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The Regional Capacity and Possible Expansion of Holloman AFB, New Mexico: 2004

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**The Regional Capacity and
Possible Expansion of
Holloman AFB, New Mexico: 2004**



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Otero County Capacity Study

Summary Findings

As a follow-up to a study of the economic impacts of Holloman Air Force Base (HAFB), conducted by the Institute for Policy and Economic Development in 2003, a further examination into the ability of the Otero County area to absorb expanded military presence was undertaken. This study provides an examination of expansion through a number of scenarios beginning in 2006 including a set of variations in implementing any expansion scenario. Charts 1 and 2 provide a summary of the findings of this study.

This report assesses the incremental demands in 18 categories with respect to the following question: When will the additional needs become critical in terms of Otero County's ability or capacity to meet the projections? To begin, in Charts 1 and 2, we find that our analysis concludes that incremental demands for Elementary Schools, High Schools, Potable Water and Solid Waste Disposal can be met under current capacity conditions. In addition, utilization rates, capacity, and future demand levels for utilities and transportation services are not addressed in this report. Information obtained from utility providers in the region and analyses of these supplies indicate that future demand can be met under all expansion scenarios.

For the Housing Units, Hospital Beds and Child Care Centers categories, it was determined that market forces can or will respond to the incremental demands. Specifically, our analysis concludes that with current housing unit availability and the present housing construction industry capacity, projected demands will be met. Similarly, it is assumed that demands for incremental hospital beds and child care centers can be satisfied by efficient market mechanisms in the private sector.

The outlook is less optimistic with respect to projected needs for additional middle schools. Allowing for a current, assumed excess capacity or surplus of 15 percent, projected needs for middle schools exceed current capacity as early as 2006 under certain expansion scenarios.

The study finds that the following factors are at a *critical level at present*:

- Number of Physicians,
- Nurses,
- Elementary, Middle, and High School Teachers,
- Police Officers, and
- Fire Fighters.

As illustrated in Chart 2 current need is not met and any subsequent demand brought about by expansion of HAFB will add to an already critical condition of excess demand. These conditions are also reflected by the red vertical line at the year 2005 (pre-HAFB expansion for all scenarios) in Figures 3, 4, 9, 11, 13, 14, and 15 in the body of the report.

The additional number/amount of goods, services and/or human resources needed with respect to various expansion scenarios at HAFB are presented. Specifically, expansions of 500, 750, and 1,000 active military personnel at HAFB are summarized in Chart 2. These numbers represent the incremental amount of goods/services/resources in 15 categories that must be provided beyond normal demand from regional growth. For example, under the 1,000 expansion scenario an additional 1,519 housing units will be required by 2012; 266 units given the basic regional growth in Otero County and 1,252 resulting from the 1,000 active military expansion scenario. The figures reported come from the linear implementation of the three expansion scenarios over the 2006 to 2012 time frame.

Chart 1
Estimate of Capacity to Needs Based on
Increases in Active Duty Personnel at HAFB

Public Good and/or Service	500	750	1,000
Housing Units			
Hospital Beds			
Physicians			4*
Nurses			12*
Potable Water			
Solid Waste Disposal			
Child Care Centers			
Elementary Schools			
Elementary School Teachers			37*
Middle Schools			1*
Middle School Teachers			34*
High Schools			
High School Teachers			27*
Police Officers			5*
Fire Fighters			3*

Legend	
Needs Met By Existing Capacity or met by Markets or Public Provision	
Current Capacity Already Exceeded	

* The number reported represents the combined incremental need from the introduction of 500, 750, or 1,000 active duty personnel at HAFB beginning in the year 2006 at plus-250 per year. The results of these expansion scenarios are reported for the year 2012.

Chart 2
Summary of Incremental Demands¹

Good/Service/Human Resources	500	750	1,000
Housing Units	266 ² 616 ³ 882 ⁴	266 933 1,200	266 1,252 1,519
Hospital Beds	1 2 3	1 3 4	1 4 5
Physicians	1 2 3	1 3 3	1 4 4
Nurses	2 5 7	2 7 10	2 10 12
Potable Water (Reported in millions of gallons per day (MGD))	0.09 0.21 0.30	0.09 0.32 0.41	0.09 0.42 0.52
Solid Waste (Reported in metric tons)	575 1,331 1,906	575 2,016 2,591	575 2,706 3,281
Child Care Centers	0 2 2	0 2 3	0 3 4
Elementary Schools	0 1 1	0 1 1	0 1 2
E.S. Teachers	4 16 20	4 24 29	4 32 37
Middle Schools	0 1 1	0 1 1	0 1 1
M.S. Teachers	6 14 20	6 21 27	6 28 34
High Schools	0 0 0	0 0 0	0 1 1
H.S. Teachers	-2 14 12	-2 22 20	-2 29 27
Police Officers	1 2 3	1 3 4	1 4 5
Fire Fighters	1 1 2	1 2 3	1 3 3

¹ Projections for each expansion scenario under the linear implementation scenario, for the year 2012.

² Numbers in black indicate the incremental need in each category resulting from baseline population growth.

³ Numbers in red correspond to the additional need in each category resulting from HAFB expansion scenarios.

⁴ Numbers in blue represent the total need in each category resulting from combined baseline growth and base expansions. With respect to the number of elementary, middle, and high schools, the figures do not integrate any current excess capacity or surplus conditions.

Purpose of Study

In the fall of 2002, the Institute for Policy and Economic Development (IPED) at the University of Texas at El Paso (UTEP) was contracted by Otero County Economic Development Council, Inc. (OCEDC) to develop and implement a model for estimating the economic impact of the military base on the Otero County regional economy. The study, completed in 2003, concluded that HAFB's presence increased local sales by \$207 million, personal income by \$327 million, and added over 2,500 jobs to the area economic system. Further, comparison of the incremental sales and income figures to net local government outlays supporting the presence of HAFB revealed 6 to 1 and 9 to 1 benefit to cost ratios, respectively. This study established the significance of HAFB to the region and provided detailed figures with respect to the major economic impact on the area in the event of base closure. In addition, the report generated a preliminary analysis of the economic benefits, as well as concerns, resulting from two military base expansion scenarios. Two key issues emerged from this portion of the study: the incremental demands placed upon local education facilities and housing resulting from various base expansion possibilities.

As a result of these findings, in the fall of 2003 IPED was asked to develop a more detailed analysis concerning the ability of the Otero County regional economy to absorb various levels of expansion at HAFB. Specifically, IPED was charged with analyzing the demands placed upon regional infrastructure and other public services resulting from seven base expansion scenarios.

Methodology

In determining Otero County's capacity to meet future demands on housing along with various public goods and services resulting from increased military base presence, two separate steps were taken. First, information was obtained from local housing, medical care, potable water, solid waste disposal, emergency service providers, and educational service agencies/authorities to measure current utilization rates and capacities in these categories. Second, seven base expansion scenarios were analyzed via IPED's custom REMI⁵ model; the IPED Regional Impact Forecast Model (RIFM). The data and information generated from these two steps were employed to identify if and when Otero County's capacity to meet projected demands for housing/public goods and services becomes a critical issue.

Otero County's Current Utilization Rates and Capacities

The first part of this study assessed current utilization rates along with current and prospective capacity levels of the following key goods, services and human resources categories:

- ✓ **Housing** availability (single family residence) and construction rates.
- ✓ **Medical services** including the number of existing beds, the current number of beds used, the number of physicians and nurses.
- ✓ **Potable Water** consumption rates.
- ✓ **Solid Waste** disposal capacity.
- ✓ **Educational facilities and teachers** including day care, elementary, middle, and high school.
- ✓ **Emergency Service Providers** including police officers and fire fighters.

⁵ Regional Economic Models, Inc.

All data was obtained from Susan Moss at the Otero County Economic Development Council (OCEDC), the OCEDC 2002 Fact Book, and other relevant local agencies or institutions. This study does not report the utilization rates, capacity, and future demand levels for gas, electricity, and transportation services. Information and analysis of these sectors indicate that future demand can be met under all expansion scenarios with existing or prospective capacities.

Otero County Regional Forecasts

As noted, seven active military population expansion scenarios were analyzed by RIFM. Projections were generated for three population alternatives beginning with an increase of 500 active military personnel on up to a maximum of 1,000 (with incremental steps of 250). Each of these population scenarios was analyzed under two different implementation timelines. The first timeframe assumes that total deployment occurs at a constant rate over the 2006 through 2009 period (a linear implementation). The second assumes that total deployment occurs in 2006 (a first-year implementation). In addition, the second timeframe also includes an increase of 250 active military personnel. For each of the seven scenarios, regional population totals were projected in aggregate as well as by selected school-age cohorts over the 2003 through 2012 period. These forecasts include the RIFM baseline population projection; that is, population growth figures given the current trends in the Otero County region including the current presence of HAFB. In addition, RIFM then projects the incremental population figures (total and by age group) under the seven expansion scenarios. These forecasts, coupled with the current/projected capacity and utilization rate analysis, allow assessment of if and when Otero County's capacity to meet these future demands becomes critical.

REMI/RIFM Background

Over the past twenty years, REMI has developed into a leading economic impact and forecasting model. It provides economic as well as demographic impacts that policy makers can use to direct local investments.

REMI is widely used by federal agencies (the Environmental Protection Agency, the Federal Highway Administration, Federal Aviation Administration and the National Institute of Standards). It has also been widely adopted by state and local government units throughout the United States. Use of the model is well known in the extant literature and provides a solid basis for measuring the economic expansion of HAFB (See, for example: REMI, 2000; Nutter Associates, 1999; U.S. Department of Commerce, 1997). REMI has also been independently evaluated along with other economic modeling tools. Conclusions from this study (Polenske, et al., 1992) report that REMI has seven features unavailable in other PC-based regional forecast models:

- 1) "It is calibrated to local conditions using a relatively large amount of local data, which is likely to improve its performance, especially under conditions of structural economic change.
- 2) It has an exceptionally strong theoretical foundation.
- 3) It actually combines several different kinds of analytical tools (including economic-base, input-output, econometric models), allowing it to take advantage of each specific method's strengths and compensate for its weaknesses.
- 4) It allows users to manipulate an unusually large number of input variables and gives forecasts for an unusually large number of output variables.
- 5) It allows the user to generate forecasts for any combination of future years, allowing the user flexibility in analyzing the timing of economic impacts.
- 6) It accounts for business cycles.
- 7) It has been used by a large number of users under diverse conditions and has proven to perform."

REMI has four model features that operate in an integrated fashion. These are:

- 1) A forecasting component which tracks historical changes in key economic and demographic data and projects future changes.
- 2) A policy impact element which can estimate how policies and projects affect business revenues, industry sector operating costs, and the region's competitive position.
- 3) A population element which estimates changes in population migration in response to changes in demand for labor, wage levels and living conditions.
- 4) An input-output component which accounts for inter-industry flows of dollars and associated indirect and induced economic effects.

The REMI model licensed to UTEP (RIFM) provides two regional models with regional controls based on economic data that serves as the baseline of the model from which scenarios or changes to the economy are developed. The two regional models are based on: 1) El Paso County, and 2) counties surrounding El Paso, Texas and southern New Mexico.⁶

For purposes of this study, REMI allows for evaluation of five categories of population activity associated with changes in the complement at HAFB. These are:

1. Regional population.⁷
2. Population age cohort 0-4.⁸
3. Population age cohort 5-9.⁹
4. Population age cohort 10-14.¹⁰
5. Population age cohort 15-19.¹¹

These evaluations rest upon three assumptions:

1. Average wages for military and civilian personnel.
2. The ratio of federal civilian employees to active duty remains constant in each scenario at .268.
3. The baseline does not undergo significant increases or decreases prior to the scenarios being implemented.

The structural components of RIFM represent flows of income and business sales in the region's economy as part of the model's output. Given an expansion in the military base, the resulting increases in expenditures by HAFB (both direct and indirect/secondary spending) would result in additional demand for labor in the civilian workforce, and subsequent incremental demands for materials and locally provided supplies. A cycle of growth would result from increased labor needs, raising demand and labor costs, thus attracting new migrants to the area for employment opportunities. Constraints would result if cost of living and/or the costs of conducting business were pushed up.

In general, RIFM provides data that can assist HAFB in working with the business community and local government units to determine demands on the local economy brought about by personnel increases. Such analysis includes demands on local public goods and services, such as schools, water, hospitals, etc.

⁶ The surrounding counties in Texas include: Brewster, Culberson, Hudspeth, Jeff Davis and Presidio. In New Mexico the counties included are: Doña Ana, Hidalgo, Luna and Otero.

⁷ Mid-year estimates of population, including survivors from the previous year, births, special populations, and three types of migrants (economic, international, and retired).

⁸ This age cohort represents the population in day cares.

⁹ This age cohort represents the population in elementary schools.

¹⁰ This age cohort represents the population in middle schools.

¹¹ This age cohort represents the population in high schools.

Additional Data

In each expansion scenario, two other variables enter the model in correlation with the Active Duty Military. First, Federal Civilian employees are included in the scenarios. These employees support the increased military personnel at the base. It is assumed that additional Active Duty Military will require supplementary Federal Civilian employees. Second, military spending on structures is also incorporated into the model. New barracks need to be constructed (at a rate provided by HAFB) to house the increased base population that actually lives On-post.

As noted, the RIF model also requires a baseline set of data for estimation purposes. These are specified by data supplied by HAFB and the REMI model itself and reflect the most recent period for which data is available. The key baseline assumptions are:

Number of active duty personnel	3,869
Average military wage	\$36,012 ¹²
Number of federal civilian personnel	2,600
Average civilian wage	\$56,112 ¹³
Total HAFB local expenditures	\$25,000,000
Cost of new barracks, each housing 480 individuals ¹⁴	\$28,000,000

¹² Based on results of the survey conducted in the first HAFB study.

¹³ Based on results of the survey conducted in the first HAFB study.

¹⁴ These expenditures are included in the analysis only to the effect that such increased spending in the local economy will increase output, thereby increasing employment, which will raise the relative employment opportunity, causing migration to increase, which will result in an increase in population.

Capacity Analysis

Housing

Current capacity data for the Otero County housing market is presented in Table 1. Housing forecasts for the linear and first-year timelines are provided in Tables 2 and 3, respectively. The three housing linear forecasts can be seen graphically in Figure 1.

Table 1 indicates that there were 815 homes sold and 157 building permits let in Otero County during 2003. On average, 13 new homes were built per month in 2003. Further, an average of 656 homes was listed for sale each month during the past year.

In determining the number of homes that would need to be provided to house an influx of Active Duty Military and their dependents, reference was made to the national average household size. This figure, reported by the Census Bureau for the 2000 Census, is 2.61.¹⁵ The tables report the total number of housing units required. The availability of military housing, the types of available housing, and the location of the available housing are not considered in the tables. Thus, the 258 housing figure associated with the baseline growth in 2009 (Table 2) is not broken down into military housing, apartments and/or renting, homes and/or owning, and availability by zip code.

According to the 1,000 personnel increase, linear scenario in Table 2 and Figure 1, 565 additional housing units will need to be available in 2006.¹⁶ This number climbs to 1,207 homes and 1,519 homes needed in 2008 and 2012, respectively. In Table 3 we see that 1,507 homes will be required in 2006 in the first-year scenario. In this same scenario, 1,510 homes are necessary in 2008, while 1,490 homes are required in 2012.

It is important to point out that the figures reported above (and throughout all categories) are reported as the total figure required. To illustrate, in the first-year scenario 1,507 homes are necessary in 2006 (Table 3). Similarly, 1,510 homes are requisite in 2008 and 1,490 homes are needed in 2012. This does not mean that 4,507 homes are needed in 2012; the total number of homes for all of Otero County that will need to be available in 2012 remains at 1,490. In other words, the figures presented are reported as the total projection for the region.

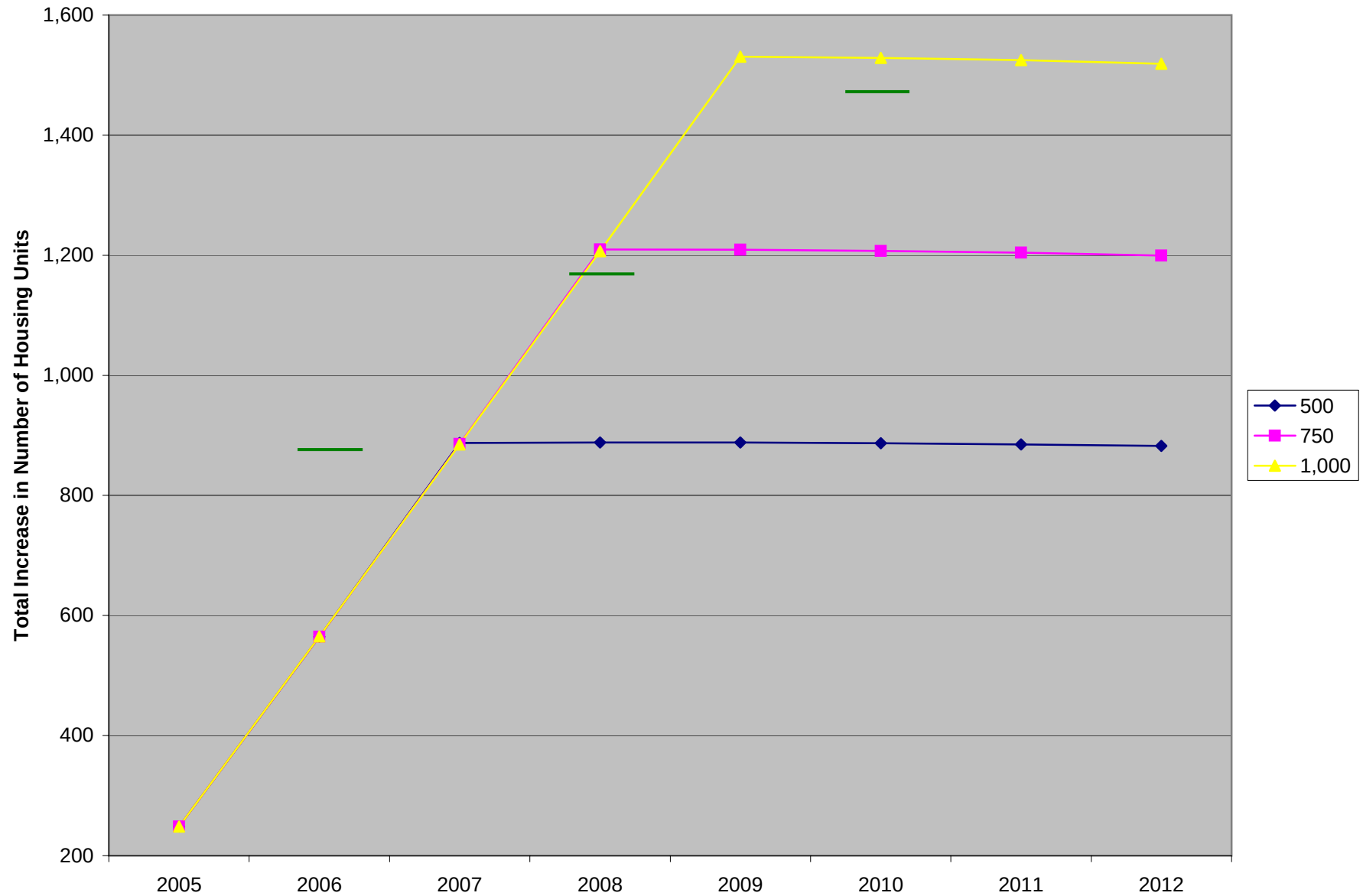
Furthermore, in relation to the housing figures above, (and the figures reported throughout this report for all goods, services and human resources) only the combined figure is reported. Again, this combined figure represents the growth that occurs in the baseline forecast plus the growth that develops from the base population expansions. It is also important to mention that peaks in growth do occur, but not necessarily in the years reported (2006, 2008, and 2012).¹⁷ In addition, once the exogenous changes are completed in the model, growth continues to occur, but at a decreasing rate. This declining rate of growth is consistent with the growth that occurs in the baseline forecast and is subject to such criteria as demographic demands and age groups.

¹⁵ Figure obtained from the American Fact Finder for the 2000 Census, <http://factfinder.census.gov/servlet/BasicFactsServlet>.

¹⁶ The 1,000 Active Duty Military scenarios are the only scenarios reported. These scenarios were chosen as they represent the largest population influx in the Otero County area.

¹⁷ The peaks can be seen in the tables included in this report.

Figure 1
Linear Implementation of an Increase of Active Duty at HAFB
Housing Units Analysis: Incremental Need



Consistent with the current capacity figures, there are 656 homes on the market in a given month available for purchase. This excess capacity will be immediately filled after 2006 in the 1,000 personnel increase base expansion linear scenario and for all years in the 1,000 personnel increase base expansion first-year scenario. However, if the average number of new homes built per month (13) is maintained over the next seven years, then the projected housing needs in 2012, relating to the growth at HAFB, can be met. It is important to note, however, that the forecasted housing requirements can only be met if the current capacity housing statistics remain relatively constant over time, which may not hold true due to land availability, demand, etc. Additionally, these figures do not account for HAFB capacity levels and any possible HAFB expansions related to military housing, such as the base's intent to provide additional On-post and/or Off-post housing. Furthermore, apartment capacity in Otero County is not accounted for. Available apartment statistics (which were obtained from Susan Moss at the OCEDC) indicate that 1,501 apartment units are located in Otero County. The average vacancy rate of these apartments is 6 percent.

Hospital Capacity: Beds

The Gerald Champion Regional Medical Center was the hospital included for this part of the study. The total current demand/use of hospital beds is 69. However, the number of beds is 95. Therefore, local hospitals are operating under capacity (26). Based on this data it was determined that there are approximately 1.16 hospital beds for every 1,000 individuals.¹⁸ Current capacity data for hospital beds is presented in Table 4, while hospital beds forecasts are contained for the linear and first-year scenarios in Tables 5 and 6, respectively. Figure 2 graphically illustrates the three hospital beds linear forecasts.

Two additional hospital beds are needed in 2006 according to the 1,000 incremental active military, linear scenario as shown in Table 5 and Figure 2. In this scenario, four and five hospital beds are required in 2008 and 2012. According to the first-year scenario, and reported in Table 6, five hospital beds are necessary in 2006 and 2008, while four hospital beds are needed in 2012.

Current capacity will be able to account for all of the increased numbers of needed hospital beds in the future. Otero County can absorb up to 26 additional beds, a number that exceeds any of the figures reported in the 1,000 personnel increase base expansions. Of course, this assumes that any shortage of staff will be ameliorated to permit hospitals to operate at full capacity in relation to the number of beds in use.

Physicians

Current capacity data for physicians is offered in Table 7, while corresponding forecasts are included for the linear and first-year scenarios in Tables 8 and 9, respectively. The three physicians linear forecasts are seen graphically in Figure 3. Simply put, in 2003, there was a full time equivalent¹⁹ of 69 physicians in the Otero County area. This equates to approximately 1.11 physicians for every 1,000 people.

In the 1,000 personnel increase, linear scenario, as shown in Table 8 and Figure 3, two new physicians will be needed in 2006 in the Otero County area. This figure rises to three in 2008 and four in 2012. According to the first-year scenario, and illustrated in Table 9, four additional physicians will be requisite in 2006, 2008, and 2012.

¹⁸ The 2000 Census population figure of 62,298 for Otero County was incorporated in all ratios.

¹⁹ There are 85 physicians at the Gerald Champion Regional Medical Center. It is assumed that 20 of these 85 physicians live outside of Otero County. If it is further assumed that these 20 physicians work at the hospital one day a week, the Full time Equivalent number of physicians equals 69.

Figure 2
Linear Implementation of an Increase of Active Duty at HAFB
Hospital Beds Analysis: Incremental Need

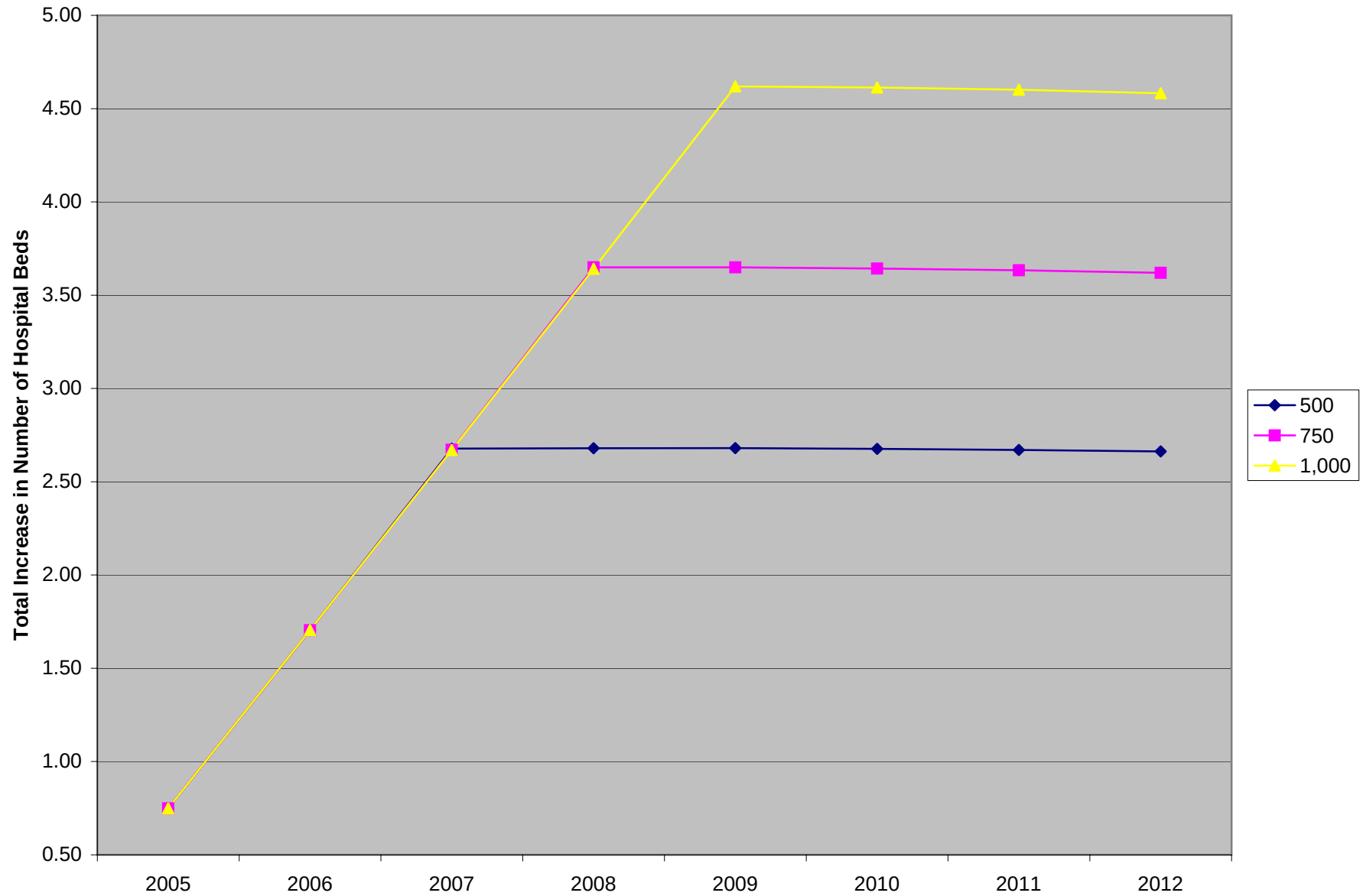
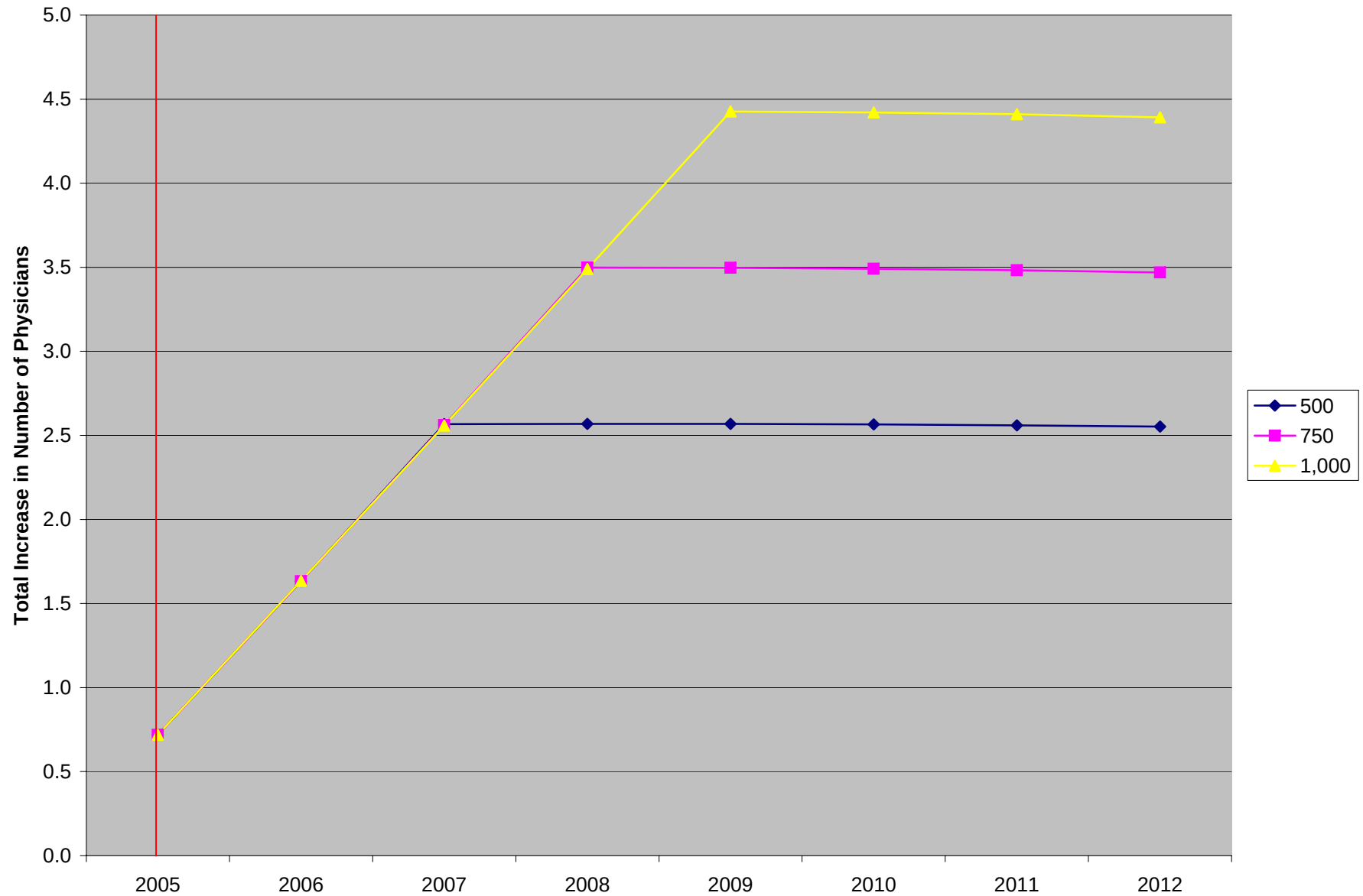


Figure 3
Linear Implementation of an Increase of Active Duty at HAFB
Physicians Analysis: Incremental Need



The figures reported above are consistent with the ratio of 1.11 physicians for every 1,000 people. If this ratio changes, then the number of physicians needed at various times in the forecasts will also change. It may be that to meet future capacity current physicians will have to increase their patient clientele. However, dealing with future growth in this manner is likely to result in a lower quality of service. Therefore, assuming that a consistent level (if not an improved level) of quality health care is desired, the figures reported above are practical for current discussions. Finally, this report assumes the current number/availability of physicians in the region is fully utilized; that is, this category is at full capacity at the present time. Thus, the incremental physician needs forecasted under the HAFB expansion scenarios will only exacerbate the current situation.

Nurses

In 2003, there were 190 nurses in the Otero County area. This equates to approximately 3.05 nurses for every 1,000 people. Current capacity data for nurses is compiled in Table 10 while related forecasts are contained for the linear and first-year scenarios in Tables 11 and 12, respectively. Figure 4 graphically illustrates the three nurses linear forecasts.

Five additional nurses are required in 2006 according to the 1,000 incremental active military, linear scenario as shown in Table 11 and Figure 4. Furthermore, in the same scenario, ten and twelve nurses are needed by 2008 and 2012, respectively. In line with the first-year scenario, as reported in Table 12, twelve nurses are requisite in 2006, 2008, and 2012.

The figures reported above are consistent with the ratio of 3.05 nurses for every 1,000 people. As with physicians, the number of nurses needed at various times in the forecasts will change if this ratio changes. Current nurses may have to increase their patient clientele to meet this future capacity. However, lower quality of service may emerge if future growth is dealt with in this manner. Therefore, the figures reported above are practical, assuming that a consistent level (if not an improved level) of quality health care is desired. And, as with the physician category above, if it is assumed that the current stock of nurses is fully utilized, the incremental needs forecasted only increase the already critical situation.

Potable Water

There are four potable water sources in Otero County. These include three Surface Water Treatment Plants and one source of Ground Water. The three plants include La Luz/Fresnal, Alamo Canyon, and Bonito Lake. The Well Field Underground is the only source of Ground Water. In 2003, current potable water capacity equaled 8.10 Million Gallons per Day (MGD). However, the maximum capacity for potable water totals 12 MGD. Thus, potable water usage in Otero County can increase by nearly four MGD while still meeting capacity. Current capacity data for potable water is presented in Table 13 while related forecasts are included for the linear and first-year scenarios in Tables 14 and 15, respectively. The three potable water linear forecasts can be seen graphically in Figure 5.

Consistent with the 1,000 personnel increase, linear scenario and Table 14 and Figure 5, 0.19 MGD is needed in 2006, 0.41 is required in 2008, and 0.52 will be needed in 2012. According to the first-year scenario 0.51 MGD will be requisite in 2006, 2008, and 2012. These results are reported in Table 15.

Figure 4
Linear Implementation of an Increase of Active Duty at HAFB
Nurses Analysis: Incremental Need

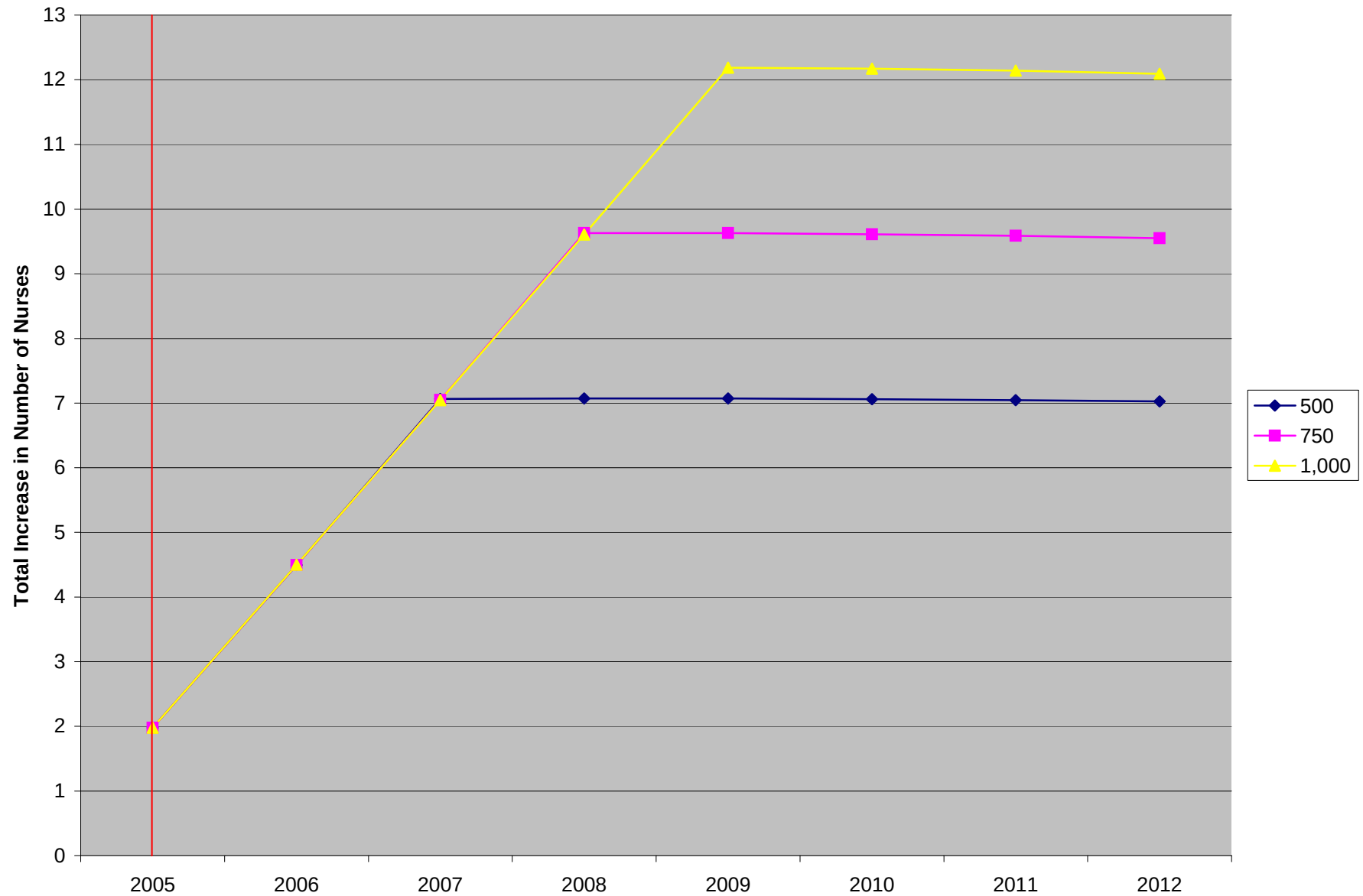
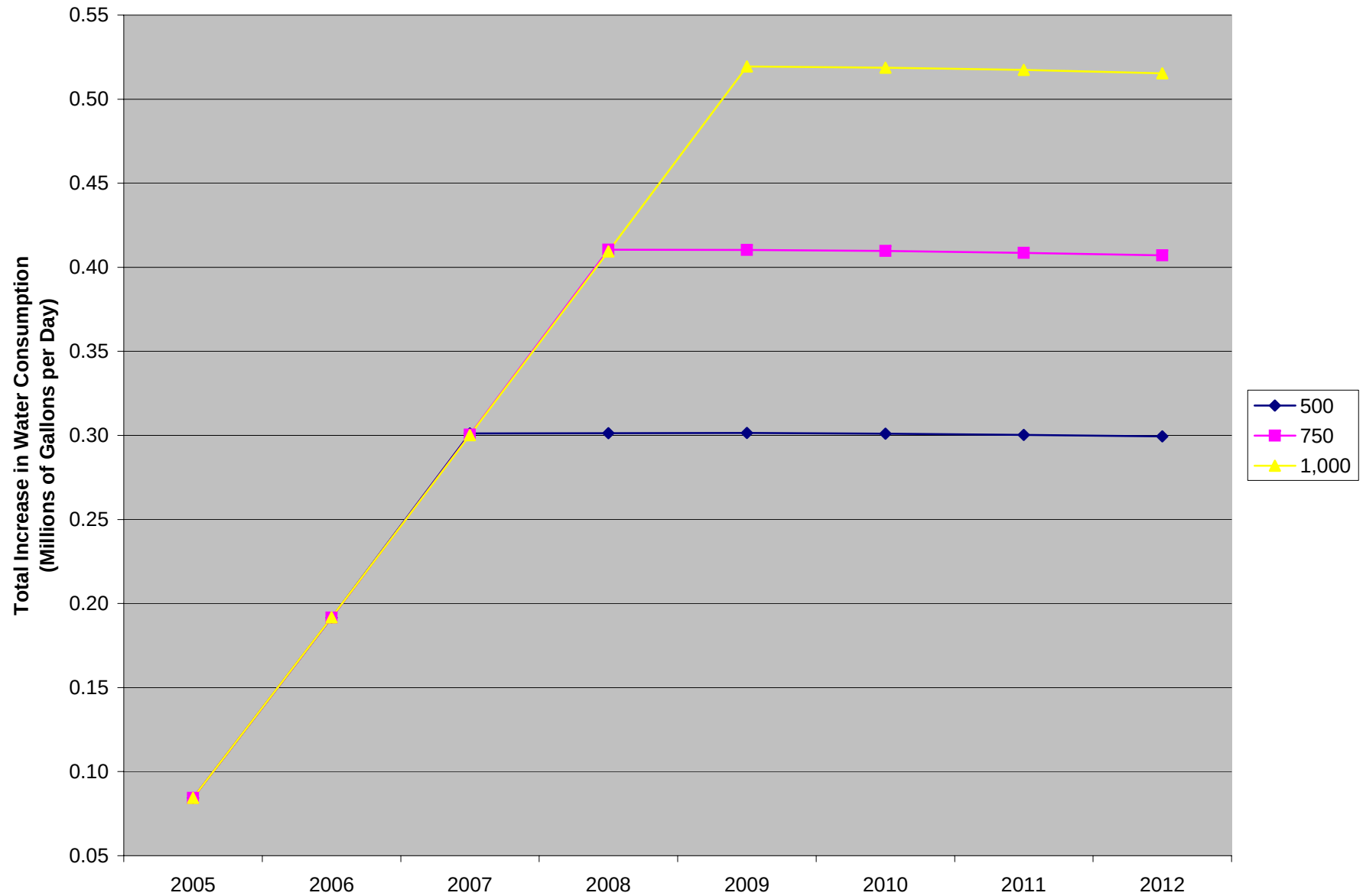


Figure 5
Linear Implementation of an Increase of Active Duty at HAFB
Potable Water Analysis: Incremental Need



Current potable water capacity can meet all of the increased water needs in the future. An additional 3.9 MGD can be absorbed in Otero County, a number that exceeds any of the figures reported in the 1,000 personnel base expansion scenarios. Two things are important to point out here. First, current water capacity production is assumed to be constant. Therefore, the cyclical nature of water droughts is not taken into consideration. Secondly, and more importantly, the rate of water consumption is also assumed to remain constant over time. If either current water capacity production or current water consumption rates changes, such as extensive conservation measures, then the forecasted water consumption needs will also change.

Solid Waste

Current capacity data for waste is provided in Table 16 while corresponding forecasts are included for the linear and first-year scenarios in Tables 17 and 18, respectively. Figure 6 graphically illustrates the solid waste linear forecasts. The Otero-Lincoln County Regional Landfill, which opened in January 1994, is the one landfill for solid waste disposal in Otero County. The Landfill Department of the City of Alamogordo states that the landfill was designed to have a life span of 99 years. Thus, today it is estimated that the landfill will have a life span of 89 years. Furthermore, the average rate of waste produced is estimated at five pounds per person, per day.

1,220 metric tons of waste will be produced by 2006 under the 1,000 incremental active military, linear scenario, which is reported in Table 17 and Figure 6. In this same scenario, 2,607 metric tons and 3,281 metric tons of waste will be created by 2008 and 2012, respectively. According to the first-year scenario in Table 18, 3,256 metric tons of waste will be produced by 2006, 3,262 metric tons by 2008, and 3,218 metric tons by 2012.

The estimated capacity of the Otero-Lincoln County Regional Landfill is projected to meet the needs of Otero County over the next eighty-nine years.

Child Care Centers

Child care centers data was compiled by Susan Moss of the OCEDC. There are a total of 14 child care centers in the Otero County area. These 14 centers have met demand, providing 1,539 slots for children. Based on this information, the average number of slots per child care center is 110. Yet, the licensed capacity of these 14 centers totals 1,607 slots. Therefore, local child care centers currently have an excess capacity of slots equal to 68. Current capacity data for child care centers is compiled in Table 19 while related forecasts are contained for the linear and first-year scenarios in Tables 20 and 21, respectively. The three child care centers linear forecasts are graphically illustrated in Figure 7.

Two child care centers will be necessary by 2006 in the 1,000 personnel increase, linear scenario, as indicated in Table 20 and Figure 7. Furthermore, in the same scenario, four child care centers will be required in both 2008 and 2012. In line with the first-year scenario and Table 21, six child care centers are needed in 2006, five centers in 2008, and three in 2012.

The figures reported above do not account for the current excess capacity of 68 child care center slots. By incorporating the ratio presented above, 68 slots do not quite equate to one child care center. Thus, Otero County cannot meet the demands of any additional child care centers. In every base expansion scenario, two or more child care centers are needed. Therefore, Otero County will need to increase the number of slots per child care center and/or provide more child care centers. This report assumes that private sector forces can or will respond to such incremental demand.

Figure 6
Linear Implementation of an Increase of Active Duty at HAFB
Waste Disposal Analysis: Incremental Need

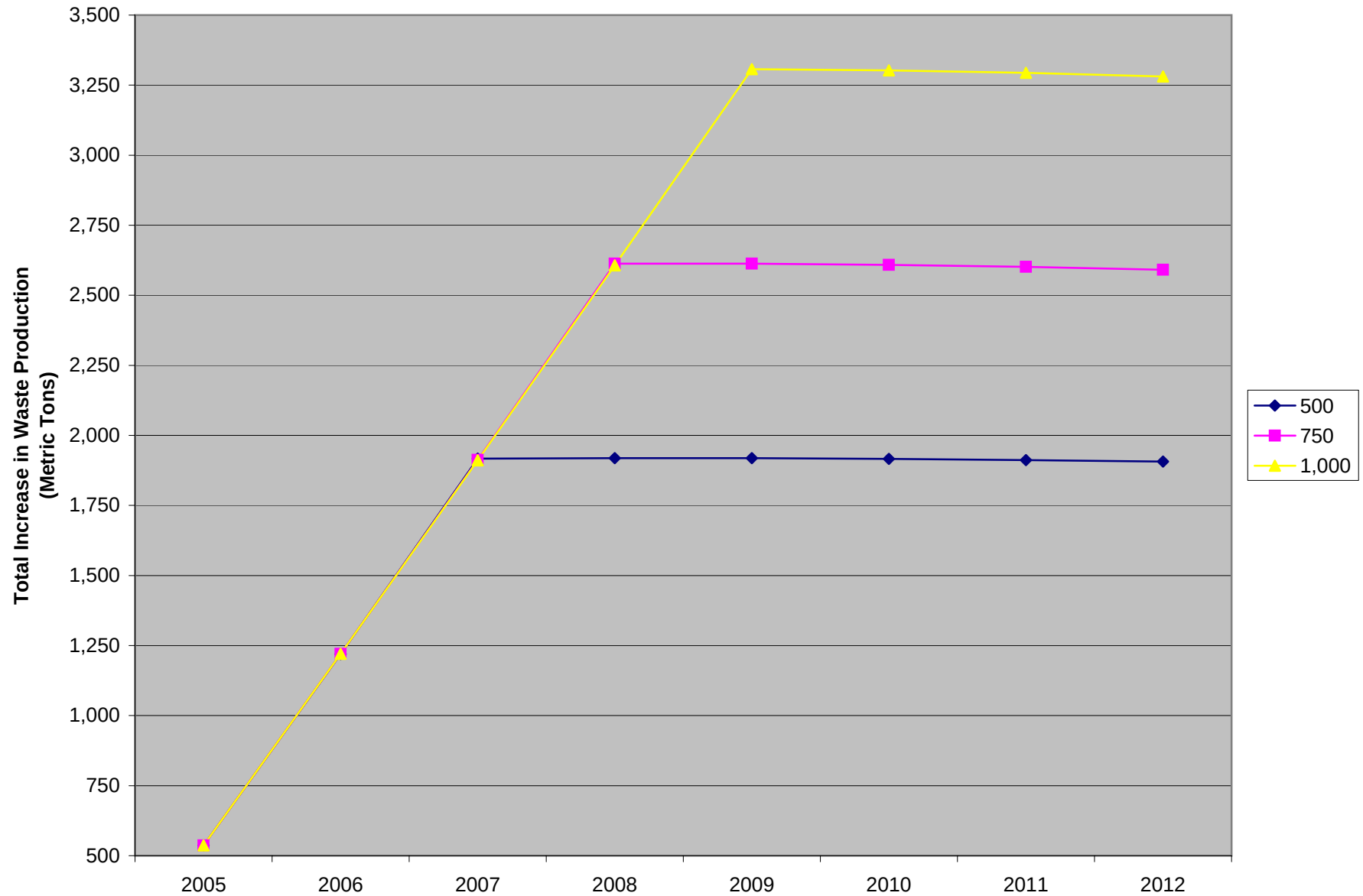
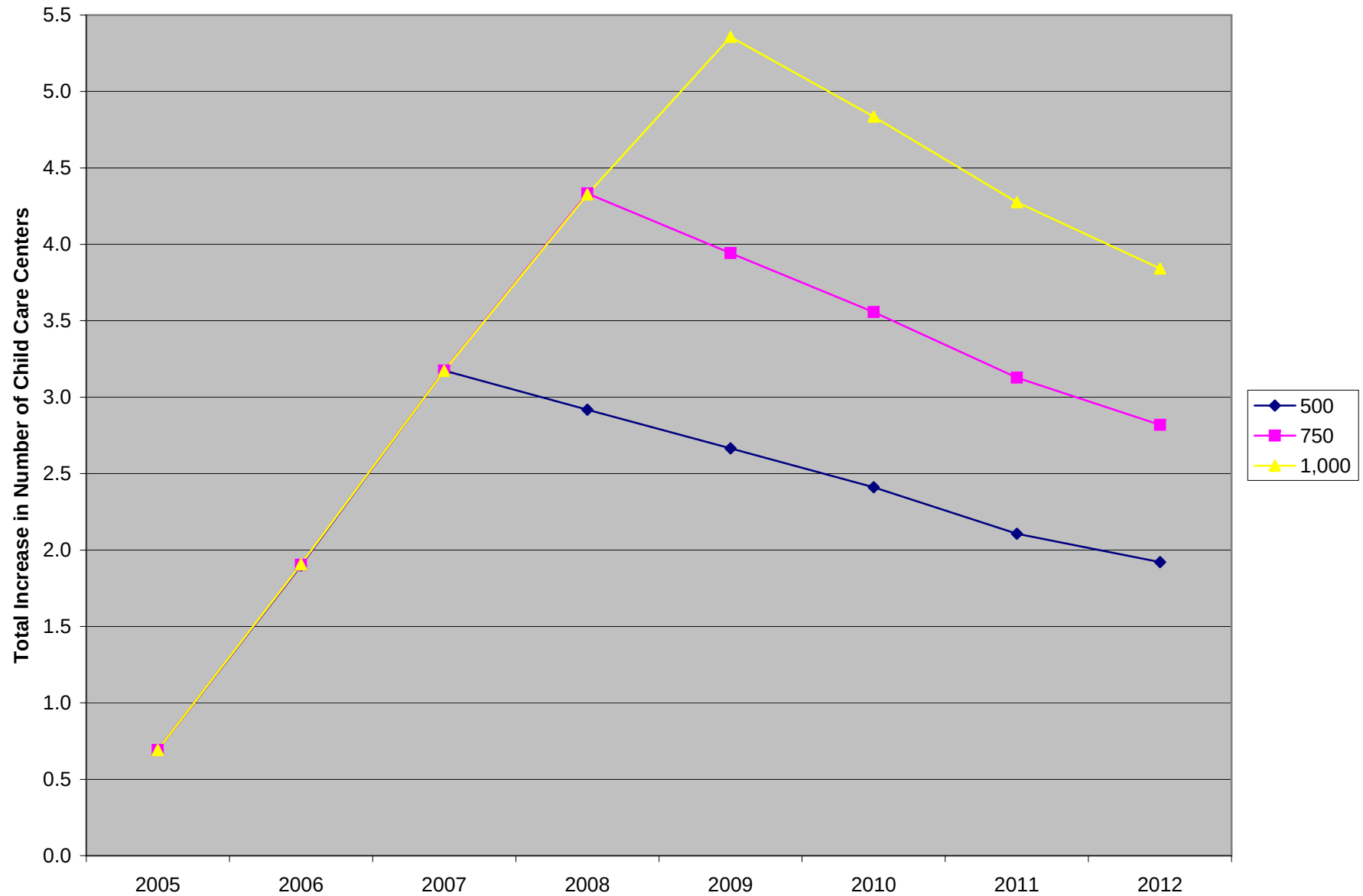


Figure 7
Linear Implementation of an Increase of Active Duty at HAFB
Child Care Centers Analysis: Incremental Need



Elementary Schools

Current capacity data for elementary schools is gathered in Table 22, while corresponding forecasts are included for the linear and first-year scenarios in Tables 23 and 24, respectively. Figure 8 graphically illustrates the three elementary schools linear forecasts. To obtain data for elementary schools (as well as middle schools and high schools) information was obtained for Alamogordo Public Schools District (APSD), Cloudcroft Municipal Schools District (CMSD), and Tularosa Municipal Schools District (TMSD). APSD has 11 elementary schools, with an average capacity of 344 students.²⁰ CMSD and TMSD each have one elementary school with an average capacity of 173 and 526 students, respectively. Consequently, there are 13 public elementary schools in the Otero County area with a weighted average capacity of 345 students.

According to the 1,000 incremental active military, linear scenario of Table 23 and Figure 8, one elementary school will be needed in both 2006 and 2008. In the same scenario, two schools will be required in 2012. Two elementary schools will also be necessary in 2006, 2008, and 2012 consistent with the first-year scenario as reported in Table 38.

Average current enrollment in Otero County elementary schools is 293 students. As mentioned above, the capacity level is 345 students per school. By using the total number of elementary schools (13), Otero County elementary schools can meet a demand of 676 additional students. Using the average elementary school capacity figure, this equates to two elementary schools. Thus, Otero County elementary schools can absorb the equivalent of two new schools. However, two is the maximum number of new elementary schools needed under any scenario. Therefore, assuming Otero County elementary schools operate at 85 percent capacity, they will be able to meet the incremental demands associated with any of the 1,000 active military expansion scenarios.

Elementary School Teachers

Elementary school teachers (as well as middle school teachers and high school teachers) information was collected by Susan Moss at the OCEDC. Additional information corresponding to the student to teacher ratio was obtained from the New Mexico Public Education Department. As noted in the previous category, there are 13 public elementary schools in the Otero County area (11 APSD elementary schools, one CMSD elementary school, and one TMSD elementary school). The student to teacher ratio is currently 15.8 students for every 1 teacher. Current capacity data for elementary school teachers is contained in Table 25, while related forecasts are included for the linear and first-year scenarios in Tables 26 and 27, respectively. The three elementary school teachers linear forecasts can be seen graphically in Figure 9.

Thirteen elementary school teachers will be needed by 2006 in the 1,000 personnel increase, linear scenario, as reported in Table 26 and Figure 9. In this same scenario, this figure increases to 30 in 2008 and 37 in 2012. In line with the first-year scenario and Table 27, 36 elementary school teachers are required in 2006, 38 teachers in 2008, and 34 teachers in 2012.

²⁰ It was assumed that the capacity rate for elementary, middle, and high schools was 85 percent. No data pertaining to the capacity rates of each type of school was provided. Thus, capacity rates for each type of school in the El Paso area were utilized as a proxy for those schools in Otero County. Furthermore, the analysis was run with a capacity rate of 75 percent as well, with the results differing only marginally.

Figure 8
Linear Implementation of an Increase of Active Duty at HAFB
Elementary Schools Analysis: Incremental Need

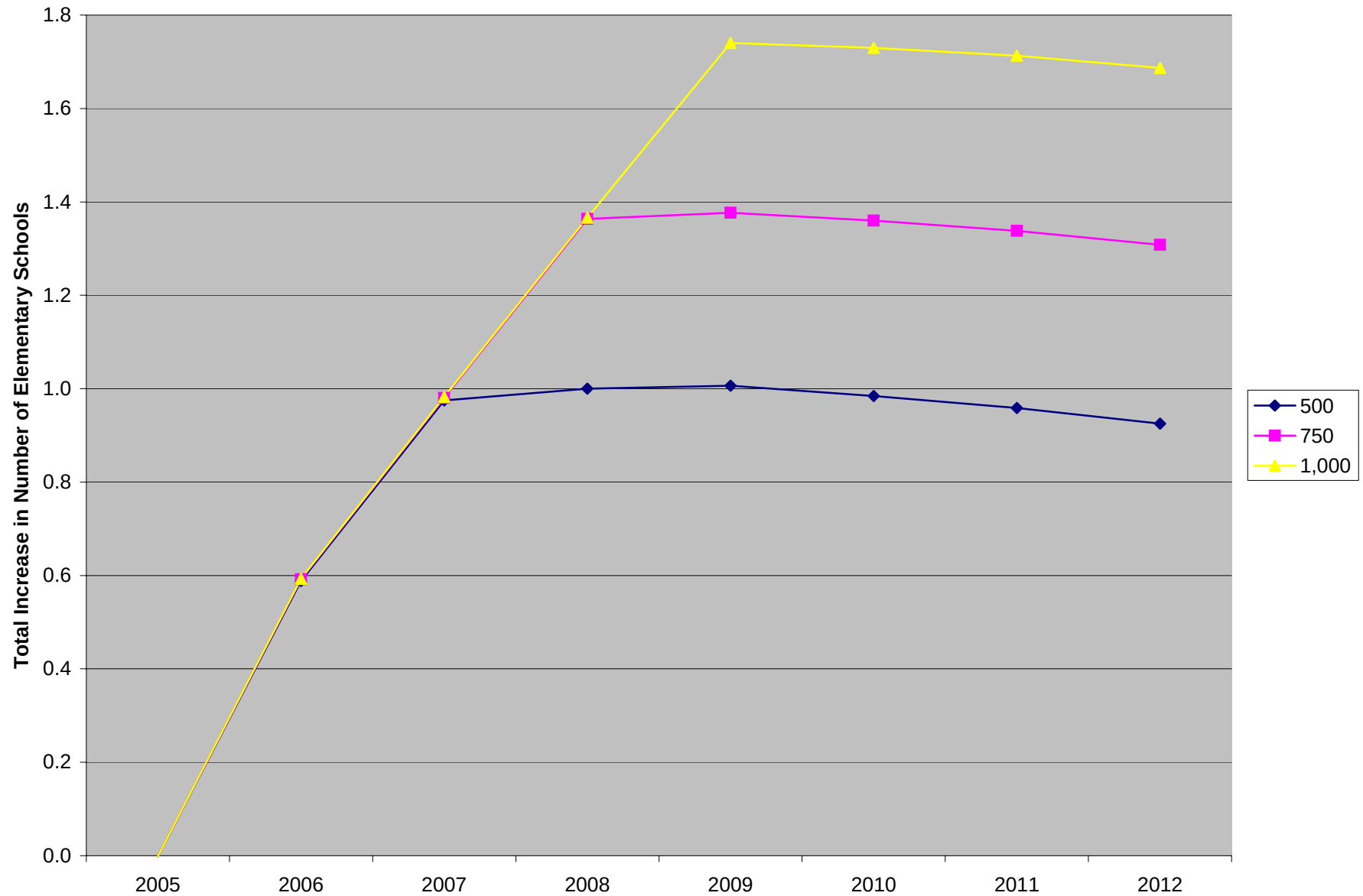
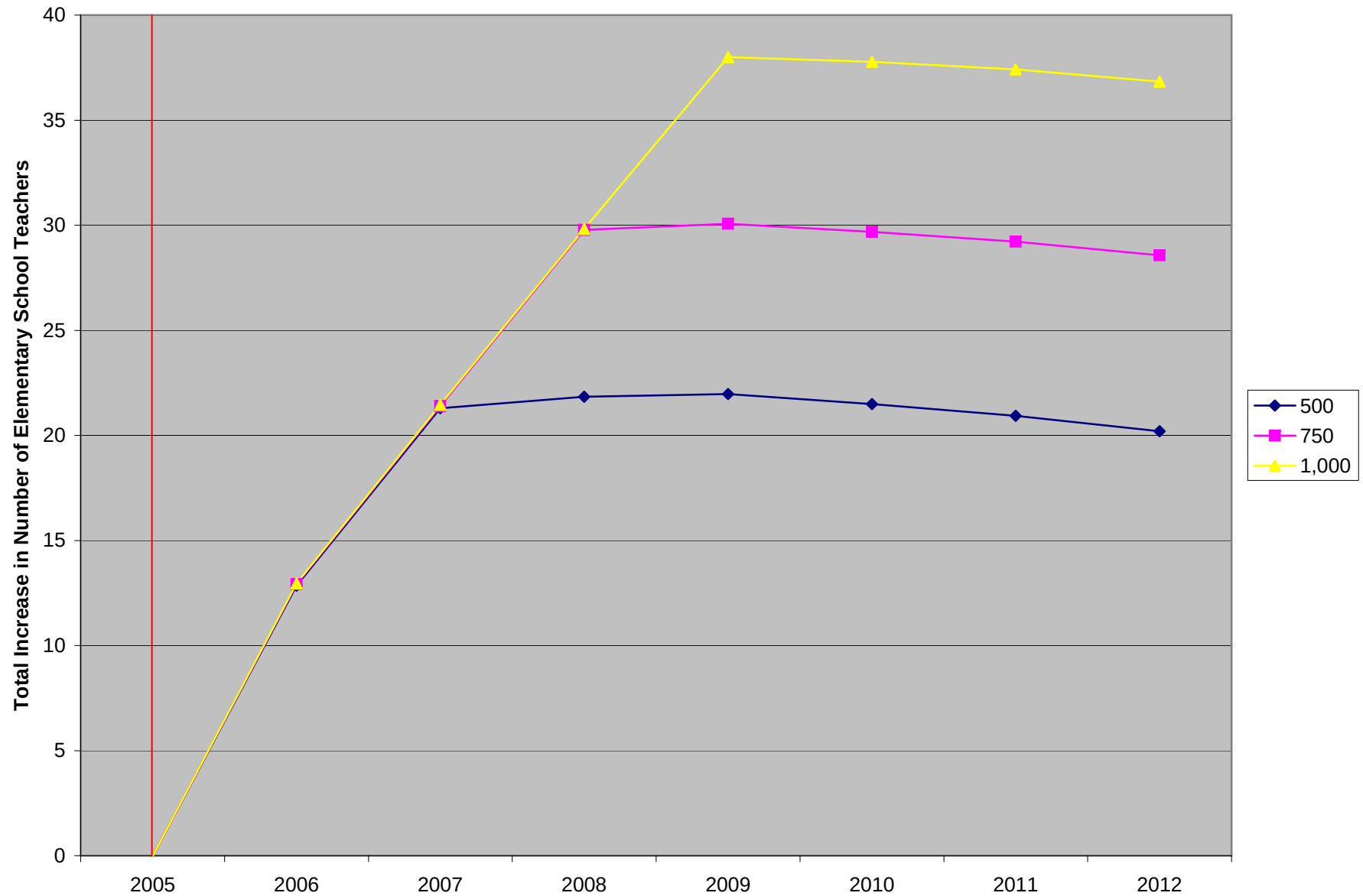


Figure 9
Linear Implementation of an Increase of Active Duty at HAFB
Elementary School Teachers Analysis: Incremental Need



The figures presented above are consistent with the ratio of 15.8 students for every 1 teacher. If this ratio changes, then the number of elementary school teachers needed at various times in the forecasts will also change. It may be that to meet future student growth current teachers will have to increase their students per class. However, dealing with future growth in this manner is likely to result in a lower quality of education. Therefore, assuming that a consistent level (if not an improved level) of quality education is desired, the figures reported above are practical for current discussions. This report assumes that the current number of elementary school teachers is fully utilized. Therefore, the incremental needs forecasted represent demands above present capacity.

Middle Schools

Current capacity data for middle schools is contained in Table 28, while related forecasts are included for the linear and first-year scenarios in Tables 29 and 30, respectively. Figure 10 graphically illustrates the three middle schools linear forecasts. In Otero County there are three middle schools in APSD and one middle school in both CMSD and TMSD. The average capacity for the three APSD middle schools is 607 students. The one middle school in CMSD has an average capacity of 144 students, while the one middle school in TMSD has an average capacity of 308 students. As a result, there are five public middle schools in the Otero County area with a weighted average capacity of 455 students.

No new middle schools will be necessary in 2006 according to the 1,000 incremental active military, linear scenario in Table 29 and Figure 10. Under the same scenario, one middle school will be needed in both 2008 and 2012. Consistent with the first-year scenario and Table 30, one middle school will be required in 2006, 2008, and 2012.

386 students constitute the average current enrollment in Otero County middle schools. As was indicated earlier, 455 students per school represent the current capacity level. By incorporating the total number of middle schools (5), Otero County middle schools can meet a demand of 345 additional students or approximately three-fourths of an average-size middle school. When this excess capacity or surplus figure is integrated into the analysis, and one assumes the incremental number of students can be distributed appropriately amongst the five schools, Otero County will be unable to meet incremental demand associated with the 750 active military, linear expansion scenario after 2009. The 1,000 linear expansion scenario becomes critical after 2008. And, if the 1,000 expansion occurs in the first year, the additional need for middle schools becomes critical in 2006.

Middle School Teachers

As indicated in the previous category, there are three middle schools in APSD and one middle school in both CMSD and TMSD in Otero County. The middle school student to teacher ratio is currently 16.56 students for every 1 teacher. Current capacity data for middle school teachers is gathered in Table 31, while related forecasts are contained for the linear and first-year scenarios in Tables 32 and 33, respectively. The three middle school teachers linear forecasts are graphically illustrated in Figure 11.

According to the 1,000 personnel increase, linear scenario of Table 32 and Figure 11, six middle school teachers will be needed by 2006, 20 teachers will be required in 2008, and 34 teachers will be requisite in 2012. Twenty-seven middle school teachers are necessary in both 2006 and 2008 according to the first-year scenario, as shown in Table 33. Furthermore, in the same scenario, 34 middle school teachers are needed by 2012.

Figure 10
Linear Implementation of an Increase of Active Duty at HAFB
Middle Schools Analysis: Incremental Need

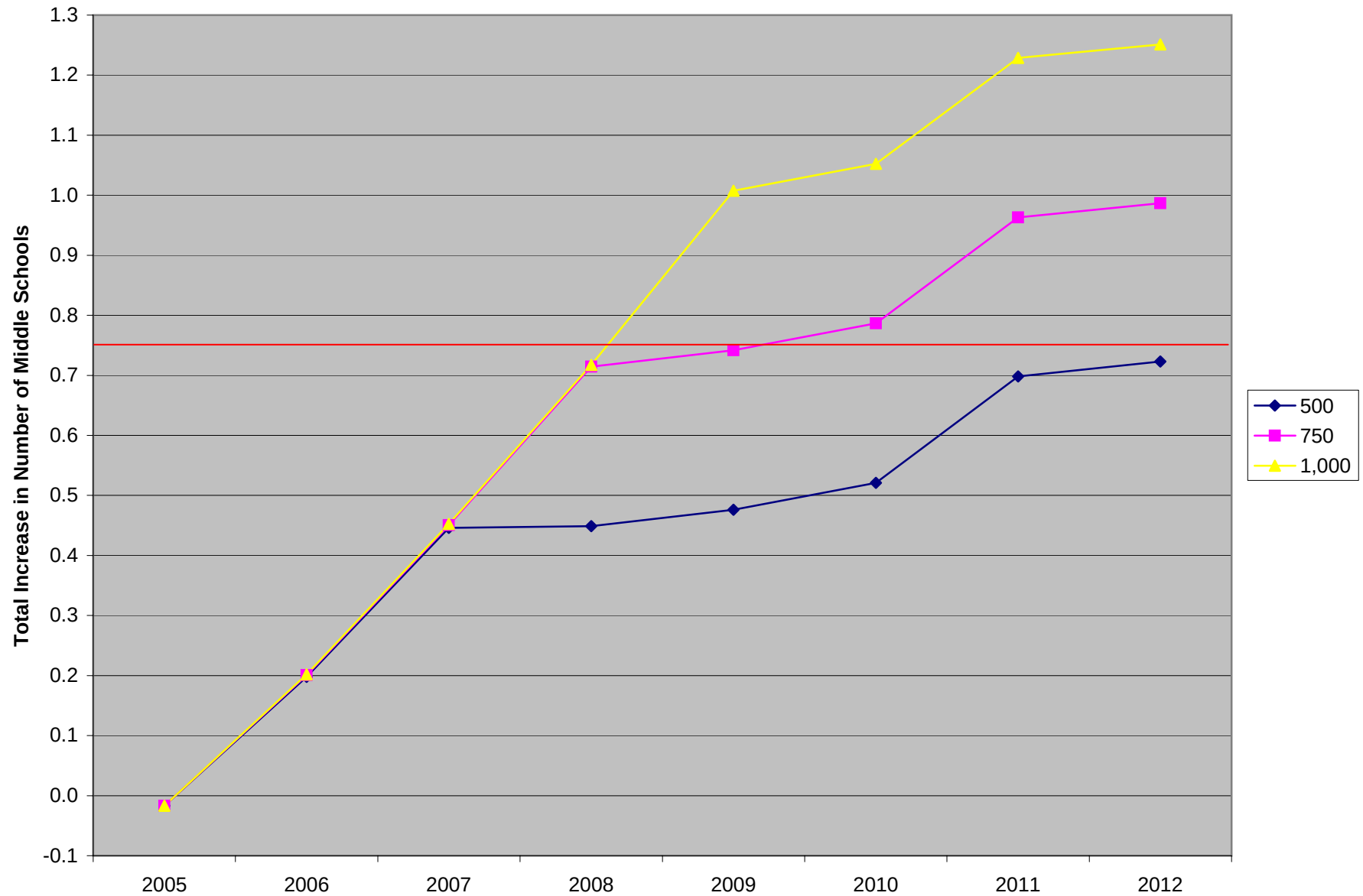
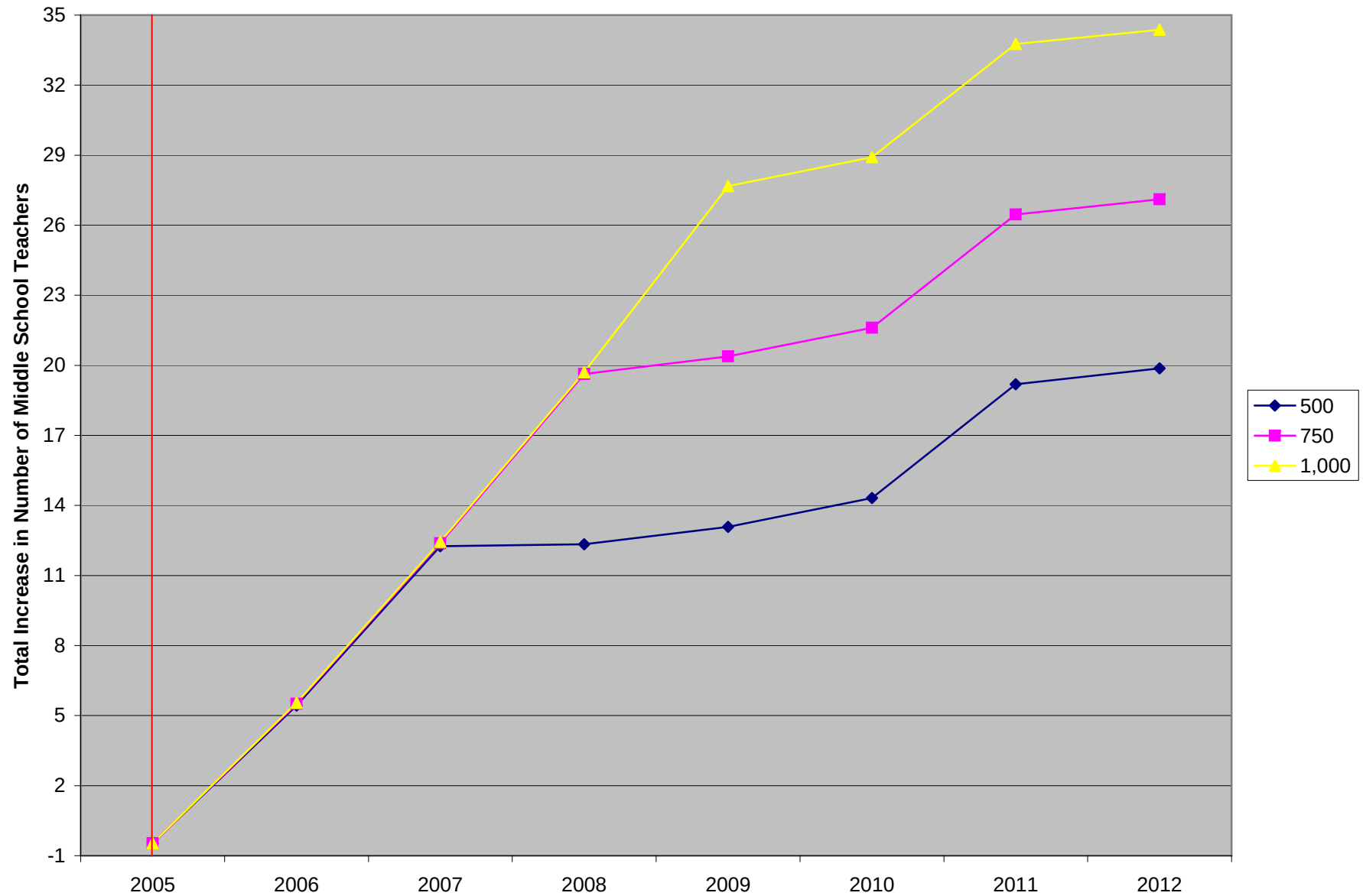


Figure 11
Linear Implementation of an Increase of Active Duty at HAFB
Middle School Teachers Analysis: Incremental Need



The figures reported above are consistent with the ratio of 16.56 students for every 1 teacher. As with elementary schools, the number of middle school teachers needed at various times in the forecasts will change if this ratio changes. Current teachers may have to increase their students per class to meet this future student growth. However, lower quality of education may emerge if future growth is dealt with in this manner. Therefore, the figures reported above are practical, assuming that a consistent level (if not an improved level) of quality education is desired. And, as with the elementary school teachers' analysis, the projected number of middle school teachers represents a need above the current, full utilization level.

High Schools

Current capacity data for high schools is compiled in Table 34 while corresponding forecasts are included for the linear and first-year scenarios in Tables 35 and 36, respectively. Figure 12 graphically illustrates the three high schools linear forecasts. APSD has two high schools with an average capacity of 1,199 students. CMSD has only one high school. It has a capacity of 204 students. Lastly, TMSD also has one high school, with a capacity of 364 students. Thus, there are four high schools in Otero County with an average capacity of 742 students.

If one allows for the assumed excess capacity of 15 percent, the region will just meet projected needs under all expansion scenarios.

Average current enrollment in Otero County high schools is 630 students. As mentioned above, the capacity level is 742 students per school. By using the total number of high schools (4), Otero County high schools can meet a demand of 448 additional students or approximately three-fifths of an average size high school. When this excess capacity or surplus figure is integrated into the analysis, Otero County will be able to meet incremental demand under all expansion scenarios.

High School Teachers

As specified in the previous category, there are four high schools in Otero County (two high schools in APSD, and one high school in both CMSD and TMSD). The high school student to teacher ratio is currently 15.15 students for every 1 teacher. Current capacity data for high school teachers is contained in Table 37, while corresponding forecasts are compiled for the linear and first-year scenarios in Tables 38 and 39, respectively. The three high school teachers linear forecasts can be seen in Figure 13.

Eight high school teachers will be needed in 2006 in the Otero County area, in line with the 1,000 personnel increase, linear scenario, as shown in Table 38 and Figure 13. This figure rises to 23 in 2008 and 27 in 2012. According to the first-year scenario, and illustrated in Table 39, 27 additional high school teachers will be requisite in 2006, along with 31 teachers needed in 2008 and 27 teachers required in 2012.

The figures reported above are consistent with the ratio of 15.15 students for every 1 teacher. As with elementary schools and middle schools, the number of high school teachers necessary at various times in the forecasts will change if this ratio changes. Current teachers may have to increase their students per class to meet this future student growth. However, lower quality of education may emerge if future growth is dealt with in this manner. Therefore, the figures reported above are practical, assuming that a consistent level (if not an improved level) of quality education is desired. As before, these demands represent increased pressure on an already critical (that is, full capacity or full utilization) situation.

Figure 12
Linear Implementation of an Increase of Active Duty at HAFB
High Schools Analysis: Incremental Need

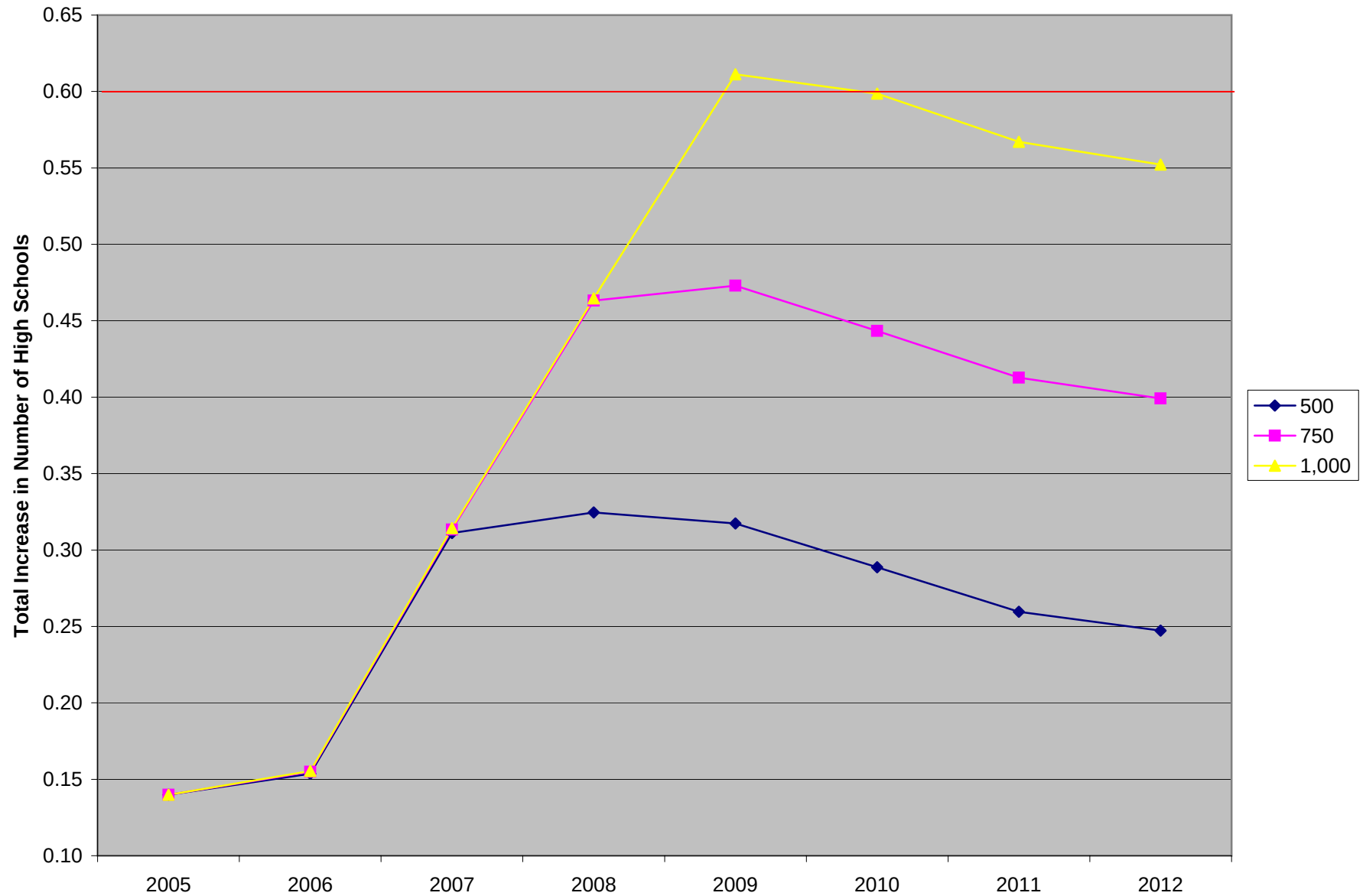
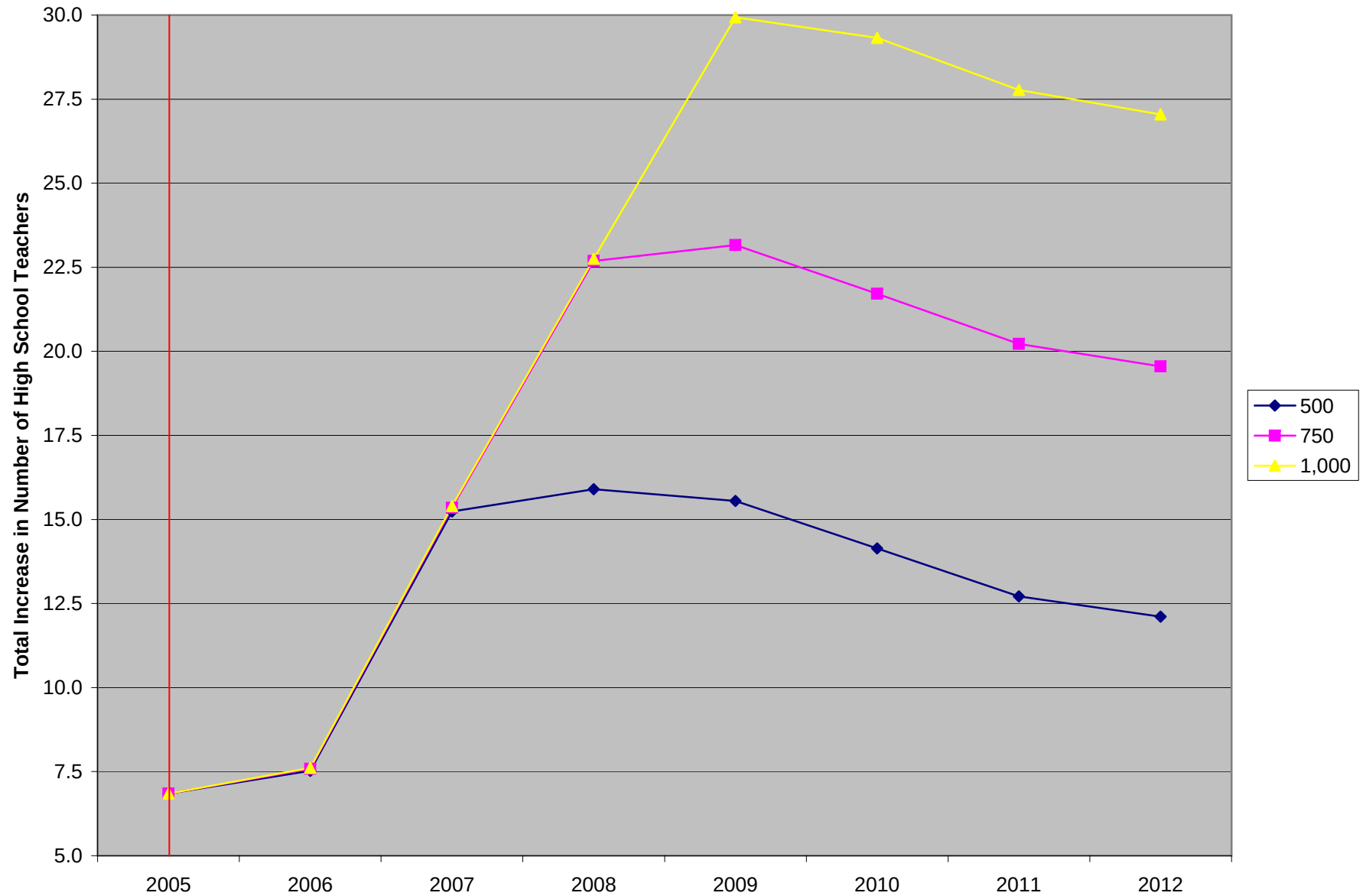


Figure 13
Linear Implementation of an Increase of Active Duty at HAFB
High School Teachers Analysis: Incremental Need



Police Officers

Current capacity data for police officers is presented in Table 40, while related forecasts are provided for the linear and first-year scenarios in Tables 41 and 42, respectively. Figure 14 graphically illustrates the three police officers linear forecasts. In 2003, there were 79 police officers serving the Otero County area, or approximately 1.27 police officers for every 1,000 people.

In the 1,000 personnel increase, linear scenario, as shown in Table 41 and Figure 14, two additional police officers will be needed in 2006 in the Otero County area. This figure rises to four in 2008 and five in 2012. According to the first-year scenario, and illustrated in Table 42, five new police officers will be required in 2006, 2008, and 2012.

The figures reported above are consistent with the ratio of 1.27 police officers for every 1,000 people. If this ratio changes, then the number of police officers needed at various times in the forecasts will also change. It may be that to meet future capacity current police officers will have to increase the size of the area they serve. However, dealing with future growth in this manner is likely to result in a lower quality of service. Therefore, assuming that a consistent (if not an improved level) of quality emergency service is desired, the figures reported above are practical for current discussions. Moreover, this discussion becomes more relevant in that police officers currently operate under capacity by 14 officers. In other words, the number of actual police officers relative to the optimal/ideal number is critical at the present time.

Fire Fighters

In 2003, there were 50 fire fighters serving the Otero County area, or approximately 0.80 fire fighters for every 1,000 people.²¹ Current capacity data for fire fighters is compiled in Table 43, while corresponding forecasts are included for the linear and first-year scenarios in Tables 44 and 45, respectively. The three fire fighters linear forecasts can be seen graphically in Figure 15.

One additional fire fighter is required in 2006 according to the 1,000 incremental active military, linear scenario as shown in Table 44 and Figure 15. Furthermore, in the same scenario, three fire fighters are needed in both 2008 and 2012, respectively. In line with the first-year scenario, as reported in Table 45, three fire fighters are required in 2006, 2008, and 2012.

The figures reported above are consistent with the ratio of 0.80 fire fighters for every 1,000 people. As with police officers, the number of fire fighters needed at various times in the forecasts will change if this ratio changes. Current fire fighters may have to increase the size of the area they serve to meet this future capacity. However, lower quality of service may emerge if future growth is dealt with in this manner. Therefore, the figures reported above are practical, assuming that a consistent level (if not an improved level) of quality emergency service is desired. Moreover, since fire fighters currently operate at capacity the situation will only worsen under any of the expansion scenarios.

²¹ According to the OCEDC website 15 of the reported 50 fire fighters are considered full-time firemen. The remaining 35 fire fighters are comprised of police officers, who are also trained as fire fighters and assist when needed. In any case, one way or the other there are 50 "fire fighters" in Otero County.

Figure 14
Linear Implementation of an Increase of Active Duty at HAFB
Police Officers Analysis: Incremental Need

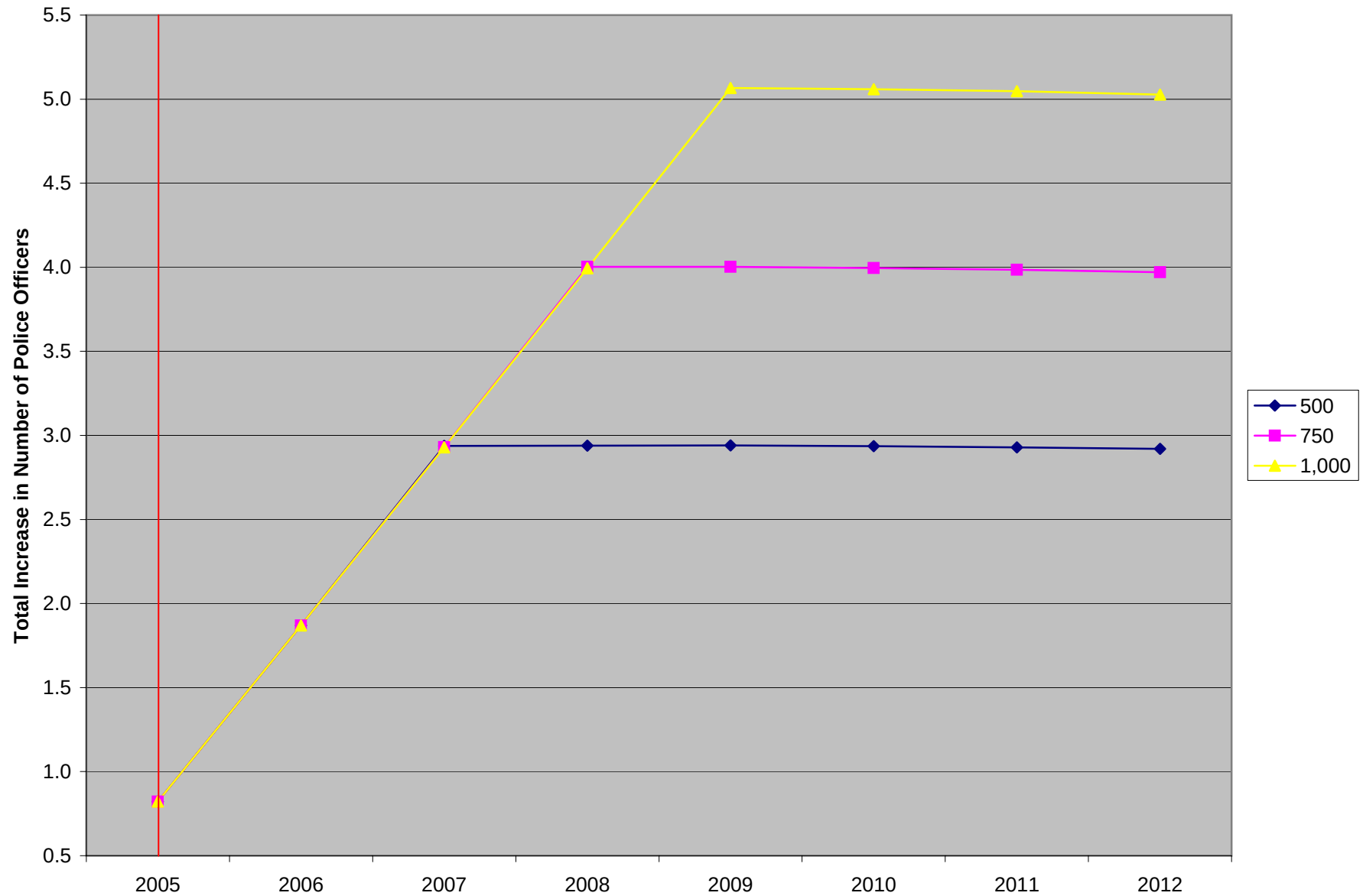
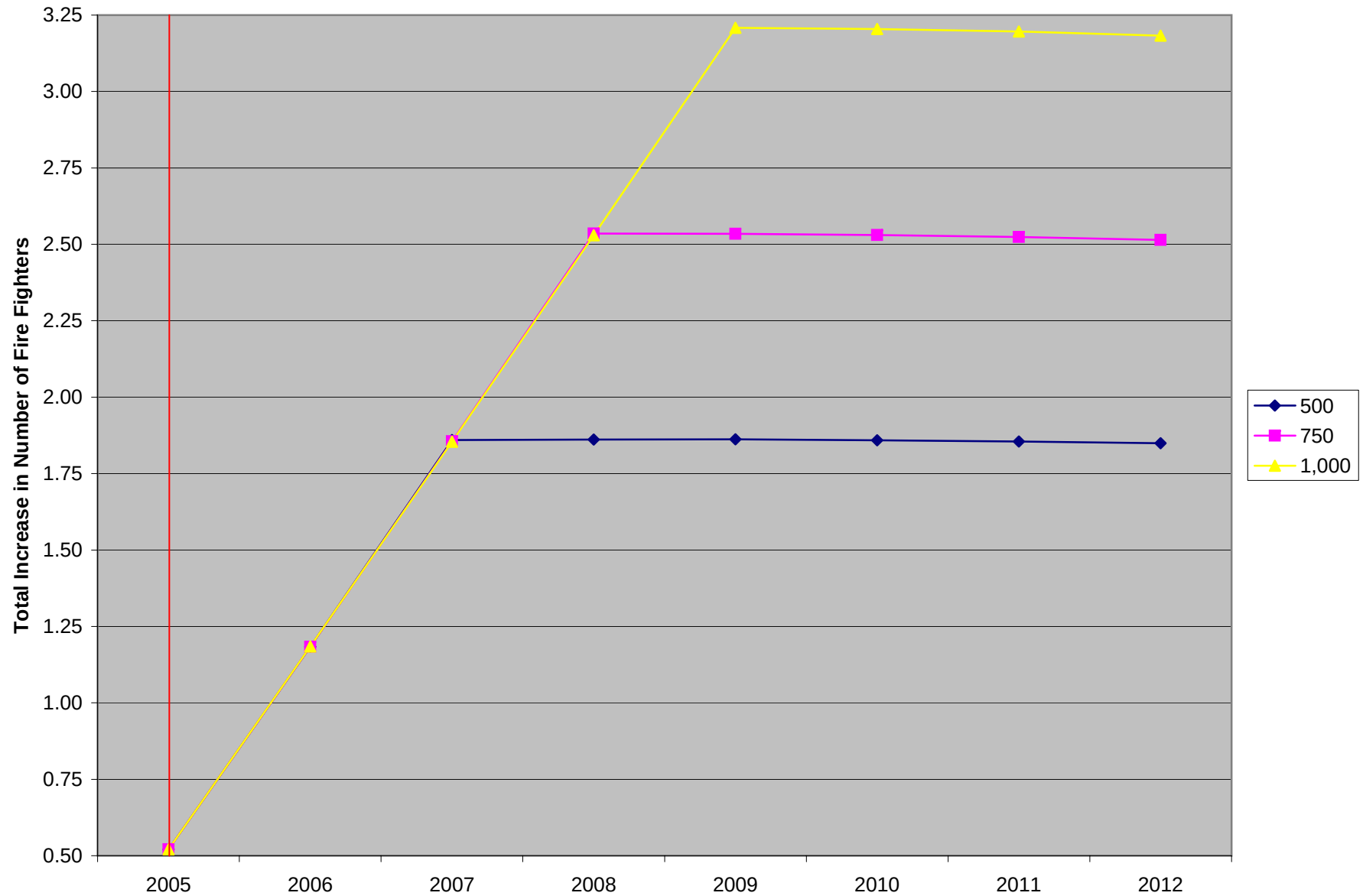


Figure 15
Linear Implementation of an Increase of Active Duty at HAFB
Fire Fighters Analysis: Incremental Need



Conclusion

With the potential of near-term military base closings in a variety of locations throughout the country, the possibility arises that Holloman AFB may experience an expansion in the number of military personnel stationed in the Otero County region. Anticipating the expansion of the HAFB community requires the assessment of Otero County's capacity to absorb such growth. This study forecasts the incremental demands placed on 18 categories of goods, services and human resources resulting from seven expansion scenarios. These need projections are compared to Otero County's current and prospective capacities to meet such demands in a timely fashion.

The study assumes that the number of Physicians, Nurses, Elementary/Middle/High School Teachers, Police Officers and Fire Fighters have reached a critical point as of the present. Therefore, the current situation in these 7 categories will become more severe as Otero County expands along its trend growth path. The challenge becomes greater under the various HAFB expansion scenarios.

The analysis presented in this report assumes that private sector market forces can or will respond to the incremental demands for Housing Units, Hospital Beds and Child Care Centers. Specifically, given current housing unit availability and a continuation of present housing construction industry capacity, projected demands in this area can be met. And, if excess demands for Physicians and Nurses can be satisfied over time, the private sector will respond by providing the necessary hospital facilities. A similar adjustment is anticipated with respect to Child Care Centers. Obviously, the assumption of efficient private markets can be debated. To the extent that such market forces do not function smoothly with respect to the provision of land, physical and financial capital, a comparison of projected demand to capacity may yield different conclusions. This study provides the necessary incremental demand values to conduct such an exercise.

Under the assumption that Otero County schools currently operate at 85 percent capacity, the current stock of elementary schools in the region can absorb incremental demand under all expansion scenarios. The same is true for high schools although the projected demand relative to capacity is "tight." The outlook is not as bright concerning the projected needs for middle schools with current capacity falling short as early as 2006 under the plus-1,000 active military expansion scenario. The report presents projected demand figures which allow a change in the 85 percent capacity assumption.

Finally, the analysis concludes that incremental demands for Potable Water and Solid Waste Disposal can be met under current capacity conditions. Discussions with local officials yielded similar conclusions with respect to all anticipated demand levels for gas, electricity, and transportation infrastructure.

**The Regional Capacity and
Possible Expansion of
Holloman AFB, New Mexico: 2004:
Appendix A: List of Tables**



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Table 1
Housing: Status and Availability

Housing	
	2003 YTD
Number of Homes sold	815
Number of homes on market	656
Building Permits Issued/New Homes	157

- ✓ On average, there are 656 homes listed on the market in a given month available for purchase.
- ✓ At the end of December 2003, there were 560 homes available for purchase.
- ✓ 157 building permits were issued in the year 2003, and on average, there are 13 new homes built per month.
- ✓ There were 815 homes sold in Otero County in 2003.

Source: This data was collected by Susan Moss at the Otero County Economic Development Council with the assistance of the Otero County Realtors Association.

Table 2
Housing: Linear Implementation of an Increase of Active Duty at HAFB

HOUSING
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Population	64,186	64,828	65,476	66,131	66,792	67,460	68,134	68,816	69,504	70,199
Baseline Growth in Population		642	648	655	661	668	675	681	688	695
Increase in Housing Units		245.92	248.38	250.87	253.37	255.91	258.47	261.05	263.66	266.30

Linear Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	500	0	0	819	1,655	1,650	1,644	1,634	1,622	1,608
Increase in Housing Units				313.83	634.10	632.18	629.89	626.05	621.46	616.09
Total Increase in Housing Units ²		245.92	248.38	564.70	887.47	888.09	888.35	887.11	885.12	882.39
	750	0	0	819	1,650	2,489	2,482	2,470	2,455	2,436
				313.95	632.18	953.64	950.96	946.36	940.61	933.33
		245.92	248.38	564.81	885.56	1,209.55	1,209.42	1,207.41	1,204.27	1,199.63
	1,000	0	0	820	1,648	2,482	3,321	3,309	3,292	3,269
				314.02	631.42	950.96	1,272.41	1,267.82	1,261.30	1,252.49
		245.92	248.38	564.89	884.79	1,206.87	1,530.88	1,528.87	1,524.96	1,518.79

¹Includes Growth in Military and Associated Population

²Baseline Growth + Scenario Growth

Table 3
Housing: First-Year Implementation of an Increase of Active Duty at HAFB

HOUSING
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Population	64,186	64,828	65,476	66,131	66,792	67,460	68,134	68,816	69,504	70,199
Baseline Growth in Population		642	648	655	661	668	675	681	688	695
Increase in Housing Units		245.92	248.38	250.87	253.37	255.91	258.47	261.05	263.66	266.30

First-Year Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	250	0	0	818	815	812	807	802	795	788
Increase in Housing Units				313.30	312.26	311.11	309.35	307.16	304.60	301.72
Total Increase in Housing Units ²		245.92	248.38	564.16	565.63	567.02	567.82	568.22	568.26	568.02
	500	0	0	1,638	1,636	1,632	1,625	1,615	1,603	1,589
				627.59	626.82	625.29	622.61	618.77	614.18	608.81
		245.92	248.38	878.45	880.19	881.19	881.07	879.83	877.84	875.11
	750	0	0	2,458	2,457	2,452	2,442	2,428	2,411	2,391
				941.76	941.38	939.46	935.63	930.27	923.75	916.09
		245.92	248.38	1,192.63	1,194.75	1,195.37	1,194.10	1,191.32	1,187.42	1,182.39
	1,000	0	0	3,279	3,279	3,273	3,260	3,242	3,220	3,193
				1,256.32	1,256.32	1,254.02	1,249.04	1,242.15	1,233.72	1,223.37
		245.92	248.38	1,507.19	1,509.70	1,509.93	1,507.51	1,503.20	1,497.38	1,489.67

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Table 4
Hospital Capacity: Beds

Hospital Capacity: Beds			
Hospital	Current Demand/Use	Current Capacity	Capacity Difference
GCRMC	69	95	26

- ✓ For every 1,000 individuals, there are approximately 1.16 beds based on the 2000 Population figure for the County of Otero of 62,298.
- ✓ Currently, the Gerald Champion Regional Medical Center does not operate at capacity.

Source: The current capacity information collected was obtained from the Otero County Economic Development Council 2002 Fact Book. No information was provided with regards to the current demand/use at GCRMC. Thus, the same operating capacity figure of roughly 75% found in El Paso county hospitals was applied to GCRMC.

Table 5
Hospital Capacity: Linear Implementation of an Increase of Active Duty at HAFB

HOSPITAL CAPACITY: BEDS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Population	64,186	64,828	65,476	66,131	66,792	67,460	68,134	68,816	69,504	70,199
Baseline Growth in Population		642	648	655	661	668	675	681	688	695
Increase in Bed Units		0.74	0.75	0.76	0.76	0.77	0.78	0.79	0.80	0.80

Linear Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	500	0	0	819	1,655	1,650	1,644	1,634	1,622	1,608
Increase in Bed Units				0.95	1.91	1.91	1.90	1.89	1.88	1.86
Total Increase in Bed Units ²		0.74	0.75	1.70	2.68	2.68	2.68	2.68	2.67	2.66
	750	0	0	819	1,650	2,489	2,482	2,470	2,455	2,436
		0.74	0.75	0.95	1.91	2.88	2.87	2.86	2.84	2.82
		0.74	0.75	1.70	2.67	3.65	3.65	3.64	3.63	3.62
	1,000	0	0	820	1,648	2,482	3,321	3,309	3,292	3,269
		0.74	0.75	0.95	1.91	2.87	3.84	3.83	3.81	3.78
		0.74	0.75	1.70	2.67	3.64	4.62	4.61	4.60	4.58

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Hospital Capacity: First-Year Implementation of an Increase of Active Duty at HAFB**HOSPITAL CAPACITY: BEDS**

Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Population	64,186	64,828	65,476	66,131	66,792	67,460	68,134	68,816	69,504	70,199
Baseline Growth in Population		642	648	655	661	668	675	681	688	695
Increase in Bed Units		0.74	0.75	0.76	0.76	0.77	0.78	0.79	0.80	0.80

First-Year Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	200	0	0	818	815	812	807	802	795	788
Increase in Bed Units				0.95	0.94	0.94	0.93	0.93	0.92	0.91
Total Increase in Bed Units ²		0.74	0.75	1.70	1.71	1.71	1.71	1.71	1.71	1.71
	500	0	0	1,638	1,636	1,632	1,625	1,615	1,603	1,589
				1.89	1.89	1.89	1.88	1.87	1.85	1.84
		0.74	0.75	2.65	2.66	2.66	2.66	2.65	2.65	2.64
	750	0	0	2,458	2,457	2,452	2,442	2,428	2,411	2,391
				2.84	2.84	2.83	2.82	2.81	2.79	2.76
		0.74	0.75	3.60	3.60	3.61	3.60	3.59	3.58	3.57
	1,000	0	0	3,279	3,279	3,273	3,260	3,242	3,220	3,193
				3.79	3.79	3.78	3.77	3.75	3.72	3.69
		0.74	0.75	4.55	4.55	4.56	4.55	4.54	4.52	4.49

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Table 7
Health Care Providers: Physicians

Health Care Providers	
	Listed Providers*
Physicians	69

✓ For every 1,000 individuals, there are approximately 1.11 Physicians based on the 2000 Population figure for the County of Otero of 62,298.

*Source: The Otero County Economic Development Council website indicates that there are 85 physicians at Gerald Champion Regional Medical Center. All 85 physicians are Independent Practitioners that have privileges, which means they can practice at GCRMC. However, Susan Moss at OCEDC informed IPED that not all physicians actually live in Otero County. In this regard, the Otero County Economic Development Council website also indicates that there are 65 physicians at GCRMC. Thus, it is assumed that 20 physicians live outside of the county. Assuming that these 20 physicians work at GCRMC one day a week, the Full Time Equivalent number of physicians equals 69.

Table 8
Physicians: Linear Implementation of an Increase of Active Duty at HAFB

PHYSICIANS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Population	64,186	64,828	65,476	66,131	66,792	67,460	68,134	68,816	69,504	70,199
Baseline Growth in Population		642	648	655	661	668	675	681	688	695
Increase in Physicians		0.71	0.72	0.73	0.73	0.74	0.75	0.75	0.76	0.77

Linear Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	500	0	0	819	1,655	1,650	1,644	1,634	1,622	1,608
Increase in Physicians				0.91	1.83	1.83	1.82	1.81	1.80	1.78
Total Increase in Physicians ²		0.71	0.72	1.63	2.57	2.57	2.57	2.57	2.56	2.55
	750	0	0	819	1,650	2,489	2,482	2,470	2,455	2,436
		0.71	0.72	0.91	1.83	2.76	2.75	2.74	2.72	2.70
		0.71	0.72	1.63	2.56	3.50	3.50	3.49	3.48	3.47
	1,000	0	0	820	1,648	2,482	3,321	3,309	3,292	3,269
				0.91	1.83	2.75	3.68	3.67	3.65	3.62
		0.71	0.72	1.63	2.56	3.49	4.43	4.42	4.41	4.39

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Physicians: First-Year Implementation of an Increase of Active Duty at HAFB**PHYSICIANS**
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Population	64,186	64,828	65,476	66,131	66,792	67,460	68,134	68,816	69,504	70,199
Baseline Growth in Population		642	648	655	661	668	675	681	688	695
Increase in Physicians		0.71	0.72	0.73	0.73	0.74	0.75	0.75	0.76	0.77

First-Year Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	250	0	0	818	815	812	807	802	795	788
Increase in Physicians				0.91	0.90	0.90	0.89	0.89	0.88	0.87
Total Increase in Physicians ²		0.71	0.72	1.63	1.64	1.64	1.64	1.64	1.64	1.64
	500	0	0	1,638	1,636	1,632	1,625	1,615	1,603	1,589
				1.81	1.81	1.81	1.80	1.79	1.78	1.76
		0.71	0.72	2.54	2.55	2.55	2.55	2.54	2.54	2.53
	750	0	0	2,458	2,457	2,452	2,442	2,428	2,411	2,391
				2.72	2.72	2.72	2.71	2.69	2.67	2.65
		0.71	0.72	3.45	3.46	3.46	3.45	3.45	3.43	3.42
	1,000	0	0	3,279	3,279	3,273	3,260	3,242	3,220	3,193
				3.63	3.63	3.63	3.61	3.59	3.57	3.54
		0.71	0.72	4.36	4.37	4.37	4.36	4.35	4.33	4.31

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Table 10
Health Care Providers: Nurses

Health Care Providers	
	Listed Providers*
Nurses	190

✓ For every 1,000 individuals, there are approximately 3.05 Nurses based on the 2000 Population figure for the County of Otero of 62,298.

*Source: Susan Moss at the Otero County Economic Council obtained this information from the Gerald Champion Regional Medical Center, February 2004.

Table 11
Nurses: Linear Implementation of an Increase of Active Duty at HAFB

NURSES
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Population	64,186	64,828	65,476	66,131	66,792	67,460	68,134	68,816	69,504	70,199
Baseline Growth in Population		642	648	655	661	668	675	681	688	695
Increase in Nurses		1.96	1.98	2.00	2.02	2.04	2.06	2.08	2.10	2.12

Linear Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	500	0	0	819	1,655	1,650	1,644	1,634	1,622	1,608
Increase in Nurses				2.50	5.05	5.03	5.01	4.98	4.95	4.90
Total Increase in Nurses ²		1.96	1.98	4.50	7.06	7.07	7.07	7.06	7.05	7.02
	750	0	0	819	1,650	2,489	2,482	2,470	2,455	2,436
				2.50	5.03	7.59	7.57	7.53	7.49	7.43
		1.96	1.98	4.50	7.05	9.63	9.63	9.61	9.59	9.55
	1,000	0	0	820	1,648	2,482	3,321	3,309	3,292	3,269
				2.50	5.03	7.57	10.13	10.09	10.04	9.97
		1.96	1.98	4.50	7.04	9.61	12.19	12.17	12.14	12.09

¹Includes Growth in Military and Associated Population

²Baseline Growth + Scenario Growth

Table 12
Nurses: First-Year Implementation of an Increase of Active Duty at HAFB

NURSES
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Population	64,186	64,828	65,476	66,131	66,792	67,460	68,134	68,816	69,504	70,199
Baseline Growth in Population		642	648	655	661	668	675	681	688	695
Increase in Nurses		1.96	1.98	2.00	2.02	2.04	2.06	2.08	2.10	2.12

First-Year Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	250	0	0	818	815	812	807	802	795	788
Increase in Nurses				2.49	2.49	2.48	2.46	2.45	2.42	2.40
Total Increase in Nurses ²		1.96	1.98	4.49	4.50	4.51	4.52	4.52	4.52	4.52
	500	0	0	1,638	1,636	1,632	1,625	1,615	1,603	1,589
				5.00	4.99	4.98	4.96	4.93	4.89	4.85
		1.96	1.98	6.99	7.01	7.01	7.01	7.00	6.99	6.97
	750	0	0	2,458	2,457	2,452	2,442	2,428	2,411	2,391
				7.50	7.49	7.48	7.45	7.41	7.35	7.29
		1.96	1.98	9.49	9.51	9.52	9.51	9.48	9.45	9.41
	1,000	0	0	3,279	3,279	3,273	3,260	3,242	3,220	3,193
				10.00	10.00	9.98	9.94	9.89	9.82	9.74
		1.96	1.98	12.00	12.02	12.02	12.00	11.97	11.92	11.86

¹Includes Growth in Military and Associated Population

²Baseline Growth + Scenario Growth

Table 13
Potable Water Capacity

Potable Water Capacity	
Current # Served	Max Capacity
130 gpcd	12 MGD
8.10 MGD	

Unit of Measurement
Million Gallons Per Day (MGD)
Gallons Per Person Per Day (gpcd)

- ✓ Current water usage consumes 8.10 MGD
- ✓ Current water capacity can produce 12 MGD

Source: There are four sources of water in Otero County. La Luz/Fresnal, Alamo Canyon, and Bonito Lake are the three surface water treatment plants. The only source of ground water is the Well Field Underground. The current water consumption and the maximum capacity figures, reported in millions of gallons per day, were found on the Otero County Economic Development Council website.

Table 14
Potable Water: Linear Implementation of an Increase of Active Duty at HAFB

POTABLE WATER
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Population	64,186	64,828	65,476	66,131	66,792	67,460	68,134	68,816	69,504	70,199
Baseline Growth in Population		642	648	655	661	668	675	681	688	695
Increase in Water Consumption		0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09

Linear Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	500	0	0	819	1,655	1,650	1,644	1,634	1,622	1,608
Increase in Water Consumption ²				0.11	0.22	0.21	0.21	0.21	0.21	0.21
Total Increase in Water Consumption ³		0.08	0.08	0.19	0.30	0.30	0.30	0.30	0.30	0.30
	750	0	0	819	1,650	2,489	2,482	2,470	2,455	2,436
		0.08	0.08	0.19	0.30	0.41	0.41	0.41	0.41	0.41
	1,000	0	0	820	1,648	2,482	3,321	3,309	3,292	3,269
		0.08	0.08	0.19	0.30	0.41	0.52	0.52	0.52	0.52

¹Includes Growth in Military and Associated Population

²Reported in millions of gallons p/day

³Baseline Growth + Scenario Growth

Table 15
Potable Water: First-Year Implementation of an Increase of Active Duty at HAFB

POTABLE WATER
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Population	64,186	64,828	65,476	66,131	66,792	67,460	68,134	68,816	69,504	70,199
Baseline Growth in Population		642	648	655	661	668	675	681	688	695
Increase in Water Consumption		0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09

First-Year Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	250	0	0	818	815	812	807	802	795	788
Increase in Water Consumption ²				0.11	0.11	0.11	0.10	0.10	0.10	0.10
Total Increase in Water Consumption ³		0.08	0.08	0.19	0.19	0.19	0.19	0.19	0.19	0.19
	500	0	0	1,638	1,636	1,632	1,625	1,615	1,603	1,589
		0.08	0.08	0.30	0.30	0.30	0.30	0.30	0.30	0.30
	750	0	0	2,458	2,457	2,452	2,442	2,428	2,411	2,391
		0.08	0.08	0.40	0.41	0.41	0.41	0.40	0.40	0.40
	1,000	0	0	3,279	3,279	3,273	3,260	3,242	3,220	3,193
		0.08	0.08	0.51	0.51	0.51	0.51	0.51	0.51	0.51

¹Includes Growth in Military and Associated Population²Reported in millions of gallons p/day³Baseline Growth + Scenario Growth

Table 16
Solid Waste Capacity

El Paso Infrastructure - Solid Waste Capacity		
<u>Issue</u>	<u>Current # Served</u>	<u>Projections</u>
OLCR Landfill	Otero County	Estimated life span of 89 years

- ✓ The average rate of waste produced is 5 lbs per person, per day.

Source: The Landfill Department of the City of Alamogordo, February 2004. The Otero-Lincoln County Regional Landfill opened in January 1994, and was designed to have a life span of 99 years. No information was provided with regards to the average rate of waste produced per person, per day. Thus, the average rate of waste produced in El Paso County of 5 lbs per person, per day was applied to Otero County.

Solid Waste: Linear Implementation of an Increase of Active Duty at HAFB**SOLID WASTE**

Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Population	64,186	64,828	65,476	66,131	66,792	67,460	68,134	68,816	69,504	70,199
Baseline Growth in Population		642	648	655	661	668	675	681	688	695
Increase in Waste Production		531.24	536.55	541.92	547.34	552.81	558.34	563.92	569.56	575.26

Linear Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	500	0	0	819	1,655	1,650	1,644	1,634	1,622	1,608
Increase in Waste Production ²				677.94	1,369.78	1,365.65	1,360.68	1,352.40	1,342.47	1,330.88
Total Increase in Waste Production ³		531.24	536.55	1,219.86	1,917.12	1,918.46	1,919.02	1,916.33	1,912.04	1,906.14
	750	0	0	819	1,650	2,489	2,482	2,470	2,455	2,436
				678.19	1,365.65	2,060.06	2,054.26	2,044.33	2,031.92	2,016.19
		531.24	536.55	1,220.11	1,912.99	2,612.87	2,612.60	2,608.26	2,601.48	2,591.45
	1,000	0	0	820	1,648	2,482	3,321	3,309	3,292	3,269
				678.35	1,363.99	2,054.26	2,748.67	2,738.74	2,724.67	2,705.63
		531.24	536.55	1,220.27	1,911.33	2,607.08	3,307.01	3,302.67	3,294.23	3,280.89

¹Includes Growth in Military and Associated Population²Reported in metric tons³Baseline Growth + Scenario Growth

Table 18
Solid Waste: First-Year Implementation of an Increase of Active Duty at HAFB

SOLID WASTE
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Population	64,186	64,828	65,476	66,131	66,792	67,460	68,134	68,816	69,504	70,199
Baseline Growth in Population		642	648	655	661	668	675	681	688	695
Increase in Waste Production		531.24	536.55	541.92	547.34	552.81	558.34	563.92	569.56	575.26

First-Year Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	250	0	0	818	815	812	807	802	795	788
Increase in Waste Production ²				676.78	674.55	672.06	668.26	663.54	657.99	651.79
Total Increase in Waste Production ³		531.24	536.55	1,218.70	1,221.89	1,224.88	1,226.60	1,227.46	1,227.56	1,227.04
	500	0	0	1,638	1,636	1,632	1,625	1,615	1,603	1,589
				1,355.71	1,354.06	1,350.75	1,344.95	1,336.68	1,326.75	1,315.16
		531.24	536.55	1,897.63	1,901.40	1,903.56	1,903.30	1,900.60	1,896.31	1,890.42
	750	0	0	2,458	2,457	2,452	2,442	2,428	2,411	2,391
				2,034.40	2,033.57	2,029.43	2,021.16	2,009.57	1,995.50	1,978.95
		531.24	536.55	2,576.32	2,580.91	2,582.25	2,579.50	2,573.49	2,565.06	2,554.20
	1,000	0	0	3,279	3,279	3,273	3,260	3,242	3,220	3,193
				2,713.91	2,713.91	2,708.95	2,698.19	2,683.29	2,665.08	2,642.73
		531.24	536.55	3,255.83	3,261.25	3,261.76	3,256.53	3,247.21	3,234.64	3,217.99

¹Includes Growth in Military and Associated Population²Reported in metric tons³Baseline Growth + Scenario Growth

Table 19
Child Care Centers Capacity

Child Care				
County	Child Care Centers	Child Care Slots	Licensed Capacity	Capacity Difference
Otero	14	1,539	1,607	68

- ✓ The average number of slots per child care center is 110.
- ✓ There are approximately 25 child care slots available for every 1,000 population.

Source: Information was provided by Susan Moss at the Otero County Economic Development Council.

Table 20
Child Care Centers: Linear Implementation of an Increase of Active Duty at HAFB

CHILD CARE CENTERS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Population Ages 0-4	4,970	5,057	5,133	5,191	5,249	5,308	5,367	5,424	5,476	5,522
Baseline Growth in Population		87	76	58	58	59	59	57	52	46
Increase in CC Centers		0.79	0.69	0.53	0.53	0.54	0.53	0.52	0.48	0.42

Linear Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	500	0	0	151	291	262	235	208	179	165
Increase in CC Centers				1.37	2.64	2.38	2.13	1.89	1.63	1.50
Total Increase in CC Centers ²		0.79	0.69	1.90	3.17	2.92	2.67	2.41	2.11	1.92
	750	0	0	151	291	418	375	334	292	264
		0.79	0.69	1.90	3.17	4.33	3.94	3.56	3.13	2.82
	1,000	0	0	152	291	417	531	475	418	377
		0.79	0.69	1.91	3.17	4.33	5.36	4.83	4.28	3.84

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Table 21
Child Care Centers: First-Year Implementation of an Increase of Active Duty at HAFB

CHILD CARE CENTERS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Population Ages 0-4	4,970	5,057	5,133	5,191	5,249	5,308	5,367	5,424	5,476	5,522
Baseline Growth in Population		87	76	58	58	59	59	57	52	46
Increase in CC Centers		0.79	0.69	0.53	0.53	0.54	0.53	0.52	0.48	0.42

First-Year Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	250	0	0	149	135	122	109	96	81	82
Increase in CC Centers				1.36	1.23	1.11	0.99	0.87	0.74	0.75
Total Increase in CC Centers ²		0.79	0.69	1.88	1.76	1.64	1.52	1.39	1.21	1.17
	500	0	0	302	273	246	219	193	163	166
		0.79	0.69	2.74	2.48	2.23	1.99	1.76	1.48	1.51
		0.79	0.69	3.27	3.01	2.77	2.53	2.28	1.96	1.93
	750	0	0	454	411	369	330	290	245	250
		0.79	0.69	4.13	3.73	3.36	3.00	2.64	2.22	2.27
		0.79	0.69	4.66	4.27	3.89	3.53	3.16	2.70	2.69
	1,000	0	0	607	549	493	440	388	326	334
		0.79	0.69	5.52	4.99	4.49	4.00	3.52	2.97	3.04
		0.79	0.69	6.05	5.52	5.02	4.53	4.04	3.44	3.46

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Otero County Area Schools Capacity: Elementary Schools

Otero County Area Schools								
Type of School	Number of Schools (APSD)	Average Capacity (APSD)	Number of Schools (CMSD)	Average Capacity (CMSD)	Number of Schools (TMSD)	Average Capacity (TMSD)	Number of Schools (Total)	Weighted Average
Elementary Schools	11	344	1	173	1	526	13	345

- ✓ 2000 Otero County Population: 62,298
- ✓ Number of Public Schools in Otero County: 22
- ✓ Average Current Enrollment in Elementary Schools in Otero County: 293

*Source: Information was obtained from Susan Moss at the Otero County Economic Development Council.

Table 23
Elementary Schools: Linear Implementation of an Increase of Active Duty at HAFB

ELEMENTARY SCHOOLS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Population Ages 5-9	5,088	5,063	5,063	5,145	5,236	5,332	5,426	5,510	5,579	5,648
Baseline Growth in Population		-25	0	82	91	95	94	84	69	69
Increase in Elem Schools		-0.07	0.00	0.24	0.26	0.28	0.27	0.24	0.20	0.20

Linear Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	500	0	0	121	245	250	253	256	262	250
Increase in Elem Schools				0.35	0.71	0.72	0.73	0.74	0.76	0.73
Total Increase in Elem Schools ²		-0.07	0.00	0.59	0.98	1.00	1.01	0.98	0.96	0.93
	750	0	0	122	247	375	381	386	392	382
		-0.07	0.00	0.35	0.72	1.09	1.10	1.12	1.14	1.11
		-0.07	0.00	0.59	0.98	1.36	1.38	1.36	1.34	1.31
	1,000	0	0	122	248	376	506	513	522	513
		-0.07	0.00	0.35	0.72	1.09	1.47	1.49	1.51	1.49
		-0.07	0.00	0.59	0.98	1.37	1.74	1.73	1.71	1.69

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Table 24
Elementary Schools: First-Year Implementation of an Increase of Active Duty at HAFB

ELEMENTARY SCHOOLS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Population Ages 5-9	5,088	5,063	5,063	5,145	5,236	5,332	5,426	5,510	5,579	5,648
Baseline Growth in Population		-25	0	82	91	95	94	84	69	69
Increase in Elem Schools		-0.07	0.00	0.24	0.26	0.28	0.27	0.24	0.20	0.20

First-Year Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	250	0	0	117	120	122	123	125	129	114
Increase in Elem Schools				0.34	0.35	0.35	0.36	0.36	0.38	0.33
Total Increase in Elem Schools ²		-0.07	0.00	0.58	0.61	0.63	0.63	0.60	0.58	0.53
	500	0	0	242	246	250	252	256	264	232
		-0.07	0.00	0.94	0.98	1.00	1.01	0.98	0.96	0.87
	750	0	0	366	372	378	382	386	398	350
		-0.07	0.00	1.30	1.34	1.37	1.38	1.36	1.35	1.21
	1,000	0	0	490	499	505	511	516	532	468
		-0.07	0.00	1.66	1.71	1.74	1.75	1.74	1.74	1.56

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Table 25
Otero County Area Schools Capacity: Elementary School Teachers

Elementary Schools	
	Staff Information*
Teachers	222

- ✓ The current student to teacher ratio for elementary schools is 15.8 students for every 1 teacher.

*Source: Pupil Teacher Ratios by School Type, and District Total 2003-2004, Data Collection and Information Systems, New Mexico Public Education Department.

Table 26
Elementary School Teachers: Linear Implementation of an Increase of Active Duty at HAFB

ELEMENTARY SCHOOLS TEACHERS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Population Ages 5-9	5,088	5,063	5,063	5,145	5,236	5,332	5,426	5,510	5,579	5,648
Baseline Growth in Population		-25	0	82	91	95	94	84	69	69
Increase in E.S. Teachers		-1.57	-0.03	5.21	5.77	6.04	5.97	5.29	4.38	4.36

Linear Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	500	0	0	121	245	250	253	256	262	250
Increase in E.S. Teachers				7.64	15.53	15.80	16.00	16.20	16.56	15.84
Total Increase in E.S. Teachers ²		-1.57	-0.03	12.85	21.29	21.84	21.97	21.49	20.94	20.20
	750	0	0	122	247	375	381	386	392	382
		-1.57	-0.03	7.71	15.63	23.73	24.09	24.40	24.84	24.20
				12.92	21.40	29.78	30.07	29.69	29.21	28.56
	1,000	0	0	122	248	376	506	513	522	513
		-1.57	-0.03	7.75	15.68	23.78	32.03	32.48	33.03	32.47
				12.95	21.45	29.83	38.00	37.77	37.41	36.83

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Table 27
Elementary School Teachers: First-Year Implementation of an Increase of Active Duty at HAFB

ELEMENTARY SCHOOLS TEACHERS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Population Ages 5-9	5,088	5,063	5,063	5,145	5,236	5,332	5,426	5,510	5,579	5,648
Baseline Growth in Population		-25	0	82	91	95	94	84	69	69
Increase in E.S. Teachers		-1.57	-0.03	5.21	5.77	6.04	5.97	5.29	4.38	4.36

First-Year Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	250	0	0	117	120	122	123	125	129	114
Increase in E.S. Teachers				7.43	7.58	7.70	7.80	7.91	8.19	7.23
Total Increase in E.S. Teachers ²		-1.57	-0.03	12.63	13.35	13.75	13.77	13.20	12.57	11.59
	500	0	0	242	246	250	252	256	264	232
		-1.57	-0.03	15.28	15.58	15.80	15.97	16.17	16.68	14.70
				20.49	21.34	21.84	21.94	21.46	21.06	19.06
	750	0	0	366	372	378	382	386	398	350
		-1.57	-0.03	23.13	23.56	23.89	24.15	24.42	25.16	22.16
				28.34	29.33	29.93	30.12	29.71	29.54	26.52
	1,000	0	0	490	499	505	511	516	532	468
		-1.57	-0.03	30.99	31.56	31.99	32.32	32.68	33.66	29.65
				36.20	37.32	38.03	38.29	37.98	38.04	34.01

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Table 28
Otero County Area Schools Capacity: Middle Schools

Otero County Area Schools								
Type of School	Number of Schools (APSD)	Average Capacity (APSD)	Number of Schools (CMSD)	Average Capacity (CMSD)	Number of Schools (TMSD)	Average Capacity (TMSD)	Number of Schools (Total)	Weighted Average
Middle Schools	3	607	1	144	1	308	5	455

- ✓ 2000 Otero County Population: 62,298
- ✓ Number of Public Schools in Otero County: 22
- ✓ Average Current Enrollment in Middle Schools in Otero County: 386

*Source: Information was obtained from Susan Moss at the Otero County Economic Development Council.

Table 29
Middle Schools: Linear Implementation of an Increase of Active Duty at HAFB

MIDDLE SCHOOLS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Population Ages 10-14	5,362	5,375	5,368	5,342	5,312	5,283	5,267	5,273	5,360	5,457
Baseline Growth in Population		13	-8	-26	-30	-29	-16	5	87	98
Increase in Middle Schools		0.03	-0.02	-0.06	-0.07	-0.06	-0.03	0.01	0.19	0.21

Linear Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	500	0	0	116	233	233	233	232	231	231
Increase in Middle Schools				0.25	0.51	0.51	0.51	0.51	0.51	0.51
Total Increase in Middle Schools ²		0.03	-0.02	0.20	0.45	0.45	0.48	0.52	0.70	0.72
	750	0	0	117	235	354	353	353	351	351
		0.03	-0.02	0.20	0.45	0.71	0.74	0.79	0.96	0.99
	1,000	0	0	118	236	355	474	473	472	472
		0.03	-0.02	0.20	0.45	0.72	1.01	1.05	1.23	1.25

¹Includes Growth in Military and Associated Population

²Baseline Growth + Scenario Growth

Table 30
Middle Schools: First-Year Implementation of an Increase of Active Duty at HAFB

MIDDLE SCHOOLS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Population Ages 10-14	5,362	5,375	5,368	5,342	5,312	5,283	5,267	5,273	5,360	5,457
Baseline Growth in Population		13	-8	-26	-30	-29	-16	5	87	98
Increase in Middle Schools		0.03	-0.02	-0.06	-0.07	-0.06	-0.03	0.01	0.19	0.21

First-Year Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	250	0	0	112	112	112	112	111	111	112
Increase in Middle Schools				0.25	0.25	0.25	0.25	0.24	0.24	0.25
Total Increase in Middle Schools ²		0.03	-0.02	0.19	0.18	0.18	0.21	0.26	0.43	0.46
	500	0	0	232	232	232	231	230	229	232
		0.03	-0.02	0.45	0.44	0.45	0.47	0.52	0.69	0.72
	750	0	0	351	351	351	350	349	347	351
		0.03	-0.02	0.71	0.71	0.71	0.74	0.78	0.95	0.99
	1,000	0	0	471	471	471	470	468	465	471
		0.03	-0.02	0.98	0.97	0.97	1.00	1.04	1.21	1.25

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Table 31
Otero County Area Schools Capacity: Middle School Teachers

Middle Schools	
	Staff Information*
Teachers	132

- ✓ The current student to teacher ratio for middle schools is 16.56 students for every 1 teacher.

*Source: Pupil Teacher Ratios by School Type, and District Total 2003-2004, Data Collection and Information Systems, New Mexico Public Education Department.

Table 32
Middle School Teachers: Linear Implementation of an Increase of Active Duty at HAFB

MIDDLE SCHOOL TEACHERS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Population Ages 10-14	5,362	5,375	5,368	5,342	5,312	5,283	5,267	5,273	5,360	5,457
Baseline Growth in Population		13	-8	-26	-30	-29	-16	5	87	98
Increase in M.S. Teachers		0.81	-0.46	-1.56	-1.82	-1.73	-0.96	0.32	5.27	5.90

Linear Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	500	0	0	116	233	233	233	232	231	231
Increase in M.S. Teachers				6.99	14.08	14.06	14.04	13.99	13.92	13.97
Total Increase in M.S. Teachers ²		0.81	-0.46	5.44	12.26	12.33	13.08	14.32	19.19	19.87
	750	0	0	117	235	354	353	353	351	351
		0.81	-0.46	7.07	14.20	21.36	21.34	21.29	21.20	21.21
				5.51	12.38	19.63	20.38	21.61	26.46	27.11
	1,000	0	0	118	236	355	474	473	472	472
		0.81	-0.46	7.10	14.26	21.44	28.64	28.59	28.49	28.47
				5.55	12.44	19.71	27.68	28.91	33.76	34.37

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Table 33
Middle School Teachers: First-Year Implementation of an Increase of Active Duty at HAFB

MIDDLE SCHOOL TEACHERS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Population Ages 10-14	5,362	5,375	5,368	5,342	5,312	5,283	5,267	5,273	5,360	5,457
Baseline Growth in Population		13	-8	-26	-30	-29	-16	5	87	98
Increase in M.S. Teachers		0.81	-0.46	-1.56	-1.82	-1.73	-0.96	0.32	5.27	5.90

First-Year Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	250	0	0	112	112	112	112	111	111	112
Increase in M.S. Teachers				6.77	6.77	6.76	6.75	6.72	6.68	6.79
Total Increase in M.S. Teachers ²		0.81	-0.46	5.22	4.95	5.03	5.79	7.04	11.95	12.69
	500	0	0	232	232	232	231	230	229	232
		0.81	-0.46	13.99	13.99	13.98	13.94	13.89	13.81	14.00
		0.81	-0.46	12.43	12.17	12.25	12.99	14.22	19.08	19.90
	750	0	0	351	351	351	350	349	347	351
		0.81	-0.46	21.20	21.22	21.20	21.15	21.06	20.95	21.21
		0.81	-0.46	19.64	19.40	19.47	20.20	21.39	26.22	27.11
	1,000	0	0	471	471	471	470	468	465	471
		0.81	-0.46	28.42	28.44	28.42	28.35	28.24	28.09	28.42
		0.81	-0.46	26.86	26.62	26.69	27.40	28.57	33.35	34.32

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Table 34
Otero County Area Schools Capacity: High Schools

Otero County Area Schools								
Type of School	Number of Schools (APSD)	Average Capacity (APSD)	Number of Schools (CMSD)	Average Capacity (CMSD)	Number of Schools (TMSD)	Average Capacity (TMSD)	Number of Schools (Total)	Weighted Average
High Schools	2	1,199	1	204	1	364	4	742

- ✓ 2000 Otero County Population: 62,298
- ✓ Number of Public Schools in Otero County: 22
- ✓ Average Current Enrollment in High Schools in Otero County: 630

*Source: Information was obtained from Susan Moss at the Otero County Economic Development Council.

Table 35
High Schools: Linear Implementation of an Increase of Active Duty at HAFB

HIGH SCHOOLS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Population Ages 15-19	5,701	5,786	5,890	5,906	5,927	5,947	5,963	5,960	5,938	5,908
Baseline Growth in Population		85	104	16	21	20	16	-3	-22	-30
Increase in High Schools		0.11	0.14	0.02	0.03	0.03	0.02	0.00	-0.03	-0.04

Linear Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	500	0	0	98	210	221	219	217	215	213
Increase in High Schools				0.13	0.28	0.30	0.30	0.29	0.29	0.29
Total Increase in High Schools ²		0.11	0.14	0.15	0.31	0.32	0.32	0.29	0.26	0.25
	750	0	0	99	211	324	335	332	329	326
		0.11	0.14	0.15	0.31	0.46	0.47	0.44	0.41	0.40
	1,000	0	0	99	212	325	437	447	443	439
		0.11	0.14	0.16	0.31	0.46	0.61	0.60	0.57	0.55

¹Includes Growth in Military and Associated Population

²Baseline Growth + Scenario Growth

Table 36
High Schools: First-Year Implementation of an Increase of Active Duty at HAFB

HIGH SCHOOLS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Population Ages 15-19	5,701	5,786	5,890	5,906	5,927	5,947	5,963	5,960	5,938	5,908
Baseline Growth in Population		85	104	16	21	20	16	-3	-22	-30
Increase in High Schools		0.11	0.14	0.02	0.03	0.03	0.02	0.00	-0.03	-0.04

First-Year Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	250	0	0	95	106	106	105	104	103	102
Increase in High Schools				0.13	0.14	0.14	0.14	0.14	0.14	0.14
Total Increase in High Schools ²		0.11	0.14	0.15	0.17	0.17	0.16	0.14	0.11	0.10
	500	0	0	196	221	219	217	215	213	212
		0.11	0.14	0.29	0.33	0.32	0.31	0.29	0.26	0.25
	750	0	0	297	335	332	330	327	324	322
		0.11	0.14	0.42	0.48	0.47	0.47	0.44	0.41	0.39
	1,000	0	0	397	449	446	442	439	434	432
		0.11	0.14	0.56	0.63	0.63	0.62	0.59	0.55	0.54

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Table 37
Otero County Area Schools Capacity: High School Teachers

High Schools	
	Staff Information*
Teachers	160

- ✓ The current student to teacher ratio for high schools is 15.15 students for every 1 teacher.

*Source: Pupil Teacher Ratios by School Type, and District Total 2003-2004, Data Collection and Information Systems, New Mexico Public Education Department.

Table 38
High School Teachers: Linear Implementation of an Increase of Active Duty at HAFB

HIGH SCHOOL TEACHERS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Population Ages 15-19	5,701	5,786	5,890	5,906	5,927	5,947	5,963	5,960	5,938	5,908
Baseline Growth in Population		85	104	16	21	20	16	-3	-22	-30
Increase in H.S. Teachers		5.63	6.85	1.06	1.40	1.32	1.08	-0.20	-1.48	-1.96

Linear Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	500	0	0	98	210	221	219	217	215	213
Increase in H.S. Teachers				6.47	13.84	14.58	14.47	14.34	14.20	14.07
Total Increase in H.S. Teachers ²		5.63	6.85	7.53	15.24	15.90	15.55	14.14	12.71	12.11
	750	0	0	99	211	324	335	332	329	326
		5.63	6.85	6.53	13.95	21.37	22.09	21.91	21.70	21.51
				7.58	15.34	22.69	23.16	21.71	20.22	19.55
	1,000	0	0	99	212	325	437	447	443	439
		5.63	6.85	6.56	14.00	21.44	28.86	29.52	29.26	29.00
				7.61	15.40	22.75	29.94	29.32	27.78	27.04

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Table 39
High School Teachers: First-Year Implementation of an Increase of Active Duty at HAFB

HIGH SCHOOL TEACHERS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Population Ages 15-19	5,701	5,786	5,890	5,906	5,927	5,947	5,963	5,960	5,938	5,908
Baseline Growth in Population		85	104	16	21	20	16	-3	-22	-30
Increase in H.S. Teachers		5.63	6.85	1.06	1.40	1.32	1.08	-0.20	-1.48	-1.96

First-Year Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	250	0	0	95	106	106	105	104	103	102
Increase in H.S. Teachers				6.30	7.03	6.97	6.91	6.84	6.77	6.72
Total Increase in H.S. Teachers ²		5.63	6.85	7.35	8.43	8.29	7.99	6.65	5.28	4.76
	500	0	0	196	221	219	217	215	213	212
		5.63	6.85	12.94	14.55	14.46	14.34	14.21	14.06	13.97
		5.63	6.85	14.00	15.95	15.77	15.42	14.01	12.58	12.01
	750	0	0	297	335	332	330	327	324	322
		5.63	6.85	19.58	22.08	21.93	21.76	21.57	21.36	21.23
		5.63	6.85	20.64	23.48	23.25	22.84	21.37	19.88	19.27
	1,000	0	0	397	449	446	442	439	434	432
		5.63	6.85	26.22	29.60	29.41	29.19	28.94	28.66	28.48
		5.63	6.85	27.28	31.00	30.73	30.27	28.75	27.18	26.52

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Table 40
Emergency Service Providers: Police Officers

Police Department	
	Officers
Actual Number*	79
Ideal Number	93

✓ For every 1,000 individuals, there are approximately 1.27 Police Officers based on the 2000 Population figure for the County of Otero of 62,298.

Source: The number of actual police officers was found on the Otero County Economic Development Council website. The operating capacity of the police department was provided by Susan Moss at the Otero County Economic Development Council.

Police Officers: Linear Implementation of an Increase of Active Duty at HAFB**POLICE OFFICERS**

Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Population	64,186	64,828	65,476	66,131	66,792	67,460	68,134	68,816	69,504	70,199
Baseline Growth in Population		642	648	655	661	668	675	681	688	695
Increase in Police Officers		0.81	0.82	0.83	0.84	0.85	0.86	0.86	0.87	0.88

Linear Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	500	0	0	819	1,655	1,650	1,644	1,634	1,622	1,608
Increase in Police Officers				1.04	2.10	2.09	2.08	2.07	2.06	2.04
Total Increase in Police Officers ²		0.81	0.82	1.87	2.94	2.94	2.94	2.94	2.93	2.92
	750	0	0	819	1,650	2,489	2,482	2,470	2,455	2,436
		0.81	0.82	1.87	2.93	4.00	4.00	4.00	3.99	3.97
	1,000	0	0	820	1,648	2,482	3,321	3,309	3,292	3,269
		0.81	0.82	1.87	2.93	3.99	5.07	5.06	5.05	5.03

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Table 42
Police Officers: First-Year Implementation of an Increase of Active Duty at HAFB

POLICE OFFICERS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Population	64,186	64,828	65,476	66,131	66,792	67,460	68,134	68,816	69,504	70,199
Baseline Growth in Population		642	648	655	661	668	675	681	688	695
Increase in Police Officers		0.81	0.82	0.83	0.84	0.85	0.86	0.86	0.87	0.88

First-Year Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	250	0	0	818	815	812	807	802	795	788
Increase in Police Officers				1.04	1.03	1.03	1.02	1.02	1.01	1.00
Total Increase in Police Officers ²		0.81	0.82	1.87	1.87	1.88	1.88	1.88	1.88	1.88
	500	0	0	1,638	1,636	1,632	1,625	1,615	1,603	1,589
				2.08	2.07	2.07	2.06	2.05	2.03	2.01
		0.81	0.82	2.91	2.91	2.92	2.92	2.91	2.91	2.90
	750	0	0	2,458	2,457	2,452	2,442	2,428	2,411	2,391
				3.12	3.12	3.11	3.10	3.08	3.06	3.03
		0.81	0.82	3.95	3.95	3.96	3.95	3.94	3.93	3.91
	1,000	0	0	3,279	3,279	3,273	3,260	3,242	3,220	3,193
				4.16	4.16	4.15	4.13	4.11	4.08	4.05
		0.81	0.82	4.99	5.00	5.00	4.99	4.97	4.96	4.93

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

Table 43
Emergency Service Providers: Fire Fighters

Fire Department	
	Fire Fighters
Actual Number*	50
Ideal Number	50

✓ For every 1,000 individuals, there are approximately 0.80 Fire Fighters based on the 2000 Population figure for the County of Otero of 62,298.

Source: The number of actual fire fighters was found on the Otero County Economic Development Council website. The operating capacity of the fire department was provided by Susan Moss at the Otero County Economic Development Council.

Table 44
Fire Fighters: Linear Implementation of an Increase of Active Duty at HAFB

FIRE FIGHTERS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Population	64,186	64,828	65,476	66,131	66,792	67,460	68,134	68,816	69,504	70,199
Baseline Growth in Population		642	648	655	661	668	675	681	688	695
Increase in Firefighters		0.52	0.52	0.53	0.53	0.54	0.54	0.55	0.55	0.56

Linear Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	500	0	0	819	1,655	1,650	1,644	1,634	1,622	1,608
Increase in Firefighters				0.66	1.33	1.32	1.32	1.31	1.30	1.29
Total Increase in Firefighters ²		0.52	0.52	1.18	1.86	1.86	1.86	1.86	1.86	1.85
	750	0	0	819	1,650	2,489	2,482	2,470	2,455	2,436
				0.66	1.32	2.00	1.99	1.98	1.97	1.96
		0.52	0.52	1.18	1.86	2.54	2.53	2.53	2.52	2.51
	1,000	0	0	820	1,648	2,482	3,321	3,309	3,292	3,269
				0.66	1.32	1.99	2.67	2.66	2.64	2.63
		0.52	0.52	1.18	1.85	2.53	3.21	3.20	3.20	3.18

¹Includes Growth in Military and Associated Population

²Baseline Growth + Scenario Growth

Table 45
Fire Fighters: First-Year Implementation of an Increase of Active Duty at HAFB

FIRE FIGHTERS
Regional Baseline Forecast

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Population	64,186	64,828	65,476	66,131	66,792	67,460	68,134	68,816	69,504	70,199
Baseline Growth in Population		642	648	655	661	668	675	681	688	695
Increase in Firefighters		0.52	0.52	0.53	0.53	0.54	0.54	0.55	0.55	0.56

First-Year Implementation of an Increase of Active Duty at HAFB

	Expansion Scenario	2004	2005	2006	2007	2008	2009	2010	2011	2012
Increase in Population ¹	250	0	0	818	815	812	807	802	795	788
Increase in Firefighters				0.66	0.65	0.65	0.65	0.64	0.64	0.63
Total Increase in Firefighters ²		0.52	0.52	1.18	1.19	1.19	1.19	1.19	1.19	1.19
	500	0	0	1,638	1,636	1,632	1,625	1,615	1,603	1,589
				1.32	1.31	1.31	1.30	1.30	1.29	1.28
		0.52	0.52	1.84	1.84	1.85	1.85	1.84	1.84	1.83
	750	0	0	2,458	2,457	2,452	2,442	2,428	2,411	2,391
				1.97	1.97	1.97	1.96	1.95	1.94	1.92
		0.52	0.52	2.50	2.50	2.51	2.50	2.50	2.49	2.48
	1,000	0	0	3,279	3,279	3,273	3,260	3,242	3,220	3,193
				2.63	2.63	2.63	2.62	2.60	2.59	2.56
		0.52	0.52	3.16	3.16	3.16	3.16	3.15	3.14	3.12

¹Includes Growth in Military and Associated Population²Baseline Growth + Scenario Growth

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