



Policy Development & Research

Analysis of the Aguadilla, Puerto Rico Housing Market

As of December 1, 2003



ECONOMIC RESEARCH

Foreword

This analysis has been prepared for the assistance and guidance of the U.S. Department of Housing and Urban Development (HUD) in its operations. The factual information, findings, and conclusions also may be useful to builders, mortgagees, and others concerned with local housing market conditions and trends. The analysis does not purport to make determinations regarding the acceptability of any particular mortgage insurance proposals that may be under consideration in a particular locality or the housing market area.

The factual framework for this analysis follows the guidelines developed by HUD's Economic and Market Analysis Division. The analysis and findings are as thorough and current as possible based on information available on the "as-of" date from local and national sources. As such, any findings or conclusions may be modified by subsequent developments. HUD wishes to express its appreciation to those industry sources and state and local government officials who provided data and information on local economic and housing market conditions.

This analysis takes into consideration changes in the economic, demographic, and housing inventory characteristics of the market area during three periods: from 1990 to 2000, from 2000 to the as-of date of the analysis (Current date), and from the Current date to a Forecast date. The analysis presents counts and estimates of employment, population, households, and housing inventory as of the 1990 Census, 2000 Census, Current date, and Forecast date. For purposes of this analysis the forecast period is 24 months.

The prospective demand expressed in the analysis should not be construed as a forecast of building activity; rather, it presents the prospective housing production that would maintain a reasonable balance in demand-supply relationships given the market's condition on the as-of date of the analysis. This analysis was prepared by Juan J. Fernández, the Division's Field Economist in the Caribbean Field Office, based on fieldwork conducted in February 2004. Questions regarding the findings and conclusions of the analysis may be addressed to Mr. Fernández at 787-766-5400, ext. 2035, and at juan_j._fernandez@hud.gov.

Housing Market Area

The Aguadilla Housing Market Area (HMA) is defined as the Aguadilla Metropolitan Statistical Area and comprises the municipalities of Aguadilla, Aguada, and Moca. Aguadilla, the largest city in the HMA, is home to most of the commercial, industrial, and residential development. Aguadilla is located on the northwestern part of Puerto Rico, about 82 miles west of San Juan, Puerto Rico's capital city. For purposes of this analysis, the HMA has been divided into two submarkets: the city of Aguadilla and the Remainder of the HMA, which is made up of Aguada and Moca.

Summary

The economic base of the Aguadilla HMA, once dependent on the agricultural and apparel manufacturing sectors, now relies on electronics and other manufacturing sectors. The HMA is heavily dependent on the government and other services-providing employment sectors, such as education, health, and trade, transportation, and utilities. By the year 2010, the highest concentration of employment is expected to be in these employment sectors, especially education and health.

Total employment in the HMA grew at a faster rate between 2000 and the Current date than between 1990 and 2000. Growth during the forecast period is expected to slow to a rate comparable to that of the 1990s. The manufacturing sector is expected to show some gains. Most of the job growth, however, will occur in the services-providing sectors.

Despite an increase in employment growth (to 2.3 percent annually) from 2000 to December 2003, population in the HMA grew by only 1 percent each year. A similar population growth rate is expected during the forecast period. The slower population growth is largely the result of a decline in the natural rate of increase (resident births minus resident deaths). Most of the population growth during the forecast period is expected to occur in the Remainder of the HMA.

Most residential construction in the HMA consists of new single-family units. Most of these units begin as owner-occupied units; however, a number are later converted to rental units. This process helps satisfy demand for market-rate rental housing not met by new multifamily developments. Low renter income levels in the area discourage new unsubsidized rental production because marketable rents are typically insufficient to support land and construction costs for large-scale projects. Market-rate rental demand is also served by construction of second-story apartments above existing single-family dwellings and small-scale construction of walk-up apartment projects containing four to six units per building.

Currently the sales and rental markets are relatively balanced, though tighter than in 2000; but they still reflect balanced market conditions overall. Demand is expected for approximately 2,000 additional sales units and 260 additional rental units during the 2-

year forecast period, provided that residential mortgage interest rates remain low. Production at these levels would maintain relatively balanced market conditions during the forecast period.

Economy of the Area

The economic base of the housing market area continues to become less dependent on agriculture and light industry manufacturing and is turning to the high-technology manufacturing, government, education, health services, trade, transportation, and leisure and hospitality employment sectors. For the Aguadilla HMA, the government sector will continue to be one of the leading employers during the forecast period. From 1990 to 2000, total nonfarm employment increased at an average annual rate of 355, or 1.7 percent. From 2000 to the Current date, nonfarm employment increased at a slightly slower average annual rate of 1.2 percent. During the next 2 years, the rate of increase in nonfarm employment is expected to slow to approximately 0.5 percent a year.

While the manufacturing sector is expected to show some gains, most anticipated job growth during the forecast period will occur in the services-providing sectors. Since 2000, employment in the services-providing sectors has grown at a steady pace, while employment in the goods-producing sectors has declined. From 2000 to the Current date, the services-providing sectors increased by 1,700 jobs, or at an average annual rate of 2.7 percent, while the goods-producing sector declined by 618 jobs, or at an annual rate of 2.3 percent. The decline in manufacturing employment is due to job reductions in the footwear industry. This trend away from goods-producing employment is expected to continue during the forecast period as the economy continues to rely on the services-providing employment sectors. Trade and transportation employment sectors are expected to receive a boost from the conversion of the Aguadilla Airport into an Aerial Distribution and Logistics Center. The enhanced transportation services will also benefit important technological and pharmaceutical concerns located in the western part of Puerto Rico. The government has promoted new factories that produce computer chips, printer ink cartridges, and metal doors and windows and that process foodstuffs, resulting in 500 new jobs in the HMA.

The unemployment rate in the HMA currently is estimated at 15.9 percent, compared to 12 percent for Puerto Rico overall. Employment growth in services-providing industries is expected to result in a relatively stable unemployment rate of about 16 percent during the forecast period. Table 1 shows labor force and employment trends since 1992. The 2000 Puerto Rico Department of Labor's Annual Census of Manufacturing Industries identified 80 manufacturing plants in the HMA with 6,319 employees earning an average of \$10.30 per hour. Aguadilla accounted for 52 percent of operating manufacturing plants and 77 percent of manufacturing employment in the HMA, followed by Aguada with 35 percent and 15 percent and Moca with 13 percent and 8 percent, respectively. Table 2 presents nonfarm employment trends by sector from 2000 to the Current date.

Household Incomes

According to the 2000 Census, the median family income in the Aguadilla HMA grew at an average annual rate of 5.7 percent between 1989 and 1999, reaching \$12,963 in 1999. HUD's Economic and Market Analysis Division estimates the 2004 median family income for the area to be \$15,500, reflecting an average annual increase of 5.4 percent since 1999.

Population

Despite an increase in employment growth to 2.3 percent annually from 2000 to the Current date, population grew by only 1 percent a year in that same timeframe. Between 1990 and 2000, the population in the HMA increased an average of 1,825, or 1.3 percent, each year. The current population of the HMA is estimated at 152,100, an average annual increase of 1,550, or 1 percent, over the April 2000 figure of 146,424. The population for the city of Aguadilla was 64,885 in 2000 and is currently estimated to be 66,300, which represents approximately 44 percent of the population for the HMA. From 1990 to 2000, the net natural population in the HMA increased an average of about 1,250 a year. During this decade, net in-migration accounted for 568 people a year, or about 30 percent of the population growth. From 2000 to the Current date, the average net natural increase fell to 967 people a year. During the forecast period, the net natural increase is expected to increase slightly to approximately 990 people a year.

As of the Forecast date, the population of the HMA is expected to reach 155,200, or an average annual increase of 1,550 people. In spite of a slowing economy, some population growth is projected in the HMA during the forecast period, due to in-migration stemming from job opportunities in the trade, transportation, education, and health sectors and the expansion of the electronics industry. An anticipated increase in the number of retirees relocating to Aguada and Moca will also contribute to the forecast population growth.

Aguada and Moca, as bedroom communities in the Aguadilla HMA, have experienced relatively higher population and household growth than has the city of Aguadilla. Population growth in the Remainder of the HMA was estimated at an average annual rate of 1.4 percent from 2000 to the Current date. An average annual rate of increase of 1.3 percent is expected during the 2-year forecast period for the Remainder of the HMA. Average annual population growth in the Aguadilla submarket from 2000 to the Current date was approximately 0.9 percent. The average annual rate of growth during the forecast period in the city of Aguadilla is expected to be at a slower 0.6 percent rate. Growth in the Remainder of the HMA has been greater because the cost of housing is less in these communities. Building permit figures tend to underestimate construction activity because a number of units are built without permits, mainly in the rural areas of the HMA. Table 3 shows the population and household trends from 1990 to the Forecast date for the HMA, the city of Aguadilla, and the Remainder of the HMA.

Households

The number of households in the Aguadilla HMA increased at an average annual rate of 2.5 percent between 1990 and 2000 as household size sharply declined. From 2000 to the Current date, the number of households increased at a slower annual rate of 1.8 percent. Most of the household growth continues to take place in the Remainder of the HMA. As of December 2003, approximately 51,550 households existed in the HMA. A slightly lower household growth rate is expected during the forecast period based on modest employment gains. An estimated average of 800 households will be added annually during the forecast period. Despite a moderate net natural population increase since 1990, household growth in the city of Aguadilla has been slower than in the Remainder of the HMA as a result of household out-migration to these communities. The Aguadilla submarket is expected to grow by approximately 350 households annually over the next 2 years. The average household size in the HMA declined from 3.38 persons in 1990 to 2.98 persons in 2000. This decline in household size is due to lower fertility rates and an aging population in HMA urban areas such as Aguadilla. Between 2000 and December 2003, the average household size continued to decline to an estimated 2.91 persons. Average household size is expected to decrease further to 2.88 persons during the forecast period.

The 2000 Census reported 1,141 people living in nursing homes and correctional institutions in the HMA. This figure increased by 979, or 600 percent, since 1990. Of this total, 228 resided in nursing homes and 913 were incarcerated. The number of people living in these institutions is expected to reach 1,600 by the end of the forecast period. Table 3 shows population and household trends in the HMA from 1990 to the Forecast date of December 1, 2005.

Housing Inventory

Between 1990 and 2000, permits were issued for 4,673 housing units in the HMA, of which 88 percent were single-family units. From 2000 to December 2003, permits were issued for another 1,705 new housing units, of which 83 percent were single-family units. More than half the activity since 2000 has been in the city of Aguadilla.

As of the Current date, there are 57,750 units in the housing inventory of the HMA, a net increase of 3,025 units since 2000. Since 2000, the housing production has not kept pace with the growth in households. As a result, total vacancy rates have declined since 2000.

The homeownership rate declined slightly from 1990 to 2000. The rate increased from 2000 to the Current date. Of the 51,400 occupied housing units in the HMA as of the Current date, an estimated 74.4 percent, or 38,250 units, were owner-occupied.

Approximately 740 housing units were under construction in the HMA in December 2003. About 82 percent of these units were single-family structures. The single-family

figures are likely understated because a number of units are built without permits, especially in rural areas. A number of single-family units constructed are initially occupied by homeowners but after a few years are converted to renter units, meeting unsatisfied rental housing demand resulting from the lack of new multifamily construction.

The 2000 Census estimated that 3,226 units, or 5.9 percent, of the housing inventory in the HMA were substandard because of incomplete plumbing facilities, a figure below the corresponding rates of 7.6 percent in the 1990 Census and 20 percent the 1980 Census. The percentage of substandard units has decreased significantly since 1980 due to the sizeable amount of new housing built in recent years and the availability of subsidized housing programs that enabled housing stock upgrades during the same period. Table 5 shows residential building permit activity for the HMA, the Aguadilla submarket, and the Remainder of the HMA, by structure type, from 1992 through December 2003.

As of the Current date, the HMA included 14 public housing projects containing 2,330 units. Occupancy exceeded 98 percent. In addition, 400 rental units under Section 8 voucher programs had a 97-percent occupancy rate. The HMA also has six multifamily Section 8 project-based developments containing 548 units financed under Sections 202, 221(d)(3), and 515. In these projects, occupancy averages more than 95 percent. About 250 project-based, rental-assisted units are financed under the Rural Development Administration's Section 515 program. These projects have occupancy levels of almost 100 percent. The Low-Income Housing Tax Credit (LIHTC) program plays an important role in the assisted rental housing market in the HMA, constituting practically the only current source of financing for new multifamily rental housing. A new 132-unit rental housing project for the elderly, financed under the LIHTC program, was recently completed in the HMA. An estimated 28 percent of all renter households in the Aguadilla HMA receive some rental assistance.

Housing Vacancy

The 2000 Census reported 1,642 vacant available housing units in the HMA, or 3 percent of the available housing inventory. Of the 1,642 vacant units, 722 were available for sale, indicating a sales vacancy rate of 2 percent, and 920 were available for rent, showing a rental vacancy rate of 6.7 percent. An estimated 1,350 vacant available housing units were in the HMA as of the Current date. Approximately 660 of the vacant units were for sale, indicating a sales vacancy rate of 1.7 percent. The current rental vacancy rate of 5 percent is less than the 2000 Census rate and reflects the tighter market conditions due to an insufficient supply of new rental units. Table 4 presents a detailed distribution of the housing inventory tenure and vacancy status for the Aguadilla HMA and its submarkets.

Sales Market Conditions

Sales housing market conditions in the Aguadilla HMA in 2000 reflected a relative balance between owner household growth and production. Currently, the market is tighter than in 2000 but still reflects generally balanced conditions overall. The housing construction industry in the HMA has experienced healthy growth in recent years primarily as a result of low mortgage interest rates. From 1990 to 2000, the average sales price of existing single-family homes increased about 13 percent annually.

Data indicate that in 2003, the average sales price for new single-family homes was about \$86,000, with prices ranging from \$70,000 to more than \$200,000. The average sales price of condominium apartment units was approximately \$132,000, with prices ranging from \$45,000 to \$330,000. The relatively higher sales price of these units reflects the inclusion of high-end vacation home sales. Approximately 1,480 single-family and condominium units were built in the HMA since 2000. Of these, about 80 percent are priced from \$45,000 to \$120,000, with the balance priced up to \$330,000.

Sales market conditions are best for single-family units priced between \$70,000 and \$120,000. Sales of homes in the \$120,000 to \$200,000 price range are slower, averaging 6 to 12 months. Sales of units with price tags above \$200,000 have been very slow, taking more than a year to sell. The market above \$200,000 is primarily vacation homes and at present that segment of the market is very soft and expected to remain sluggish during the forecast period.

The economy of the area is expected to expand during the forecast period, but at a slightly reduced rate than has occurred since 2000, and to resemble growth during the 1990s. Therefore, demand for additional housing during the forecast period will be moderate, provided mortgage interest rates remain at current or slightly higher levels.

Rental Market Conditions

The rental market was relatively balanced in the 1990 and 2000 Censuses, when the overall rental vacancy rates for the HMA were 6.0 percent and 6.7 percent, respectively. The December 2003 vacancy rate was estimated at around 5.0 percent, which suggests tighter but still balanced market conditions in which new rental construction would be absorbed. An additional demand for 260 units is anticipated to be absorbed during the forecast period.

Because demand occurs at rent levels considered by developers as too low to make development of new large-scale multifamily housing feasible without some form of subsidy, virtually no new, unsubsidized rental housing was built in the HMA as of December 2003, except for a few units in small, walk-up projects containing four to six units per building. High land prices and development costs, as well as insufficient renter household income, are cited as reasons for the lack of large-scale, multifamily rental

project production. Notwithstanding, developers continue limited small-scale, new apartment unit construction. The comparatively lower development and operating costs of these units enable them to be marketed at more affordable prices.

Average monthly market-rate rents for recently developed, standard-quality housing in the Aguadilla HMA for one-, two-, and three-bedroom units are \$275, \$350, and \$400 respectively. Rents do not include the cost of utilities.

The HMA is home to three college campuses with a total enrollment of 9,000 students. These educational facilities do not have dormitories on campus. Approximately 600 students occupy units in the local rental market. Most students rent two- and three-bedroom single-family units in shared living arrangements with up to four students per bedroom. The rent for these units ranges from \$500 to \$600 a month. Students who can afford higher rents usually lease one-bedroom apartments for about \$275 a month, but these units are scarce.

Forecast Housing Demand

Approximately 2,000 households are expected to be added in the Aguadilla HMA during the 2-year forecast period. Taking into consideration current construction activity and vacancies, anticipated losses to the inventory, and tenure shifts during the forecast period, annual demand for new housing is estimated at 1,000 units a year, 870 of which will be for new sales housing and 130 for rental housing.

The projected demand for 870 sales units a year will be found mostly in the single-family housing market for moderately priced units. The projected annual demand of 130 rental housing units is expected to be predominantly in lower-rent housing.

Rental housing demand is expected to continue to be met primarily by single-family conversions and small-scale apartment construction, as low renter income levels, coupled with the high costs of land and construction, impede profitable development of new market-rate rental projects in the area.

Table 1
Labor Force and Total Employment
Aguadilla HMA
1992 to November 30, 2003

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Previous 12 Mos.	Current 12 Mos.
Labor Force	47,102	47,852	46,667	47,684	49,482	51,489	51,782	46,460	46,088	47,095	49,329	49,150	50,400
Employment	36,747	37,395	37,648	39,059	39,611	41,363	42,337	38,419	38,937	38,871	40,777	40,650	42,300
Unemployment	10,355	10,457	9,019	8,625	9,871	10,126	9,445	8,041	7,151	8,224	8,552	8,500	8,075
Rate (%)	0.22	0.219	0.193	0.181	0.199	0.197	0.182	0.173	0.155	0.175	0.173	0.173	0.159

Source: Puerto Rico Department of Labor

Table 2
Nonfarm Employment by Industry
Aguadilla HMA
2000 to November 30, 2003

Employment Sector	2000	2001	2002	12 Mos. Ending 11/30/2002	12 Mos. Ending 11/30/2003
Total Nonfarm Employment	24,468	24,528	25,364	25,300	25,550
Goods-Producing	7,318	7,238	7,007	7,025	6,700
Natural Resources & Mining	291	357	318	320	290
Construction	1,214	1,181	1,282	1,275	1,225
Manufacturing	5,813	5,700	5,407	5,425	5,175
Services-Providing	17,150	17,290	18,357	18,250	18,850
Trade/Transport./Utilities	4,323	4,222	4,306	4,300	4,275
Information	183	155	145	140	140
Financial Activities	731	765	777	780	810
Professional & Business	891	874	946	940	950
Education & Health	4,645	4,806	5,135	5,100	5,300
Leisure & Hospitality	1,424	1,544	1,302	1,325	1,175
Other Services	198	178	169	170	150
Government	4,755	4,746	5,577	5,500	6,050

Notes: Data before 2000 not available by North American Industrial Categories (NAIC) classification.

Numbers may not add to totals due to rounding.

Source: Puerto Rico Department of Labor

Table 3
Population and Household Trends
Aguadilla HMA
April 1, 1990 to December 1, 2005

	April 1, 1990	April 1, 2000	Current Date	Forecast Date	Average Annual Change					
					1990 to 2000		2000 to Current		Current to Forecast	
					Number	Rate (%)	Number	Rate (%)	Number	Rate (%)
Population										
Aguadilla HMA	128,172	146,424	152,100	155,200	1,825	1.3	1,550	1.0	1,550	1.0
Aguadilla submarket	59,335	64,885	66,300	67,100	550	0.9	390	0.6	400	0.6
Remainder submarket	68,837	81,539	85,800	88,100	1,275	1.7	1,150	1.4	1,150	1.3
Households										
Aguadilla HMA	37,612	48,319	51,550	53,150	1,075	2.5	880	1.8	800	1.6
Aguadilla submarket	18,198	22,087	23,300	24,000	390	2.0	330	1.5	350	1.5
Remainder submarket	19,414	26,232	28,250	29,150	680	3.0	550	2.1	450	1.6

Notes: Rate of change calculated on a compound basis. Annual averages may not add to totals due to rounding.

Sources: 1990 and 2000, U.S. Census Bureau

Current and Forecast: Estimates by analyst

Table 4
Housing Inventory Tenure and Vacancy
Aguadilla HMA
1990 to December 1, 2003

	Aguadilla HMA			Aguadilla Submarket			Remainder Submarket		
	1990	2000	Current	1990	2000	Current	1990	2000	Current
Total Housing Inventory	43,068	54,725	57,750	20,761	24,882	25,950	22,307	29,843	31,800
Occupied Units	37,612	48,319	51,400	18,198	22,087	23,300	19,414	26,232	28,050
Owners	27,886	35,498	38,250	12,090	14,677	15,750	15,796	20,821	22,450
%	74.1	73.5	74.4	66.4	66.5	67.6	81.4	79.4	80.0
Renters	9,726	12,821	13,150	6,108	7,410	7,550	3,618	5,411	5,625
%	25.9	26.5	25.6	33.6	33.5	32.4	18.6	20.6	20.0
Vacant Units	5,456	6,406	6,125	2,563	2,795	2,600	2,893	3,611	3,575
Available Units	1,239	1,642	1,350	751	864	660	488	778	740
For Sale	614	722	660	390	341	300	224	381	410
Rate (%)	2.2	2.0	1.7	3.1	2.2	1.9	1.4	1.8	1.8
For Rent	625	920	690	361	523	360	264	397	330
Rate (%)	6.0	6.7	5.0	5.6	6.6	4.5	6.8	6.8	5.5
Other Vacant	4,217	4,764	4,775	1,812	1,931	1,925	2,405	2,833	2,825

Note: Numbers may not add to totals due to rounding.
Sources: 1990 and 2000, U.S. Census Bureau
Current: Estimates by analyst

Table 5
Residential Building Permit Activity
Aguadilla HMA
1992 to December 1, 2003

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003 ^a
Aguadilla HMA												
Total	278	310	313	272	361	389	561	744	617	565	443	697
Single-family	274	297	302	266	339	302	451	647	529	482	397	538
Multifamily	4	13	11	6	22	87	110	97	88	83	46	159
Aguadilla Submarket												
Total	170	171	158	154	223	239	204	504	388	251	223	435
Single-family	166	158	155	148	205	158	196	429	334	177	185	341
Multifamily	4	13	3	6	18	81	8	75	54	74	38	94
Remainder Submarket												
Total	108	139	155	118	138	150	357	240	229	314	220	262
Single-family	108	139	147	118	134	144	255	218	195	305	212	197
Multifamily	0	0	8	0	4	6	102	22	34	9	8	65

^a Permits issued through November 30, 2003.
Source: Puerto Rico Planning Board