
Maricao	6,626	6,655	6,684	6,713	6,742	6,771	0.43%
San Germán	37,961	38,074	38,187	38,300	38,414	38,528	0.30%
Hormigueros	17,133	17,201	17,269	17,338	17,407	17,476	0.40%
Las Marias	11,800	11,932	12,066	12,200	12,337	12,475	1.12%
San Sebastián	46,074	46,374	46,675	46,979	47,284	47,592	0.65%
Sabana Grande	27,009	27,183	27,358	27,534	27,712	27,890	0.64%
Primary Area	192,732	193,386	194,046	194,714	195,389	196,071	0.34%
Secondary Area	208,331	209,783	211,245	212,719	214,203	215,698	0.70%
Tertiary Area	216,061	217,621	219,195	220,782	222,383	223,997	0.72%
Market Area	617,124	620,790	624,486	628,215	631,974	635,766	0.60%

Source: 2000 U.S. Census of Population and Puerto Rico Planning Board

The headship rate or average household size was forecasted for the period 2005-2010 according to this variable's 1990-through-2000 trend. It is important to consider this variable as housing demand is accounted for, at least partially, by household generation. Population projections were divided by this rate to produce an estimate of households present at each municipality each year.

HeadShip Rate

Household population per housing unit from 1990-2000 trends.

	2005	2006	2007	2008	2009	2010
Puerto Rico	2.86	2.83	2.80	2.77	2.74	2.71

Source: 2000 U.S. Census of Population.

Demand from New Households

Forecast population / headship rate.

	2005	2006	2007	2008	2009	2010
Mayagüez	34,189	34,504	34,823	35,145	35,469	35,797
Rincón	5,439	5,544	5,652	5,762	5,874	5,988
Añasco	10,356	10,539	10,726	10,916	11,109	11,306
Cabo Rojo	17,347	17,696	18,052	18,415	18,785	19,163
Aguada	15,611	15,937	16,270	16,610	16,957	17,312
Aguadilla	23,457	23,838	24,226	24,619	25,019	25,425
Isabela	16,235	16,530	16,830	17,135	17,446	17,763
Guánica	7,942	8,074	8,209	8,345	8,484	8,626
Lajas	9,534	9,694	9,857	10,022	10,190	10,361
Quebradillas	9,435	9,632	9,833	10,039	10,249	10,463
Moca	14,830	15,157	15,490	15,831	16,180	16,536
Maricao	2,315	2,350	2,385	2,421	2,458	2,495
San Germán	13,261	13,444	13,628	13,816	14,006	14,198
Hormigueros	5,985	6,074	6,163	6,254	6,346	6,440
Las Marías	4,122	4,213	4,306	4,401	4,498	4,597
San Sebastián	16,096	16,374	16,658	16,946	17,240	17,538
Sabana Grande	9,435	9,598	9,764	9,932	10,103	10,278
Primary Area	67,330	68,284	69,253	70,237	71,238	72,254
Secondary Area	72,779	74,074	75,391	76,732	78,097	79,487
Tertiary Area	75,480	76,841	78,228	79,641	81,080	82,545
Market Area	215,589	219,199	222,872	226,610	230,415	234,286

Source: 2000 U.S. Census of Population and Puerto Rico Planning Board.

Notwithstanding, it is important to highlight that housing demand exceeds the number of households at each municipality every year, as evidenced in U.S. Census data. A proportion of all housing units is usually unoccupied at any given time. These units could be for seasonal use as second homes; in ownership transition due to sale or other real estate transaction; or not in use for other reasons. This analysis assumes that this proportion varies from one municipality to another but remains on average constant over time. Applying this proportion to household growth provides an estimate of housing demand that is not generated directly from households' primary residence needs. It is worth noting that the market area exhibits one of the highest proportions of unoccupied housing accounted for by second homes and other seasonal housing units.

Housing units excess over households

	2000
Mayagüez	13.3%
Rincón	32.6%
Añasco	14.1%
Cabo Rojo	35.5%
Aguada	15.3%
Aguadilla	12.7%
Isabela	14.7%
Guánica	21.4%
Lajas	21.5%
Quebradillas	9.8%
Moca	12.1%
Maricao	12.9%
San Germán	11.9%
Hormigueros	10.4%
Las Marias	15.7%
San Sebastián	11.4%
Sabana Grande	12.6%

Source: 2000 U.S. Census of Population.

Demand from New Households plus Intentionally Unoccupied Units

	2005	2006	2007	2008	2009	2010
Mayagüez	38,737	39,095	39,456	39,820	40,188	40,559
Rincón	7,214	7,354	7,497	7,642	7,791	7,942
Añasco	11,816	12,025	12,238	12,455	12,676	12,900
Cabo Rojo	23,497	23,970	24,452	24,944	25,446	25,958
Aguada	18,001	18,377	18,761	19,153	19,553	19,962
Aguadilla	26,426	26,855	27,291	27,735	28,185	28,643
Isabela	18,617	18,955	19,299	19,649	20,006	20,369
Guánica	9,639	9,799	9,963	10,129	10,297	10,469
Lajas	11,587	11,782	11,980	12,181	12,385	12,593
Quebradillas	10,363	10,580	10,801	11,027	11,257	11,493
Moca	16,628	16,994	17,368	17,750	18,141	18,541
Maricao	2,613	2,652	2,692	2,733	2,774	2,816
San Germán	14,841	15,045	15,252	15,462	15,674	15,889
Hormigueros	6,605	6,703	6,802	6,902	7,004	7,107
Las Marias	4,770	4,875	4,983	5,092	5,205	5,320
San Sebastián	17,936	18,247	18,563	18,884	19,211	19,544
Sabana Grande	10,624	10,808	10,994	11,184	11,377	11,573
Primary Area	81,264	82,444	83,643	84,862	86,101	87,360
Secondary Area	84,270	85,768	87,294	88,846	90,427	92,035
Tertiary Area	84,382	85,904	87,455	89,034	90,643	92,282
Market Area	249,916	254,117	258,392	262,743	267,171	271,677

Source: 2000 U.S. Census of Population.

Similarly, this estimate recognizes that a group of households, although occupying a housing unit, may still be in the market for housing because the unit where they reside at the time is not considered adequate for their current needs. Among these households are those of empty nesters, whose children have left the home, and now search for a smaller house; those of growing households who look for a larger unit; and those units that due to a bad physical condition are no longer livable. The product of that proportion of households and the number of households projected provides an estimate of demand generated by households currently occupying housing.

Proportion of Inadequate Housing

Municipality	%
Mayagüez	4.6%
Rincón	3.6%
Añasco	5.0%
Cabo Rojo	6.1%
Aguada	4.5%
Aguadilla	4.2%
Isabela	4.6%
Guánica	4.7%
Lajas	4.4%
Quebradillas	3.2%
Moca	4.8%
Maricao	5.8%
San Germán	6.1%
Hormigueros	4.4%
Las Marías	9.8%
San Sebastián	6.7%
Sabana Grande	4.0%

Source: 2000 U.S. Census of Population.

Demand from Housing Improvement Needs

	2005	2006	2007	2008	2009	2010
Mayagüez	1,566	1,580	1,595	1,610	1,624	1,639
Rincón	195	199	203	207	211	215
Añasco	517	526	536	545	555	565
Cabo Rojo	1,059	1,080	1,102	1,124	1,146	1,169
Aguada	705	720	735	750	766	782
Aguadilla	989	1,005	1,021	1,038	1,054	1,072
Isabela	746	760	774	788	802	816
Guánica	370	376	383	389	395	402
Lajas	421	428	435	442	450	457
Quebradillas	301	307	314	320	327	334
Moca	707	723	739	755	771	788
Maricao	135	137	139	141	144	146
San Germán	811	822	834	845	857	868
Hormigueros	266	269	273	277	282	286
Las Marías	402	411	420	430	439	449
San Sebastián	1,080	1,099	1,118	1,137	1,157	1,177
Sabana Grande	374	380	387	393	400	407
Primary Area	3,337	3,385	3,435	3,485	3,536	3,588
Secondary Area	3,231	3,288	3,347	3,407	3,467	3,529
Tertiary Area	4,076	4,149	4,224	4,299	4,376	4,455
Market Area	10,644	10,823	11,005	11,191	11,380	11,572

Source: 2000 U.S. Census of Population.

The sum resulting from demand generated by household creation, units that are intentionally unoccupied, and inadequate housing provides an aggregated estimate of housing demand for the market area.

Total Demand for Housing

	2005	2006	2007	2008	2009	2010	Growth 2000-2010
Mayagüez	40,303	40,675	41,051	41,430	41,813	42,199	2,835
Rincón	7,409	7,553	7,699	7,849	8,001	8,157	1,330
Añasco	12,333	12,552	12,774	13,000	13,231	13,465	2,742
Cabo Rojo	24,556	25,050	25,554	26,068	26,592	27,127	3,945
Aguada	18,706	19,097	19,496	19,903	20,319	20,744	5,154
Aguadilla	27,415	27,860	28,312	28,772	29,240	29,714	4,832
Isabela	19,363	19,715	20,072	20,437	20,807	21,185	4,019
Guánica	10,009	10,176	10,345	10,517	10,693	10,871	2,022
Lajas	12,008	12,210	12,415	12,623	12,835	13,050	2,103
Quebradillas	10,664	10,887	11,115	11,347	11,584	11,826	2,731
Moca	17,335	17,717	18,107	18,505	18,913	19,329	5,076
Maricao	2,748	2,789	2,832	2,874	2,918	2,962	690
San Germán	15,652	15,868	16,086	16,307	16,531	16,758	2,423
Hormigueros	6,871	6,972	7,075	7,180	7,286	7,393	970
Las Marias	5,172	5,286	5,403	5,522	5,644	5,768	1,644
San Sebastián	19,017	19,346	19,681	20,022	20,368	20,721	4,039
Sabana Grande	10,998	11,188	11,381	11,577	11,777	11,980	1,998
Primary Area	84,601	85,829	87,078	88,347	89,637	90,948	10,852
Secondary Area	87,501	89,057	90,641	92,253	93,894	95,565	18,131
Tertiary Area	88,458	90,053	91,678	93,334	95,020	96,737	19,571
Market Area	260,560	264,940	269,397	273,934	278,551	283,250	48,554

Source: 2000 U.S. Census of Population.

Supply Estimation

An estimate of housing supply for the market area starts with those housing units accounted for by the 2000 U.S. Census of Housing data. Permits granted to housing developments by the Regulating and Permitting Agency (ARPE, for its acronym in Spanish) between 2000 and the present are added to that base. Notwithstanding, the Home Builders Association and Estudios Técnicos, Inc. have found that a sizable portion of all housing units developed or produced in Puerto Rico escape the permitting process mandated by law. The majority of these are developed as simple lot segregations (“lotificación simple” in Spanish) and/or redeveloped as multifamily units from what previously were single family, detached homes. To guarantee the inclusion of those units in the supply estimate, the U.S. Census of Population and Housing housing-unit count was compared to the number of development permits granted by ARPE. On average, existing housing units exceed the number of units accounted for in housing development permits by roughly 83%.

This estimate calculated the specific proportion of housing units not accounted for by permits by dividing the housing units reported in the 2000 U.S. Census by the number of permits granted at each municipality by that time; then, applied that proportion to the number of permits granted for units to be built between the present time and year 2010.

Total Housing Supply

	Housing units in 2000	Permits Granted	Existing Housing Units / Permits	New Units	Total Housing Supply
Mayagüez	39,364	2,313	1.7	3,978	43,342
Rincón	6,827	1,614	3	4,543	11,370
Añasco	10,723	1,346	3	3,406	14,129
Cabo Rojo	23,182	4,868	2	8,868	32,050
Aguada	15,590	1,428	4.4	6,293	21,883
Aguadilla	24,882	3,176	1.7	5,324	30,206
Isabela	17,166	2,346	2.5	5,982	23,148
Guánica	8,849	704	5	3,850	12,699
Lajas	10,947	744	2	1,543	12,490
Quebradillas	9,095	690	1.8	1,240	10,335
Moca	14,253	689	5.8	3,993	18,246
Maricao	2,272	95	(0.3)	(27)	2,245
San Germán	14,335	839	1.6	1,345	15,680
Hormigueros	6,423	1,052	1	1,466	7,889
Las Marías	4,124	53	4	232	4,356
San Sebastián	16,682	1,238	3	3,989	20,671
Sabana Grande	9,982	818	2	1,837	11,819
Primary Area	80,096	10,140	8.9	20,796	100,892
Secondary Area	77,434	8,397	16.2	22,991	100,425
Tertiary Area	77,166	5,471	20	14,075	91,241
Market Area	234,696	24,008	2.4	57,863	292,559

Source: 2000 U.S. Census of Population.

Getting to Housing Need

The difference between housing supply and demand constitutes actual need for housing at each municipality and the market area. This need, in turn, can be broken down by price range. In addition, absorption rates can be computed for each municipality according to current market trends in every price bracket.

Aggregated Housing Need: Excess Demand - Supply

	Demand 2010	Projected Supply	Need
Mayagüez	42,199	43,342	(1,144)
Rincón	8,157	11,370	(3,214)
Añasco	13,465	14,129	(664)
Cabo Rojo	27,127	32,050	(4,923)
Aguada	20,744	21,883	(1,139)
Aguadilla	29,714	30,206	(492)
Isabela	21,185	23,148	(1,963)
Guánica	10,871	12,699	(1,828)
Lajas	13,050	12,490	561
Quebradillas	11,826	10,335	1,491
Moca	19,329	18,246	1,083
Maricao	2,962	2,245	717
San Germán	16,758	15,680	1,078
Hornigueros	7,393	7,889	(496)
Las Marías	5,768	4,356	1,412
San Sebastián	20,721	20,671	50
Sabana Grande	11,980	11,819	161
Primary Area	90,948	100,892	(9,944)
Secondary Area	95,565	100,425	(4,860)
Tertiary Area	96,737	91,241	5,496
Market Area	283,250	292,559	(9,309)

Source: Estudios Técnicos, Inc.

General Market Evaluation

According to this analysis, by 2010, Puerto Rico will have a total demand of 1,606,381 units and a housing stock (supply) of 1,601,218. This area clearly will be in the presence of a deficit in supply of roughly 5,000, the social interest segment being, however, the only price range not exhibiting total saturation.

2000-2010 Projected Housing Supply by Price Range

Price Range	<\$69K	\$70-89K	\$90-104K	\$105-124K	\$125-149K	\$150-199K	\$200-299K	>\$300K	Total
Mayagüez	451	960	190	739	458	447	601	66	3,978
Rincón	663	895	0	119	494	1,287	665	520	4,543
Añasco	0	0	1,149	1,162	555	475	40	26	3,406
Cabo Rojo	173	549	417	823	2,236	3,212	340	1,318	8,868
Aguada	0	0	0	2,120	2,186	1,590	199	199	6,293
Aguadilla	1,157	836	952	1,620	579	39	90	51	5,324
Isabela	1,927	1,428	998	238	38	422	799	131	5,982
Guánica	0	0	0	0	3,850	0	0	0	3,850
Lajas	0	874	0	64	378	228	0	0	1,543
Quebradillas	0	1,240	0	0	0	0	0	0	1,240
Moca	449	566	280	474	753	673	457	340	3,993
Maricao	(3)	(4)	(2)	(3)	(5)	(5)	(3)	(2)	(27)
San German	0	215	840	202	58	32	13	6	1,345
Hormigueros	842	364	0	0	0	260	0	0	1,466
Las Marias	26	33	16	28	44	39	27	20	232
San Sebastian	2,081	925	0	983	0	0	0	0	3,989
Sábana Grande	1,787	0	0	0	0	50	0	0	1,837
Primary Area	1,186	2,404	1,761	2,843	3,743	5,421	1,706	1,731	20,796
Secondary Area	3,085	3,138	1,950	4,042	7,031	2,278	1,087	381	22,991
Tertiary Area	5,182	3,340	1,134	1,683	830	1,049	494	364	14,075
Market Area	9,453	8,882	4,845	8,568	11,604	8,748	3,287	2,476	57,863

Source: Estudios Técnicos, Inc.

2000-2010 Housing Demand by Price Range

Price Range	<\$69K	\$70-89K	\$90-104K	\$105-124K	\$125-149K	\$150-199K	\$200-299K	>\$300K	Total
Mayagüez	1,444	266	123	162	187	484	94	73	2,835
Rincón	704	138	59	79	101	192	40	17	1,330
Añasco	1,286	276	145	188	199	509	90	49	2,732
Cabo Rojo	1,833	416	192	253	293	720	148	92	3,945
Aguada	2,661	533	252	325	340	802	161	80	5,154
Aguadilla	2,522	448	179	241	306	813	195	127	4,832
Isabela	2,041	427	185	239	256	708	110	53	4,019
Guánica	1,166	194	83	110	128	281	35	25	2,022
Lajas	1,109	214	95	121	122	342	58	42	2,103
Quebradillas	1,339	312	144	187	205	413	86	44	2,731
Moca	2,624	537	246	319	341	823	128	57	5,076
Maricao	411	75	29	35	29	85	11	14	690
San German	1,145	246	128	163	162	433	94	51	2,423
Hormigueros	363	96	45	61	78	237	41	29	970
Las Marias	959	158	73	93	98	215	29	19	1,644
San Sebastian	2,114	395	203	260	264	644	113	45	4,039
Sábana Grande	958	208	92	120	130	375	69	47	1,998
Primary Area	5,266	1,095	520	682	780	1,905	372	232	10,852
Secondary Area	9,498	1,815	795	1,036	1,153	2,947	560	327	18,131
Tertiary Area	9,913	2,027	960	1,238	1,309	3,245	572	307	19,571
Market Area	24,677	4,938	2,275	2,956	3,242	8,097	1,504	866	48,554

Source: Estudios Técnicos, Inc.

When discerning between patterns in diverse regions across the Island, the picture looks encouraging. The primary market area is in need of roughly 4,000 units within the less than \$70,000 category. The secondary market area also shows a net need of housing of over 6,000 units. In addition, the tertiary market area does exhibit a net need for nearly 5,000 units. Within each portion of the market area all individual municipalities show a gross need for social interest housing ranging from 33 to 2,661, with the exception of Hormigueros and Sábana Grande, showing an

excess of approximately 500 and 800 units, respectively. The total demand for social interest housing in the aggregated market area is 15,224.

Housing Need (Demand - Supply)

Price Range	<\$69K	\$70-89K	\$90-104K	\$105-124K	\$125-149K	\$150-199K	\$200-299K	>\$300K	Total
Mayagüez	993	(694)	(72)	(577)	(271)	17	(568)	7	(1,344)
Rincón	141	(757)	39	(40)	(393)	(1,055)	(625)	(50)	(3,214)
Añasco	1,286	276	(1,003)	(974)	(355)	34	51	-21	(664)
Cabo Rojo	1,660	(133)	(225)	(571)	(1,943)	(2,492)	(192)	(1,026)	(4,923)
Aguada	2,661	533	252	(1,795)	(1,846)	(788)	(38)	(119)	(1,339)
Aguadilla	1,364	(388)	(772)	(1,379)	(273)	775	105	76	(492)
Isabela	114	(1,001)	(813)	1	218	286	(688)	(77)	(1,963)
Guánica	1,166	194	83	110	(3,722)	281	35	25	(1,828)
Lajas	1,109	(660)	95	58	(255)	114	58	42	561
Quebradillas	1,339	(928)	144	187	205	413	86	44	1,441
Moca	2,175	(29)	(34)	(155)	(412)	150	(329)	(283)	1,083
Maricao	414	79	31	39	35	89	14	16	717
San Germán	1,145	31	(711)	(39)	124	401	82	45	1,078
Hormigueros	(480)	(268)	45	61	78	(3)	41	29	(496)
Las Marias	933	125	56	66	54	176	2	(1)	1,412
San Sebastián	33	(530)	203	(722)	264	644	113	45	50
Sabana Grande	(829)	208	92	120	130	325	69	47	161
Primary Area	4,080	(1,309)	(1,242)	(2,162)	(2,963)	(3,516)	(1,334)	(1,499)	(9,944)
Secondary Area	6,413	(1,322)	(1,155)	(3,006)	(5,878)	668	(527)	(53)	(4,860)
Tertiary Area	4,730	(1,313)	(174)	(444)	479	2,197	78	(57)	5,495
Market Area	15,224	(3,944)	(2,570)	(5,612)	(8,362)	(651)	(1,783)	(1,610)	(9,309)

Monthly Absorption Rates (Forecast)

Precio Vivienda:	<\$69K	\$70-89K	\$90-104K	\$105-124K	\$125-149K	\$150-199K	\$200-299K	>\$300K	Total
Mayagüez	20.7	(14.5)	(1.5)	(12.0)	(5.6)	0.8	(11.8)	0.1	(23.8)
Rincón	2.9	(15.8)	1.2	(0.8)	(8.2)	(22.8)	(13.0)	(10.5)	(67.0)
Añasco	26.8	5.7	(20.9)	(20.3)	(7.4)	0.7	1.1	0.5	(11.8)
Cabo Rojo	34.6	(2.8)	(4.7)	(11.9)	(40.5)	(51.9)	(43.0)	(21.4)	(102.6)
Aguada	55.4	11.1	5.3	(37.4)	(38.4)	(16.4)	(0.8)	(2.5)	(23.7)
Aguadilla	28.4	(8.1)	(16.1)	(28.7)	(5.7)	16.1	2.2	1.6	(10.2)
Isabela	2.4	(20.9)	(16.9)	0.0	4.5	6.0	(14.3)	(1.6)	(40.9)
Guánica	24.3	4.0	1.7	2.3	(77.5)	5.9	0.7	0.5	(38.1)
Lajas	23.1	(13.7)	2.0	1.2	(5.3)	2.4	1.2	0.9	11.7
Quebradillas	27.9	(19.3)	3.0	3.9	4.3	8.6	1.8	0.9	31.1
Moca	45.3	(0.6)	(0.7)	(3.2)	(8.6)	5.1	(6.9)	(5.9)	22.6
Maricao	8.6	1.7	0.6	0.8	0.7	1.9	0.3	0.3	14.9
San Germán	23.9	0.6	(14.8)	(0.8)	2.6	8.4	1.7	0.9	22.5
Hormigueros	(10.0)	(5.6)	0.9	1.3	1.6	(0.1)	0.9	0.6	(10.3)
Las Marias	19.4	2.6	1.2	1.4	1.1	3.7	0.1	(0.0)	29.4
San Sebastián	0.7	(11.0)	4.2	(15.1)	5.5	13.4	2.4	0.9	1.0
Sabana Grande	(17.3)	4.3	1.9	2.5	2.7	6.8	1.4	1.0	3.4
Primary Area	85	(27)	(26)	(45)	(62)	(73)	(28)	(31)	(207)
Secondary Area	134	(28)	(24)	(63)	(122)	14	(11)	(1)	(101)
Tertiary Area	99	(27)	(4)	(9)	10	46	2	(1)	114
Market Area	317	(82)	(54)	(117)	(174)	(14)	(37)	(34)	(194)

Source: Estudios Técnicos, Inc.

Projected Absorption

The financial feasibility of a development in the selected site in Mayagüez is determined by the abovementioned need for housing in the social interest housing market within the total market area and the pent-up demand that the project could capture from competitor regions, as well as by all related land and development costs. The total demand estimate for this type of project is 15,224, of which the

proposed development reasonably could capture at least 2% (the proposed 380 detached units).

The total absorption rate for this type of project in the primary area is 85 units per month, in the secondary area is 134 units per month, and in the tertiary area is 99 units per month. These add to a total potential absorption rate (that is, all the housing units that on average are sold at this price range in each area) of up to 317 units per month. The absorption rate at each municipality ranges from 0.7 to 55.4 units per month. The specific absorption rate at Mayagüez is 20.7 units per month. Given these patterns the proposed development should easily absorb 8 units per month and sell-out completely in 16 quarters after construction. The following chapter discusses in detail the return on investment of the project, given forecasted market conditions.

5. FEASIBILITY ANALYSIS

The financial feasibility of a development in the selected site in Mayagüez is influenced by the need for housing within the region, as well as by all related land and development costs.

5.1 Project Assumptions

In order to determine financial feasibility certain project characteristics had to be assumed. For this analysis was considered a standard detached, single-family development. If a price of \$89,300 per unit is assumed, the project's 380 units could be sold at an average absorption rate of 8 units per month or 16 quarters. The unit type considered for the analysis has an area of 950 square feet. In addition, the financial costs assumed for the analysis are also typical for this type of project.

Project Highlights

Number of Residential Units	380
First Year of Construction	2007
Land Cost	\$325,000
Infrastructure Cost	\$1,140,000
Total Construction Space (sq. ft.)	361,000

Financial and Cost Assumptions

<i>Fixed Cost Parameters (% of Hard Costs)</i>	
Planning, engineering and design	5.0%
Legal and Appraisal Expenses	1.0%
Marketing	6.0%
Project Management	4.0%
<i>Soft Cost (as % of hard costs):</i>	
Insurance, Prop Tax, Accounting, Miscellaneous	2.0%
Permits and construction sales	3.6%
Indirect costs	2.0%
Contingency	7.0%
<i>Loan assumptions</i>	
Percent of Land to be Financed	85%
Annual Interest on Construction Loan	8.0%
Annual Interest of Land Loan	8.0%
<i>Other</i>	
Inflation in Residential Construction	4.45%
Sales Commissions (% of sales price)	2%
Income Tax Rate	34%

5.2 Project costs

The project will cost approximately \$27.3 million, of which \$23.7 million cover land and direct infrastructure and construction costs. In addition, the developer will incur in an expense of \$3.6 million in soft costs for the project.

Project Costs

Land	\$ 325,000
Infraestructure	\$ 1,140,000
Unit Construction Costs	
Detached Single Family	\$ 18,992,400
Total Unit Cost (+ land)	\$ 20,457,400
Planning, engineering and design	\$ 1,006,620
Legal and Appraisal Expenses	\$ 201,324
Marketing	\$ 1,207,944
Project Management	\$ 805,296
Total Hard Costs	\$ 23,678,584
Soft Costs:	
Insurance, Prop. Tax, Accounting, Miscellaneous	\$ 467,072
Permits and construction sales	\$ 840,729
Indirect costs	\$ 685,824
Contingency	\$ 1,634,751
TOTAL	\$ 27,306,960

5.3 Cash Flow Analysis

Projected annual cash flow for the project looks promising for the developer with earnings before interests and taxes at the end of the 16-quarters period would be around \$6.3 million (see table in the next page). The project also generates positive cash flows to the developer after the first year on average of at least \$1.5 million annually for the same period.

5.4 Return to Investment

The project as conceptualized in this analysis would generate total revenues of \$33.6 million. The internal rate of return (IRR) for the project is 12.7 percent and a return on investment (ROI) of 21.8 percent. All in all, the project will generate a profit margin of 13.6 percent of all revenues derived from sales for a total profit of \$4.3 million.

Projected Cash Flow

Menar Hydrosystem Eng. Inc.

REVENUES	Parameters	2007	2008	2009	2010	2011	Total
Sales	Per Unit						
Detached Single Family	\$89,300	\$ -	\$ 8,572,800	\$ 8,572,800	\$ 8,572,800	\$ 8,572,800	\$ 34,291,200
Gross Revenues		-	8,572,800	8,572,800	8,572,800	8,572,800	34,291,200
less: sale commissions	2.0%	-	171,456	171,456	171,456	171,456	685,824
Total Revenues		\$ -	\$ 8,401,344	\$ 8,401,344	\$ 8,401,344	\$ 8,401,344	\$ 33,605,376
PROJECT COST							
Land (Acquisition)	Per Unit \$3,000	\$ (325,000)	\$ -	\$ -	\$ -	\$ -	\$ (325,000)
Infrastructure	per sq. ft. \$52	(760,000)	(380,000)	-	-	-	(1,140,000)
Unit Construction (\$ per sq. ft)		(2,374,050)	(4,748,100)	(4,748,100)	(4,748,100)	(2,374,050)	(18,992,400)
Detached Single Family		(2,374,050)	(4,748,100)	(4,748,100)	(4,748,100)	(2,374,050)	(18,992,400)
Unit subtotal		(3,134,050)	(5,128,100)	(4,748,100)	(4,748,100)	(2,374,050)	(20,132,400)
Unit Constr. & Infrastructure Costs	% Hard Costs						
Planning and design	5.0%	(156,703)	(256,405)	(237,405)	(237,405)	(118,703)	(1,006,620)
Legal expenses and appraisal	1.0%	(201,324)	-	-	-	-	(201,324)
Marketing	6.0%	(188,043)	(307,686)	(284,886)	(284,886)	(142,443)	(1,207,944)
Project management	4.0%	(125,362)	(205,124)	(189,924)	(189,924)	(94,962)	(805,296)
Total hard cost		\$ (3,805,482)	\$ (5,897,315)	\$ (5,460,315)	\$ (5,460,315)	\$ (2,730,158)	\$ (23,353,584)
Soft Costs:	% of Hard Cost						
Insurance, Prop. Tax, Accounting,							
Miscellaneous	2.0%	(467,072)	-	-	-	-	(467,072)
Permits and construction sales	3.6%	(840,729)	-	-	-	-	(840,729)
Indirect costs	2.0%	-	(171,456)	(171,456)	(171,456)	(171,456)	(685,824)
Contingency	7.0%	(266,384)	(412,812)	(382,222)	(382,222)	(191,111)	(1,634,751)
Total Construction Cost		\$ (5,704,666)	\$ (6,481,583)	\$ (6,013,993)	\$ (6,013,993)	\$ (3,092,725)	\$ (27,306,960)
EARNINGS BEFORE INTEREST AND TAXES		\$ (5,704,666)	\$ 1,919,761	\$ 2,387,351	\$ 2,387,351	\$ 5,308,619	\$ 6,298,416

6. CONCLUSIONS

This analysis shows that historically privately developed social interest housing supply has been limited both in Puerto Rico as in this region. This fact on itself constitutes a great opportunity for the developer of the proposed project. The stock of housing within the less than \$90,000 bracket that have entered the region's market in the last few years amounts to almost 700 units; however, this has not been enough to meet existing demand, thus creating a need for this type of housing that exceeds 15,000 units.

In addition, social interest housing both in Puerto Rico and the region tends to exhibit higher absorption rates than market-priced units, mainly due to pent-up demand, that is need that has gone unattended for a long period of time. Absorption for social interest housing during the last year has varied from 1 to 17 units per month, with an average of roughly 8.0 units per month. With this absorption rate the project should sell completely in no more than 16 quarters.

This project assessed the feasibility of a project of 380 single-family detached units of 950 s.f. in lots of 350 s.m. in Barrio Quebrada Grande, Mayagüez. This project will cost approximately \$27.3 million, of which \$23.7 million cover land and direct infrastructure and construction costs. In addition, the developer will incur in an expense of \$3.6 million in soft costs for the project.

Projected annual cash flow for the project looks promising for the developer with earnings before interests and taxes at the end of the 16-quarters period would be around \$6.3 million. The project also generates positive cash flows to the developer after the first year on average of at least \$1.5 million annually for the same period.

The project also would generate total revenues of \$33.6 million. The internal rate of return (IRR) for the project is 12.7 percent and a return on investment (ROI) of 21.8 percent. All in all, the project will generate a profit margin of 13.6 percent of all revenues derived from sales for a total profit of \$4.3 million.

It is important to realize that these results are highly dependent not only on selling price per square foot but also on the expected absorption rate for this type of development. As a matter of fact, the absorption rate could increase through aggressive advertisement within and beyond the market area as here defined. Notwithstanding, the proposed project seems financially feasible under the existing market conditions and development trends.