DUNNELLON POPULATION PROJECTIONS

Population projections for Dunnellon were developed in 1987 through the use of the small-area population projections computer program developed by the Bureau of Economic and Business Research (BEBR) in Microcomputers and Economic Analysis: Spreadsheet Templates for Local Governments, 1987. The template calculates four projection techniques based upon the extrapolation of historical population trends of the town and its parent county. However, in July 1989, the population projections were recalculated, as the Department of Community Affairs has indicated it may not accept projections completed using the BEBR Template.

Population Trends

Table 20 depicts the historical growth trends of Dunnellon and Marion County since 1973.

TABLE 20
CITY AND COUNTY DATA: 1973-1989

Year	City Population	Annual % Age Change	County Population	Ratio City/County
1973	1,240		83,327	.015
1974	1,283	3.5	92,522	.014
1975	1,298	1.2	93,469	.014
1976	1,207	-7.0	98,362	.012
1977	1,209	0.2	101,148	.012
1978	1,257	4.0	102,722	.012
1979	1,307	4.0	106,852	.012
1980	1,427	9.2	122,488	.012
1981	1,451	1.7	129,320	.011
1982	1,492	2.8	135,087	.011
1983	1,488	-0.3	141,991	.010
1984	1,561	4.9	148,864	.010
1985	1,662	6.5	157,853	.011
1986	1,741	4.8	166,606	.010
1987	1,731	-0.6	174,614	.010
1988	1,748	1.0	182,329	.010
1989	1,799	2.9	190,742	.009
1990	2,238	24.4	194,833	.011

Source: Florida Estimates of Population, April 1, 1988, Florida Statistical Abstract periods 1974-1988, Bureau of Economic and Business Research, and City of Cunnellon, household count, billing register for solid waste pick-up, 1990.

Most recent estimates for the City's population are provided by BEBR, and indicate a 1990 population of 1,874 persons. This figure will be used as the base figure in calculating future populations.

METHODOLOGY

Two methods were used to develop population projections: the ratio method and geometric extrapolation. A linear method was not used, since the population over time has shown no indication of linear growth.

The ratio method uses historical data to calculate the ratio of the City to County population each year, as shown in Table 20. The historical data indicate that the population of Dunnellon, as a portion of the county population, decreased consistently from 1973 to 1989; however, since 1989 the trend has reversed (see Table 2). The City's most current population count for 1990, 2,238, is based upon the following:

Household count, billing register for solid waste pick-up:	1,145
Vacant house count:	- 99
Net households:	1,046
Factor of persons per household:	X 2.14
Total population, 1990:	2,238

This figure represents a ratio to the Marion County population of .011 (2238/194,833), an increasing share of the county's residents. For the purpose of predicting a trend, however, the average ratio of city to county population was calculated for the ten year period from 1981 through 1990, producing a ratio of .010. As Pinellas, Hillsborough and Pasco Counties become more congested in the next twenty years, Marion County will feel increasing growth pressure. However, growth within the City of Dunnellon is not projected to occur at a larger rate than the county, as this ratio has remained fairly stable throughout the past ten years. Therefore, for the purpose of projecting a ratio of city to county population on which to base projections for the planning timeframe, the City is using a factor of .010.

This ratio is multiplied by the county medium range projections to calculate the City's share of the county's population as presented in Table 21.

TABLE 21

RATIO METHOD PROJECTIONS FOR CITY TO COUNTY

	1995	2000	2005	2010
County*	232,500	261,400	289,800	318,500
County				
X.010	2,325	2,614	2,898	3,185

* Medium range projections for Marion County derived from Population Studies, BEBR, Bulletin #83, January, 1988.

A geometric extrapolation method was also used to calculate population projections for the City. The annual percentage change in population for the City was averaged over the time frame, and this figure was used to project future population. The results, using the annual average growth rate of 2.35 percent, based upon the formula (log[Y-X/X + 1]/t) exp - 1 X 100, are as follows:

TABLE 22
Projections derived from Geometric Extrapolation Method

YEAR	CITY PROJECTIONS
1995	2,514
2000	2,823
2005	3,170
2010	3,560

The two methods result in different numbers, with the ratio method showing an increase in population of 947 (3,185 minus 2,238) persons over twenty years. The geometric extrapolation method shows an increase in population of 1,322 (3,560 minus 2,238) persons over the next 20 years. Because the ratio method is based upon constant proportional growth for the City of Dunnellon as compared to Marion County, and the geometric extrapolation method shows an increasing proportion of city to county over the timeframe of the plan, the ratio projections have been chosen as more reasonably reflecting the future growth of Dunnellon.

Planning Time frame

Chapter 9J-5, F.A.C. requires each local government comprehensive plan include at least two planning periods: one for at least the first five-year period subsequent to the plan's adoption and one for at least an overall ten-year period. Since the planning time frames for Dunnellon must include the years 1996 and 2001, the projections have been interpolated to include those years.

Table 23
RATIO METHOD PROJECTIONS, INCLUDING INTERPOLATION

YEAR	CITY PROJECTION
1995	2,325
1996	2,383
2000	2,614
2001	2,671
2005	2,898
2010	3,185

Source: HENIGAR & RAY, INC. 1991.

Seasonal Population Projections

Determination of municipalities' seasonal population is recognized as a difficult task; minimal seasonable data are available from sources such as the U.S. Census and the Bureau of Economic and Business Research. Therefore, both existing and future projections of Dunnellon's seasonal population will be based upon the following data:

1. Homes held for seasonal, or migratory use from the 1980 U.S. Census,
2. Estimates of visitors to motels, hotels, RV parks, campgrounds and rooming houses, and occupancy rates,
3. Monthly data from the Dunnellon Public Works Department for utility hook-ups.
4. Average household size to determine number of persons per seasonal unit.

Data from the U.S. Bureau of Census indicates that there were 34 housing units identified for seasonal and migratory use in 1980. The existing average household size for Dunnellon has been estimated to be 2.14. (Methodology for estimating current household size was provided earlier in this document.) By multiplying the number of seasonal housing units by the average household size, a seasonal population of 73 results. These data were compared with data supplied by the Dunnellon Public Works Division for monthly utility hook-ups from July 1987 to June 1988. Table 24 lists the utility hook-up data. The month of July was chosen as the base month, while the month of April was chosen to represent peak seasonal month. There is a difference of 43 housing units for utility hook-ups between the base and peak

months. Using the average household size of 2.14, 92 people are attributed to the seasonal population accommodated by dwelling units. Variation between this 1988 figure and the figure derived from the 1980 Census indicates an estimated increase in seasonal population of 26 percent.

Because the data provided by the Dunnellon Public Works Department provide the most recent estimates for seasonal and migrant use, it will be used to calculate the total estimate of existing seasonal and migrant population for Dunnellon.

TABLE 24

UTILITY HOOK-UP DATA

Month	Residential Accounts
July 87	773
August 87	774
September 87	789
October 87	792
November 87	798
December 87	810
January 88	808
February 88	809
March 88	809
April 88	816
May 88	812
June 88	804

Source: Dunnellon Public Works Department, July 1988.

Data compiled from a survey completed by Henigar & Ray personnel in July 1988, indicate there are four hotels and motels which provide a total of 61 rooms for seasonal use. The average size of the group per room is 2.0 persons and an occupancy rate of 80 percent was estimated. Using these data it is calculated that approximately 122 visitors are accommodated by motels and hotels within the City limits.

Seasonal population estimates derived from the above techniques are 214 persons. Seasonal population in Dunnellon accounts for 12.2 percent of the total population in 1988, while seasonal population accounts for approximately 0.1 percent of Marion County's total that year.

The overall increase in seasonal population for Dunnellon for the period between 1980 and 1987 is calculated to be 9.7 percent, or 1.4 percent yearly. This estimate assumes there has been no change in hotel occupancy rates. In comparison, the County of Marion has projected an increase of 5.8 percent yearly for its seasonal population. If the City's seasonal population continues to grow at the annual rate of 1.4 percent, it is estimated that the seasonal population of Dunnellon will be 220 in 1990. Table 25 depicts the seasonal projections based upon this methodology. Of course, this increase is based upon the assumption that the demand for residential dwellings for seasonal use will continue to increase at the same rate. Although there is no available means for predicting seasonal demand for dwelling units, it is suggested for projection purposes that existing demand for seasonal dwelling units does reflect the total seasonal demand. Furthermore, it is estimated if future residential housing supply cannot

accommodate seasonal demand that this demand will be reflected in an increase in motel occupancy rates. Significant increase in demand which cannot be met by residential dwellings or existing motels and hotels may result in a demand for additional hotel, motel, fish camp or other seasonal accommodations if market conditions are favorable.

TABLE 25

CITY OF DUNNELLON

PERMANENT AND SEASONAL POPULATION PROJECTIONS

	Seasonal[1]	Permanent	Total
1988	214	1,748	1,962
1990	220	2,238	2,458
1995	235	2,325	2,560
1996	239	2,383	2,622
2000	252	2,614	2,866
2001	256	2,671	2,927
2005	271	2,898	3,169
2010	290	3,185	3,475

Source: Henigar & Ray, February 1991.[1]

[1]Based upon annual growth rate of 1.4 percent.

Income Range of the Projected Population

The projected income ranges for Dunnellon's future population assume minimum changes, adjusted for inflation, from the existing percentage of households within each income range as indicated in Table 4. As discussed earlier, the data provided in the Traffic Circulation Element indicates the possibility that interchanges associated with limited access facilities could locate near the Dunnellon area. Interchanges could increase opportunities in the area for commercial growth, such as fast food restaurants, motels and service stations. Such growth could result in increased employment opportunities which generate low to moderate income. Although employment opportunities may increase as a result of increased transportation facilities in the area, and some extension of growth from the City of Ocala, it is not anticipated that this growth would contribute to significant changes in income ranges. Because the area has traditionally attracted a retiree population, it is estimated that income of future residents will continue to predominate in the lower income ranges. Table 26 depicts the projections by income range.

Future Housing Needs

Table 27 provides estimates for projected housing needs based upon population projections and an average household size of 2.14. In order to ensure that future residents and seasonal visitors have a wide range of market choices for housing, a six percent vacancy rate has been applied to the projected housing needs. It is

estimated that a total of 1,181 dwelling units will be needed by 1996; and 1,323 dwelling units will be needed by 2001. There are approximately 928 dwelling units located in the City, based upon census and building permit data. Therefore, the City will need an additional 372 units by 1996 and 142 additional units by 2001. An additional 254 dwelling units are needed by 2010. This calculates to approximately 14 housing units per year, until the year 1996; 28 housing units annually between 1996-2001, and 28 housing units annually to the year 2010.

Based upon the data provided in this element, and the Future Land Use element, it is estimated that no additional rural or migrant farmworker housing will be needed. It is recommended that provisions for future housing be directed towards smaller and older households, particularly those in the lower income range. Additional rental housing is needed for lower income households.

TABLE 26

FUTURE HOUSING DEMAND

DUNNELLON

	1980*	1990	1996	2001	2005	2010
Permanent Population	1,427	2,238	2,383	2,671	2,898	3,185
Projected No. of Permanent Households	667	1,046	1,114	1,248	1,354	1,488
Projected No. of Housing Units needed, assuming 6 percent Vacancy Rate	N/A	1,109	1,181	1,323	1,435	1,577

* U.S. Bureau of the Census.

Source: Henigar & Ray, Inc., October 1991.

Based upon average household size of 2.14.

TABLE 27

PROJECTED HOUSEHOLD INCOMES IN 2010

Income in Dollars	Project No. of Households 2010	Percent Households in 1980
Less than 5,000	327	22.0
5,000 to 7,499	187	12.6
7,500 to 9,999	183	12.3
10,000 to 14,999	243	16.3
15,000 to 19,999	223	15.0
20,000 to 24,999	124	8.3
25,000 to 34,999	94	6.3
35,000 to 49,999	89	6.0
50,000 to 74,999	0	0
75,000 or more	18	1.2
TAL	1,488	100

Source: U.S. Bureau of the Census, 1980 and Henigar & Ray, Inc. 1991.

Note: Calculated in 1990 dollars.

Projected Housing Needs

It has been projected that Dunnellon will need to provide 468 additional housing units by the year 2010, assuming maintenance of historic vacancy rates. Based upon historic analysis of Dunnellon's demographic characteristics and household size, the assumption can be made that the recent trends for the period 1980-1988 will continue to mold the City's future. By applying the existing percentage of housing types for Dunnellon to the projected number of housing units for each planning horizon timeframe, projections for single-family, manufactured (mobile) and multi-family homes have been determined. Table 28 shows the projected housing type of unit for 1991-2010.

Table 29 provides information on household size, in order to determine housing need by size. Since there is no other information available to project the number of households by size for the planning timeframe, the data from the US 1980 Census provides the best available data on trends for household size. Projections for future household size were obtained for the population assuming the percentages for each size provided by the 1980 Census would remain the same. The projections are provided in Table 26.

In order to determine the housing need of the population by cost or rent and tenure, the percentages of housing units from the 1980 Census in each value category were used to project future housing needs. These projections are provided in Table 30, and indicate there will be a demand by 76 percent of households for homes costing less than $50,000 (1991 dollars). Further, 91.9 percent of the households will need homes under $100,000.

Further analysis was completed to ascertain the need for rental housing and costs of such housing. According to the 1980 Census, at least 17 percent of Dunnellon's housing stock is renter-occupied. Table 31 provides an estimate of the rental housing need by rent, based upon percentage costs from the 1980 Census.

TABLE 28

PROJECTED HOUSING NEED - BY TYPE OF UNIT
1991 - 2010

Type of Housing	1995	2000	2010
Single-Family Homes	52	102	182
Manufactured (Mobile) Homes	8	16	29
Multi-Family Homes	12	24	43
TOTAL NEW HOMES	72	142	254

Note: Based upon a projection that future housing mixes will be consistent with existing trends of: 71.6% single-family; 16.8% multi-family; and 11.4% mobile homes.

Source: Henigar & Ray, Inc., 1991.

TABLE 29

PROJECTED HOUSEHOLD SIZE
1980 through 2010

Household	Number of Households 1980	1996	2001	2010	Percent of Total
1 person	192	347	387	446	30
2 persons	273	499	555	640	43
3 persons	65	116	129	149	10
4 persons	55	105	116	134	9
5 or more persons	51	93	103	119	8
TOTAL	636	1,160	1,290	1,448	100

Source: For 1980, US Bureau of the Census. For 1996 and 2001, Henigar & Ray, Inc. 1991, based upon the percentage of households for each size provided by the 1980 Census.

TABLE 30

PROJECTED HOUSING NEED BY COST
THROUGH YEAR 2010

Projected Value[1] of Units	1980 Percentage of Houses in Price Range	Number of Houses Needed: 1996	2001	2010
Less than $ 10,000	7.9	92	102	121
$ 10,000 to $ 19,999	19.5	226	252	300
$ 20,000 to $ 29,999	26.6	308	343	408
$ 30,000 to $ 49,999	22.3	259	288	343
$ 50,000 to $ 79,999	15.6	181	201	240
& 80,000 to $ 99,999	3.5	41	45	54
$100,000 to $149,999	3.2	37	41	49
$150,000 to $199,999	0.7	0.8	.9	49
$200,000 or more	0.7	0.8	.9	49
TOTAL	100	1,160	1,290	1,537

[1]Value in 1991 dollars. Inflation rate has not been assumed.

Source: U.S. Bureau of the Census, 1980 for 1980 percentages. Projections by Henigar & Ray, Inc., 1991.

TABLE 31

PROJECTED RENTER-OCCUPIED UNITS BY GROSS RENT
THROUGH YEAR 2010

Gross Rent	Percentage of Rental Units Price Range 1980	Number of of Rental Units Needed 1996	2001	2010
Less than $60	1.6	3	3	4
$ 60 - $ 79	3.3	6	7	8
$ 80 - $ 99	6.6	13	14	17
$100 - $119	8.2	15	17	21
$120 - $149	13.9	26	30	35
$150 - $169	-	-	-	-
$170 - $199	13.1	25	28	33
$200 - $249	22.1	42	47	56
$250 - $299	8.2	16	17	21
$300 - $349	7.4	14	16	19
$350 - $399	-	-	-	-
$400 - $499	-	-	-	-
$500 or more	-	-	-	-
No cash rent	15.6	29	33	39
TOTAL	100	189	212	253

Source: U.S. Bureau of the Census, 1980. Projections by Henigar & Ray, Inc., 1991.

* The existing percentage of renters in 1980 was 17 percent. This percentage is assumed to remain constant, since there are no other data available to assume otherwise. Further, it is assumed that single-family homes can be utilized as rental units. Note also that the Table reflects 1991 dollars.

The City needs a total of 468 additional housing units by the year 2010 to accommodate its permanent residents: 372 additional units by 1996, and 142 additional units by 2001. To accommodate the housing needs of the City's future residents, approximately 294 additional acres of land have been designated on the Future Land Use Map for exclusive residential use.

Approximately 63 additional acres have been designated for one dwelling unit or less. At an average of 1 dwelling unit per acre, approximately 63 housing units could be realized in this area. Approximately 260 acres have been designated for densities of up to 5 dwelling units per acre; at an average density of 3 dwelling units per acre, approximately 780 dwellings could be realized. Approximately 18 acres have been designated for densities of 5.1-12 dwelling units per acre. At an average density of 9 dwelling units per acre, approximately 162 units could be realized. No additional land has been designated for mobile home parks. Based upon the above scenario, it is estimated approximately 1,005 units would be accommodated by the year 2010. As noted previously there is a need for approximately 468 additional units by the year 2010. This is approximately 537 more units than would be needed based upon permanent population projections. However, it is assumed that this surplus would accommodate seasonal populations, as well as allow a range of market choices for residential development, thus furthering community redevelopment opportunities for the City, as well as encouraging compact growth within the City as opposed to encouraging urban sprawl outside the City.

It is estimated that no housing units will require removal, therefore, replacement of housing units is not necessary.

Role of the Private Sector

The previous tables provide an analysis of housing needs to the year 2010 by type, tenure and income range of households served. It is anticipated that the private sector shall meet the entire portion of the City's housing needs, including purchase of the land construction, and housing types in the price ranges listed in Tables 27 through 31. While the private sector will most likely utilize available capacity of the City's water and sewer facilities, the private sector shall be responsible for paying its fair share for connection to those services, as well as providing for drainage, recreation and roads.

Dunnellon has recently applied for Community Development Block Grant funding to receive assistance from the State and federal governments for rehabilitation of substandard housing. This financial assistance, obtained on behalf of the City, is used to fund private developers who do the actual rehabilitation work. The City and the private sector will work together in these rehabilitation activities.

The City relies upon the private sector to assist in the development of all its housing needs. The private sector is informed by the City of its housing needs, and availability of financial assistance through application of grant programs. It is evident that coordination by the City with the State and federal government and the private sector is an effective means for provision of its housing needs. It is recommended that the City continue to work with the State and federal government for financial assistance in its rehabilitation activities.

The City has provided affordable single-family opportunities for its residents through its numerous mobile home parks. Provision of housing needs for low and moderate income rental housing is currently provided within the City through the allowance of mobile homes, multi-family apartment units, and through a 72 unit apartment complex under the Section 515 Rural Rental Housing Program.

Analysis of future conditions shows the need for more low and moderate housing which can continue to be satisfied through the continued allowance of mobile homes and multi-family development. Undeveloped land is available for these uses, as is outlined beginning on page 59. As regards new multi-family unit construction or new mobile home facilities, the private sector is expected to provide in response to market demand. The City can support the public sector through flexible zoning, allowing the use

of development techniques such as clustering and zero lot line and by support and encouragement of public/private ventures and by ensuring that only safe and structurally sound housing is permitted. However, the City should continue to encourage development by the private sector of additional affordable multi-family housing, particularly very-low and low income rental housing, through: continued support of federal and state grant application and administration for the provision and rehabilitation of housing; and, incorporation of zoning incentives and provisions for affordable housing in the land development regulations.

CONCLUSION

In addition to coordination with other government entities and partnerships with the private sector, other methods are suggested for promoting adequate housing to meet the City's needs. Objectives and policies to implement the plan for housing should ensure that all residential development coincides with provision of adequate infrastructure, including development of low and moderate income housing. It is suggested that the land development regulations contain provisions to ensure that group homes are allowed in residential neighborhoods, and integrity of residential neighborhoods are maintained.