

Hillsborough County Estimates and Projections Population, Employment, School Enrollment, Hotel/Motel Rooms 2000, 2015, 2025 for Small Areas



April, 2004

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INTRODUCTION

The demographic and economic data in the following report are used in the 2004 update of the Metropolitan Planning Organization's (MPO) 2025 Long Range Transportation Plan (LRTP). However, they can be used for any planning or research effort in Hillsborough County. A portion of the data concerning population projections will also be used during the Evaluation and Appraisal Reports (EAR's) and updates of Hillsborough County's four jurisdictional governments' comprehensive plans – unincorporated Hillsborough County and the Cities of Tampa, Plant City and Temple Terrace. As the land planning agency for Hillsborough County's four jurisdictions, the Planning Commission has the responsibility to produce data and conduct research for the comprehensive planning process.

Appendices One through Four contain the four sets of data for the LRTP update. Only Appendix One, population and housing data, will be used in the comprehensive plan update process. The data in the other appendices are used for the LRTP update. Appendix Five maps the 738 traffic analysis zones.

Please note that the data in Appendix One does not include population in Groups Quarters, as the Group Quarters population is not required for the LRTP. However, population data by census tract with group quarters population included is needed for the comprehensive plan update process. The total population for all census tracts, including group quarters, is on the Planning Commission's website at www.theplanningcommission.org under Reports and Publications.

The four types of data are:

- Appendix One – Household population and dwelling units.
- Appendix Two – Employment by the sub-categories of industrial, regional commercial, local commercial, regional service and local service.
- Appendix Three – School enrollment for K-12 public and private schools and Higher education.
- Appendix Four – Hotel units are presented in the sub-categories of business, resort and economy.

- Appendix Five – 2003 Hillsborough County Traffic Analysis Zone map.

In all Appendices, the data are presented for the total county and its jurisdictions by Traffic Analysis Zone (TAZ). All data are shown for the years 2000, 2015 and 2025.

The methodologies used to produce the data contained in the four Appendices are presented in the next four sections. The reader is also encouraged to read the notes at the end of each of the appendices. Initial and intermediate data sets mentioned during the methodologies presented below are available at the Planning Commission.

METHODOLOGY FOR PROJECTING POPULATION AND DWELLING UNITS – 2005, 2015, 2025 FOR JURISDICTIONS, CENSUS TRACTS AND TRAFFIC ANALYSIS ZONES

The population projections in Appendix 1 were developed with a “top-down” approach. Countywide control totals are provided by the University of Florida’s Bureau of Economic and Business Research (BEBR) in a yearly publication. (The publication date for the countywide projection used in this methodology is January 2003, *Florida Population Studies, Bulletin 134*.)

The population projections presented in this section and the other subject area’s discussed are actually forecasts (with the exception of the control total provided for the entire county by the Bureau of Economic and Business Research). Forecasts are generally driven by some form of policy or philosophical direction; whereas projections are generally based upon past trends or mathematical models. The policy direction followed by Planning Commission staff throughout the process was provided by the Planning Commission, which is to whenever possible encourage more compact urban growth within the Urban Service Area and the Cities and do not encourage urban sprawl. Staff also operated under direction to encourage redevelopment of existing areas to a “higher and better” use whenever possible.

Countywide Population Control Total

Land Planning Agencies (LPA’s) are required by the State’s comprehensive planning law to use the middle of the three yearly projection series provided by BEBR in its yearly publication unless there is a statistically sound alternative the LPA desires to present. The BEBR medium has generally been accepted by the Planning Commission as the most appropriate population projection. The middle or medium Hillsborough County BEBR population projection for 2025 is 1,460,900 – which is approximately 462,000 more than the county’s 2000 census estimate.

Population growth of 462,000 over twenty-five years is a net increase of roughly 18,500 people per year, substantially less than the growth of 28,200 people per year that took place in the county between 2000 and 2003 (*Source: The Planning Commission Annual Population and Housing Estimate reports for 2001, 2002 and 2003*). Another way of presenting this is that 18.3% of the population growth

projected by BEBR for the 25 years has already taken place between 2000 and 2003 or 12.0% of the projection time period. Consequently, the countywide population control total provided by BEBR assumes a slow-down in population growth some time over the next 22 years.

Jurisdictional Control Totals

Once the control total for all of Hillsborough County, provided by BEBR, has been accepted, it becomes the LPA's responsibility to distribute the new population among the county's four jurisdictions – followed by distribution to the census tract level for comprehensive planning purposes and to the TAZ level for the 2025 LRTP.

At this stage in the process, the Planning Commission involved staff from the four jurisdictional governments and all the agency's internal planning teams. All of the information presented below was discussed with staff from the four jurisdictional governments and all questions were answered with the result that there were no significant objections. The jurisdictional projections were made within the boundaries of each jurisdiction as of April 1, 2002, with the exception of the "K-Bar Ranch" annexation made by Tampa of unincorporated county – the K-Bar Ranch annexation was a known but not finalized until after April 1, 2002.

For discussion and analytical purposes, there were several different methods used to project jurisdictional control totals. Linear regression was used projecting each jurisdiction's share of the total county's population using 1970-2002, 1980-2002, and 1990-2002 as the reference time periods. Logistic curve and other ratio methods were also employed. After discussion, **it was decided that the Linear Regression of each jurisdiction's share of the county's population from 1980-2002 produced the most reasonable results.** This choice seemed particularly relevant since the City of Tampa was entering a period of annexation in 1980 that is similar to the one entered in the last 1990's and lasting until 2002.

Census Tract Level Population Projections

Following the allocation of population projections to the four jurisdictions, the next step was to allocate the population within each jurisdiction to its census tracts. (Some census tracts overlap jurisdictional boundaries, in which case an allocation was made to each portion of the census tract in each jurisdiction) The census tract level population projections to 2025 took place in two steps described below. Planning Commission staff **phased** in the projections to 2025 to

the interim years of 2015 and 2005 based upon the information used in the two steps described below and a visual land use/economic analysis of each tract using several GIS layers. Phasing generally assumed more yearly population growth between 2000 and 2015 then between 2015 and 2025.

The first step was to provide in-house jurisdictional teams, jurisdictional staffs and a representative from the School Board with several population projection options to discuss for each census tract. The discussion was supplemented by extensive GIS support that included an aerial of each census tract that could be overlaid in the meeting with existing land use, future land use, planned developments and/or environmental constraints. We also had available the total amount or acreage in each census tract and the amount of developable land in each tract. If none of the options described below seemed appropriate to the group, then a “planners’ judgment” option was agreed to that with very few exceptions fell within the range of options that had been discussed.

The Five Options for Each Census Tract

- Simple Linear Regression of the 1990 to 2002 trend in population change,
- Constant Share – it was assumed that the census tract maintained a constant share of its jurisdiction’s total over the projection period,
- Jurisdictional Growth Rate – it was assumed that the census tract would grow at the same annual percentage rate of its jurisdiction over the projection period,
- Effective Density – each census tract was assumed to grow over the projection period in a similar manner to the observed growth over the recent past in built-out census tracts with a future land use similar to the one under discussion,
- Build-out Density – each census tract was assumed to build out at the maximum density allowed under its jurisdiction’s comprehensive plan.

The second step was to sum the census tract options selected by the group and calculate each census tract as a proportion of this “interim” control total for each jurisdiction. This proportion was then applied to the jurisdictional control total agreed to earlier to obtain that census tracts final draft projection for 2025. Staff performed several smoothing exercises that were minor in nature; however, it added to the reasonableness of the final census tract projections.

Traffic Analysis Zone (TAZ) Population Projections

Due primarily to their small size and extreme diversity, there are limited standard projection methods that will produce satisfactory results for TAZ's. One of the first issues that makes the choice of methods more difficult is a lack of a satisfactory time series of data at the TAZ level, the number of TAZ's is changed (increased) at each LRTP update. There are 738 TAZ's used for this LRTP and the one adopted in 2001. A conversion to 718 from 738 TAZ's was available for 1995. Consequently, an examination was made of projecting a TAZ's share of its census tract's population in 2025 using this eight year trend line; however, the results were satisfactory for only a small number of TAZ's. There is the Tampa Bay Urban Land Use Allocation Model (TBULAM) available; however, it requires numerous data inputs that are not available, and it does not allow satisfactorily for redevelopment.

Consequently, the projection method was to allocate future shares of growth for each TAZ from its census tract to the projection years of 2005, 2015 and 2025 by a visual examination using several GIS layers. The layers were the same as those discussed above for the census tract projections and started with a high resolution 2002 aerial for each TAZ. Based on this data, each TAZ was assigned a percentage of its census tract's future growth. There were two manual smoothing exercises performed on the TAZ projections for all projection years following the allocation of shares of future growth that resulted in the population data presented in Appendix One.

The population projections were converted to dwelling units using 2000 data. TAZ's on jurisdictional boundaries received special attention; however, the basic method was to apply census block group level occupancy rates and persons per household to the projected population for each accompanying TAZ. The result is dwelling units by TAZ.

METHODOLOGY FOR PROJECTING EMPLOYMENT IN FIVE CATEGORIES -- 2005, 2015 AND 2025 FOR COUNTYWIDE AND TRAFFIC ANALYSIS ZONES

For purposes of the LRTP, employment data is not required at the jurisdictional or census tract level of analysis. This data will be prepared at a later date by the Planning Commission and placed on the agency's website; however, it is not required for the LRTP project. The only product that is required is traffic analysis zone projections to the years 2005, 2015 and 2025 in five categories. The five categories are General Industrial, Regional Commercial, Local Commercial, Regional Service, and Local Service.

Countywide Control Totals and Control Totals by Category

Countywide control totals were calculated to keep in line with the "top-down" approach, so that the final projections by TAZ are forced to sum to a reasonable total for the county and each type of employment. In that the Bureau of Economic Analysis does not provide long term employment projections, Planning Commission staff produced a control total first for the county and then for each employment category that sum to the county control total.

The definition of total employment used includes all wage and salary jobs located in Hillsborough County and all sole proprietors. Projecting employment is more problematic than population in that total employment includes all of the jobs held by people that have more than one job in the county, commuters, home-based employment and sole proprietors. Hillsborough County is the employment center for the Tampa, St. Petersburg and Clearwater MSA and much of the rest of the West Coast of Florida. Between 1990 and 2000, Hillsborough County maintained a roughly 45% share of all the employment in the four county MSA.

The lack of a clear dividing line that marks where Hillsborough County's potential labor pool ends and begins makes population based employment forecasts, such as Population to Employment Ratios and analyses of labor force participation trends, of limited utility. With the introduction of new or improved transportation systems such as the Suncoast Parkway feeding Hillsborough County and potential future regional transit systems, the friction of space for potential future employees seeking jobs in Hillsborough County has been greatly

reduced. Thus, the potential regional labor pool for Hillsborough County is growing at a much faster rate than in the past.

Staff performed seven different projections from which to choose the 2025 Hillsborough County control total. Control totals for 2000 were provided by the FDOT, which served as the base year for the projections. The six projections were performed as follows:

- Projection of annual absolute change in employment observed from 1985-2000,
- Projection of annual absolute change in employment observed from 1985-2002,
- Projection of annual absolute change in employment observed from 1990-2000,
- Projection of annual absolute change in employment observed from 1990-2002,
- Simple Linear Regression of the 1990 to 2002 trend in absolute employment,
- Simple Linear Regression of the 1990 to 2000 trend in absolute employment,
- Simple Linear Regression of the 1990 to 2002 trend in the rate of employment growth.

The chosen projection fell within the mid-range of all projections. It was the projection of annual absolute change from 1990-2000, which resulted in a 2025 employment projection of 1,120,400 jobs in Hillsborough County. This projection results in a decline in the rate of growth in employment from the late 1990's through the projection period. Employment growth from 1990-1995 was slowed by the 1991-92 national recession, and recessions will happen in the future.

As a check on the reasonableness of the chosen employment projection to 2025, Hillsborough County's past share of employment within the MSA was compared to projections of MSA employment to the year 2010 provided by the Bureau of Labor Market Information – 2010 was the only projection year available for MSA employment. A simple interpolation of the chosen employment projection from the year 2000 to 2025 for Hillsborough County was made to the year 2010 which resulted in the county containing 45.8% of the MSA's jobs in 2010. From 1990 to 2002, Hillsborough County's share of employment in the MSA ranged from 43.4% to 45.6% -- with the average being approximately 45%.

Total employment was phased to 2005 with full consideration of the sizable slow down in employment experienced from 2000 through 2003. Employment growth **in absolute terms** is then assumed to increase gradually from 2005 to 2025 – partly to serve the increasing county population and partly as a result of the county’s continuation as the employment center for Tampa Bay.

Control totals by employment type were produced by examining past trends in employment by type from 1990 to 2000. The observed trend by type was applied to the projections with the exception being that General Industrial employment was not allowed to reach the extremely low levels indicated by the trend from 1990 to 2000. It is assumed that the rate of decline in General Manufacturing employment will slow so that its share of total employment will decline from 20.0% in 2000 to 16.6% in 2025.

The other categories of employment are generally projected to increase as a share of total employment based upon their individual past trends with the General Manufacturing trend removed from consideration. Regional Service employment is projected to decline slightly from 50.1% of the total employment in 2000 to 48.8% in 2025. The largest gainer in employment in percentage terms is projected to be the Regional Commercial category – 7.1% in 2000 to 12.7% in 2025.

TAZ Employment Projections – Total and by Type

The TAZ employment projections for each TAZ and each TAZ by type began with the projection with Simple Linear Regression of each TAZ’s employment share (total and by share) using the trend presented by TAZ’s in the 1995, 1999 and 2000 zonal data. For the purpose of this analysis, the data from the 701 TAZ’s in 1995 and the 718 TAZ’s in 1999 were redistributed into the 738 TAZ’s used in 2001. This method produced results that seemed reasonable for approximately 20% of the TAZ.

The second step was to visually examine each TAZ as was done with the population projections. Using GIS overlays of future land use, existing land use, planned developments, and environmental constraints superimposed on a 2002 aerial, six subsequent projections or “smoothing” of each TAZ were manually made, until the entire data set presented results that were consistent with Planning Commission policy direction and regional economics.

METHODOLOGY FOR PROJECTING SCHOOL ENROLLMENT BY LEVEL -- 2005, 2015 AND 2025 FOR COUNTYWIDE AND TRAFFIC ANALYSIS ZONES

Countywide School Enrollment Total

The MPO Long Range Transportation Plan requires 2000 base enrollment figures for the grades K-12 and higher education. The school enrollment data needs include public, private and higher education enrollment. Unlike the population projection approach, school enrollment projections use a “bottom-up” approach. The projected enrollment figures needed in the future by TAZ is primarily based upon the TAZ’s population projection. The TAZ enrollment projections were added together to get the countywide total.

The Florida Department of Transportation and Hillsborough County School Board worked together to produce a listing of 2000 school enrollments, private and public, for all schools in Hillsborough County. For public enrollments, the Hillsborough County School Board maintains historical files on enrollments by school level (elementary, middle and high) and by individual school. The School Board finds that the date for producing the most accurate annual student count is the 20th day (of the school year) count at each individual school.

Traffic Analysis Zone School Enrollment Projections

The Florida Department of Transportation supplied the initial 2000 school enrollment by traffic analysis zone for Hillsborough County. This dataset was compared to the 1999 computer model school enrollment dataset for accuracy and completeness. The traffic analysis zones (TAZs) and enrollment data on the 1999 dataset (718 TAZs) were converted to the 2000 TAZ (738) numbering system. School location errors were discovered and corrected by comparing the two sets of data. The 2000 base data enrollment count for K-12 levels was 175,965 which was two percent under the 1999 base of 179,643.

All 19 of the institutions of higher education within Hillsborough County were called to get existing and projected enrollment. It was determined over the phone if these institutions had plans for expansion in the future. Private school enrollment, other than for higher education, was assumed to remain constant as a share of total school enrolment over the projection period. The 2000 base data enrollment count for higher education was 61,895 which was nearly 4,700 over the 1999 base of 57,198.

The Planning Commission's school location map and database were used to locate public schools which opened between 2000 and 2003. The Hillsborough County School Board supplied a list of known public school openings from 2004 through 2008. There were addresses available to locate all the public schools being completed by 2008 to a traffic analysis zone. Enrollments were also available from the school board for all of the schools to be completed by 2008.

Using a recently prepared School Needs Report produced by the School Board, it was known by school level that 18 additional public schools would be needed by 2015 and an additional 22 public schools would be needed by 2025. These 40 schools were sited by Planning Commission staff using population projections by census tract and TAZ. It was assumed that the projected 40 schools needed would be built were the population growth was the greatest.

Future school site location took into account existing locations of schools by grade level, the Urban Service and other natural boundaries and demographics of the area. School Board standards by school level were used to populate each of the 40 new schools as: 950 for elementary, 1,550 for middle and 2,500 for high schools. Schools gain student capacity over time; therefore, existing 2000 enrollment was increased by four percent for the 2005 projection. Likewise, it was projected that enrollment would increase four percent between 2005 and 2015; and, six percent between 2015 and 2025.

METHODOLOGY FOR PROJECTING HOTEL/MOTEL ROOMS BY TYPE -- 2005, 2015 AND 2025 FOR COUNTYWIDE AND TRAFFIC ANALYSIS ZONES

Countywide Hotel Rooms Control Totals by Type

Base data for hotel/motel room projections was provided by the Florida Department of Business and Professional Regulation. The hotel/motel sector was broken down into three categories according to classifications provided by FDOT. The three categories are *business hotels, economy hotels and resorts*. Business hotels cater to business travelers and convention attendees. Economy hotels cater to travelers spending few nights, or travelers on modest budget, or “passing through.” The resort category serves mostly tourists.

A regression analysis on hotel/motel rooms was used to project the countywide control totals for the years 2005, 2015, and 2025. Components for the projection of the hotel/motel categories (business, economy and resort) included past trends in the number of hotel/motel rooms, projected employment and an assessment of hotel/motel rooms proposed for construction in the future.

- An assessment of the regression analysis generated a countywide control total of 21,131 hotel/motel rooms for the year 2005, 30,290 hotel/motel rooms for the year 2015 and 36,766 hotel/motel rooms for the year 2025.

Following the projections and allocation of the countywide hotel/motel rooms for the period 2005, 2015 and 2025, staff calculated the share of the hotel/motel categories (business, economy & resort) from the countywide control total. The percentage share of business, economy and resort categories were accomplished by assessing and analyzing past trends in the number of business, economy and resort rooms. A share of 49 percent of the countywide control totals was observed for the business category, 42 percent for the economy category and 9 percent for the resort category. The calculated shares were applied to the countywide 2005, 2015, and 2025 control totals to obtain the control totals for the business, economy and resort categories.

Business Hotel Category - Business hotel rooms cater to business travelers and convention attendees. The calculated percentage share of the business-hotel category was applied to the countywide 2005, 2015 and 2025 control totals, producing 10,486 business-hotel rooms in 2005, 14,124 business-hotel rooms in 2015 and 16,890 business-hotel rooms in 2025.

Economy Hotel Category - The economy hotel category is defined as the sector catering to travelers spending few nights, or travelers on modest budget, or “passing through” the county. The calculated percentage share of the economy-hotel category was applied to the countywide 2005, 2015 and 2025 control totals, producing 8,897 business hotel rooms in 2005, 13,787 business-hotel rooms in 2015 and 16,948 business-hotel rooms in 2025.

Resort Hotel Category - The resort hotel category serves mostly tourists. The calculated percentage share of the resort-hotel category was applied to the countywide 2005, 2015 and 2025 control totals, producing 1,748 resort-hotel rooms in 2005, 2,379 resort-hotel rooms in 2015 and 2,928 resort-hotel rooms in 2025.

Traffic Analysis Zone Projections by Type

Staff allocated the 2003 base data by category (business, economy, resort) to the county’s 738 Traffic Analysis Zones (TAZ). The allocation of the base data was achieved by using the addresses assigned to each of the hotel/motel’s in the base data. The base data comprising of hotel/motel names and addresses were assigned their respective locations in the TAZ and also assigned to future years (2005, 2015 and 2025) by category.

An assessment of growth areas in the county, particularly the southern part of the county was made and allocated future hotel rooms based on population, employment growth and the future land use plan. Future planned developments with hotel/motel components were also evaluated and assigned respective traffic analysis zones based on the project’s proposed built-out-year and phasing schedule.