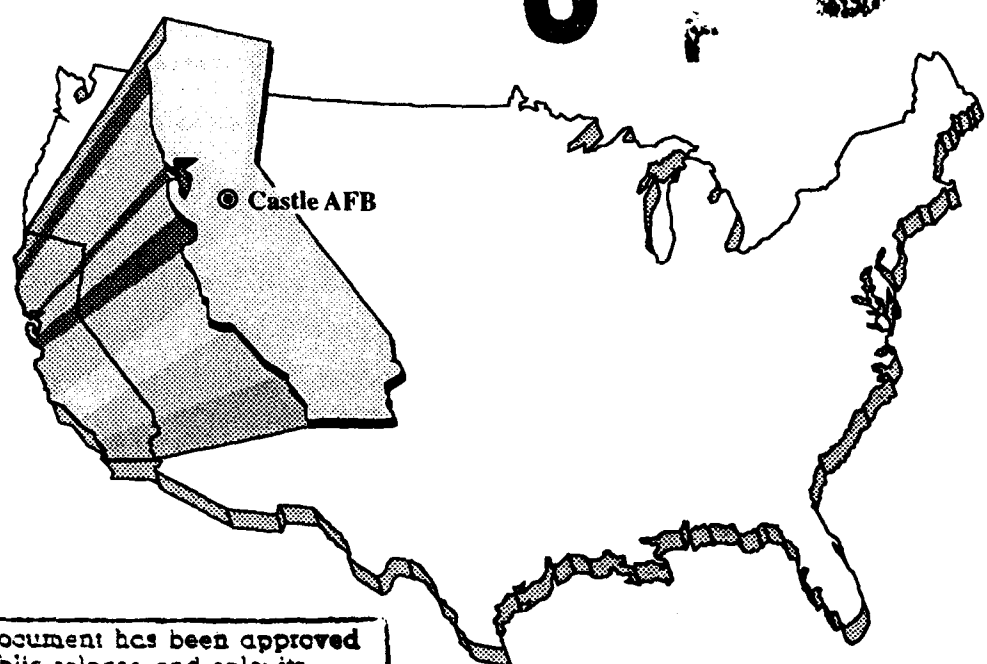
SOCIOECONOMIC IMPACT ANALYSIS STUDY
January 1994



DISPOSAL AND REUSE OF CASTLE AIR FORCE BASE, CALIFORNIA

SOCIOECONOMIC IMPACT ANALYSIS STUDY

DISPOSAL AND REUSE OF CASTLE AIR FORCE BASE, CALIFORNIA

JANUARY 1994

SUMMARY

Castle Air Force Base (AFB), California, was one of the bases recommended by the 1991 Defense Base Closure and Realignment Commission for closure. The Commission's recommendations were accepted by the President and submitted to Congress on July 12, 1991. As Congress did not disapprove the recommendations in the time given under the Defense Base Closure and Realignment Act (DBCRA) of 1990 (Public Law 101-510, Title XXIX), the recommendations have become law.

DBCRA requires the Secretary of Defense to comply with the National Environmental Policy Act (NEPA) in the implementation of the base closures and realignments. The Secretary of Defense, through the Air Force, is preparing the required NEPA documents for the base disposal. Consideration of closure is exempted under DBCRA because that decision is final under the statute. The Environmental Impact Statement, Disposal and Reuse of Castle AFB, California, analyzes environmental effects of the disposition of the base and its reuse under alternative redevelopment plans.

This Socioeconomic Impact Analysis Study addresses the socioeconomic effects of closure and potential reuse of the base. This document is designed to provide assistance to local governments and redevelopment agencies in the development of their reuse plan. The scope of this study includes economic activity, population, housing, public services, public finance, transportation, and utilities. This document is not required by NEPA.

Historically, the primary mission of Castle AFB was to provide a home for the 93rd Bombardment Wing and numerous other tenant organizations. The transfer and consolidation of these Air Force activities to other Air Force bases in the United States has been initiated. The base contains an airfield, aviation support areas, commercial areas, industrial areas, residential areas, recreational areas, a hospital, and other support facilities.

If the base is placed in caretaker status and not reused for other purposes, most or all of the "mothballed" facilities would be restricted from access. Security and minimal maintenance activities would provide only limited employment opportunities on the base. A total of 50 direct and 12 secondary jobs would be required to maintain the premises. This closure and caretaker scenario serves as the closure baseline and No-Action Alternative for this study.

A two-county area (Merced and Stanislaus counties) was initially considered the Region of Influence (ROI) for the purposes of describing and analyzing the socioeconomic effects. The ROI was then refined for each issue area as appropriate (see Section 2.2 of this document).

In the absence of any reuse of the base, population in the ROI would increase from 548,925 in 1990 to 635,326 at closure in September 1995. Over the next 20 years, the population in the ROI would increase at a rate of 2.8 percent per year, to approximately 1,112,133 by 2015, based upon state of California, Merced County Association of Governments, and Stanislaus Area Association of Governments population projections.

This report analyzes the socioeconomic effects of five conceptual plans involving reuse of the base by private and public entities. All plans are compared with projected post-closure conditions without reuse during the 20 years following base closure. The alternative plans are the following:

- **Proposed Action.** Major land use components in the Proposed Action include the airfield (1,033 acres), aviation support (472 acres), industrial (447 acres), and public facilities/recreation (433 acres) areas, which comprise about 86 percent of the proposed land use. Residential, institutional (medical and educational), commercial, and agriculture constitute the remainder of the proposed uses.

- **Castle Aviation Center Alternative.** Major land use components in the Castle Aviation Center Alternative include the airfield (1,033 acres), industrial (641 acres), and public facilities/ recreation (564 acres) areas, and comprise about 81 percent of the proposed land use. Aviation support, institutional (medical and educational), commercial, residential (single- and multi-family), and agriculture constitute the remainder of proposed uses.

- **Commercial Aviation Alternative.** Major land use components in the Commercial Aviation Alternative include the airfield (997 acres), industrial (875 acres), and residential areas (342 acres), and comprise about 80 percent of the proposed land use. Aviation support, medical, commercial, public facilities/ recreation, and agriculture constitute the remainder of the proposed uses.

- **Aviation with Mixed Use Alternative.** Major land use components in the Aviation with Mixed Use Alternative include the airfield (1,033 acres), public facilities/recreation (724 acres), and aviation support (386 acres) areas, and comprise about 77 percent of the proposed land use. Industrial, residential, institutional (medical and educational), commercial, and agriculture constitute the remainder of the proposed uses.

- **Non-Aviation Alternative.** The major land use components of the Non-Aviation Alternative include industrial (agricultural related research and development [991 acres]), institutional (educational [545 acres]), and public facilities/recreation (696 acres), and comprise approximately 80 percent of the proposed land use.

Residential, agriculture, and commercial constitute the remainder of the proposed uses.

The net effects of reuse on the communities in the vicinity of Castle AFB would vary with the reuse alternative developed. The net effects are the total reuse-related direct and secondary employment and population decreased by the direct and secondary employment and population associated with the Operating Location (No-Action Alternative). Figures S-1 and S-2 illustrate the projected profile of changes in future employment and population within the ROI for each of the reuse alternatives and the No-Action Alternative. Key findings of this study include the following:

- Under the Proposed Action, 3,824 direct jobs are projected by 2015, with an additional 2,427 secondary jobs. It is estimated that population would increase in response to these employment opportunities by 6,114 persons by 2015. Fiscal shortfalls due to base closure would not be reversed for any of the jurisdictions studied.

- The Castle Aviation Center Alternative would generate 6,150 direct and 4,404 secondary jobs by 2015, approximately 41 percent more than that generated by the Proposed Action. Population is projected to increase in response to these employment opportunities by 9,979 persons by 2015. Fiscal shortfalls would not be reversed for any of the jurisdictions studied with the exception of the city of Merced, where offset would occur by 2005.

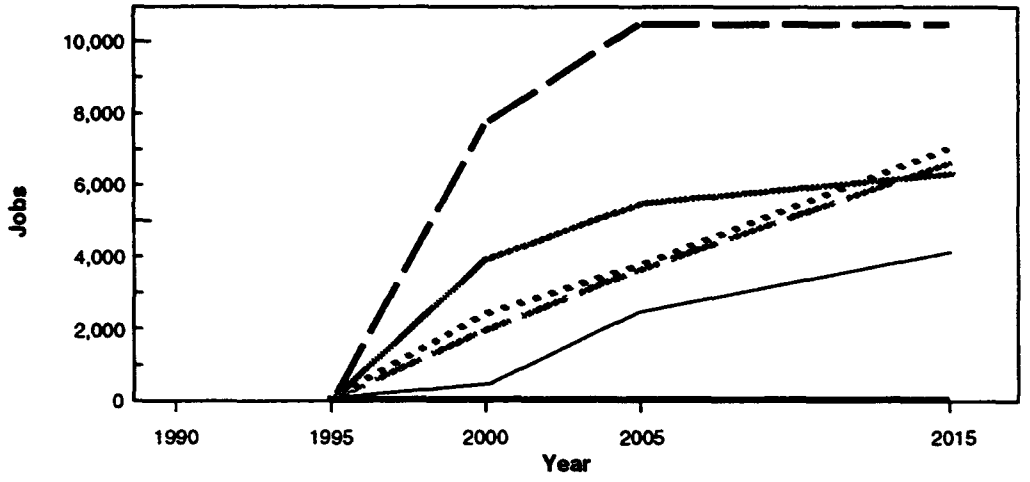
- The Commercial Aviation Alternative would generate 4,001 direct and 2,697 secondary jobs by 2015, approximately 7 percent more than that generated by the Proposed Action. Population is projected to increase in response to these employment opportunities by 6,373 persons by 2015. Fiscal shortfalls would not be reversed for any of the jurisdictions.

- The Aviation with Mixed Use Alternative would generate 4,175 direct and 2,880 secondary jobs by 2015, similar to the effects of the Proposed Action. Population is projected to increase in response to these employment opportunities by 6,708 by that same year. Similar to the Proposed Action, fiscal shortfalls would not be reversed for any of the jurisdictions.

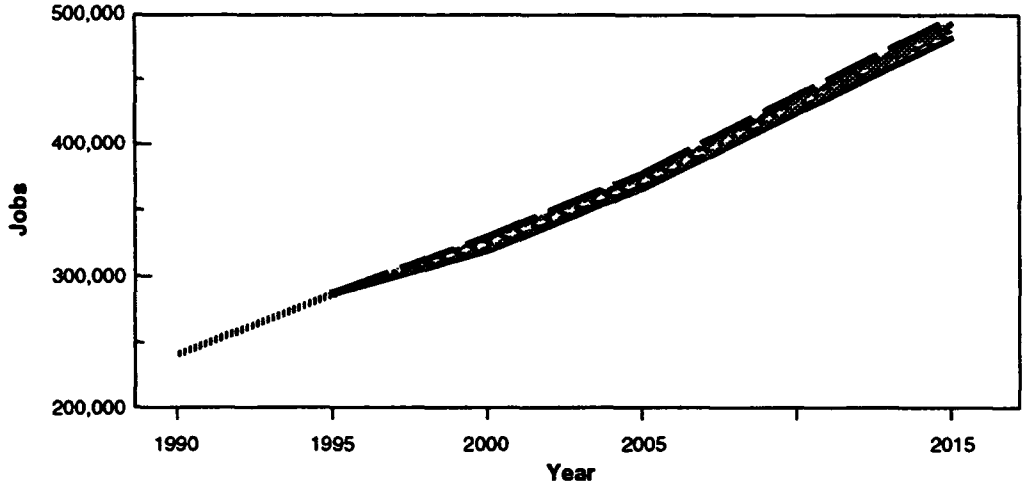
- The Non-Aviation Alternative would generate 2,650 direct and 1,451 secondary jobs by 2015, approximately 66 percent of the effects associated with the Proposed Action. Population is projected to increase in response to these employment opportunities by 4,105 by 2015. Fiscal shortfalls would not be reversed for any jurisdictions studied.

ALTERNATIVE	1995[a]	2000	2005	2015
Proposed Action	62	3,861	5,333	6,251
Castle Aviation Center	62	7,770	10,554	10,554
Commercial Aviation	62	1,997	3,794	6,698
Aviation with Mixed Use	62	2,411	3,836	7,055
Non-Aviation	62	440	2,528	4,101

Reuse-Related Employment Effects[b]



Reuse-Related Employment Effects[b]



Total ROI Employment Including Reuse-Related Effects

EXPLANATION

- Preclosure
- Proposed Action
- Castle Aviation Center
- Commercial Aviation
- Aviation with Mixed Use
- Non-Aviation
- No-Action/Post-Closure

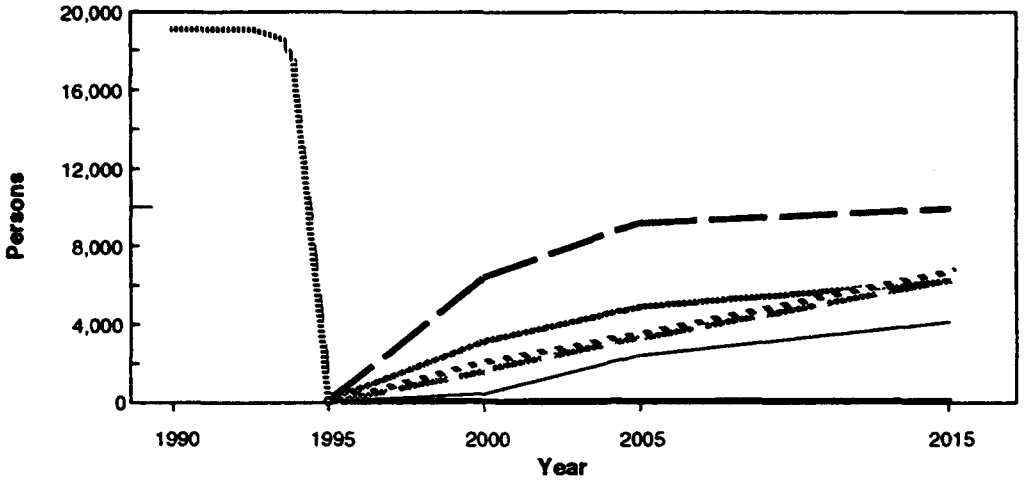
Reuse-Related Employment Effects

(a) The 1995 values represent total base-related employment under the closure baseline.
(b) Employment effects represent the change in employment relative to the No-Action Alternative.

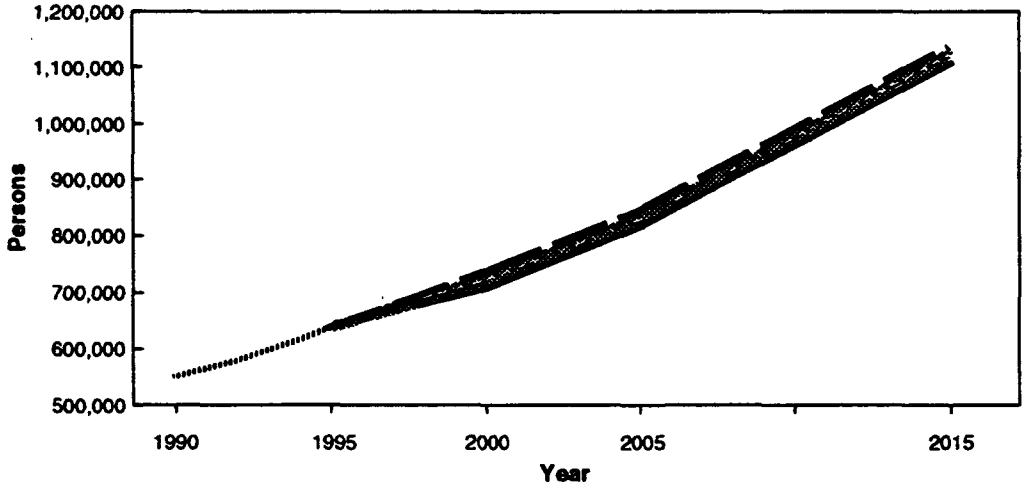
Figure S-1

ALTERNATIVE	1995[a]	2000	2005	2015
Proposed Action	0	3,338	4,841	6,114
Castle Aviation Center	0	6,445	9,142	9,979
Commercial Aviation	0	1,666	3,379	6,373
Aviation with Mixed Use	0	2,078	3,430	6,708
Non-Aviation	0	282	2,366	4,105

Migratory-Related Population Effects[b]



Migratory-Related Population Effects[b]



Total ROI Population Including Migratory-Related Effects

EXPLANATION

- Preclosure
- Proposed Action
- Castle Aviation Center
- Commercial Aviation
- Aviation with Mixed Use
- Non-Aviation
- No-Action/Post-Closure

(a) 1995 represents closure conditions

(b) Migratory-related population effects are the persons that move into the ROI solely as a result of reuse.

Migratory-Related Population Effects

Figure S-2

Under the No-Action Alternative, the base would be in caretaker status and minimally maintained. A total of 50 direct jobs and 12 secondary jobs would be generated by these maintenance activities.

Table S-1 summarizes the comparative findings of this study for each issue area and each alternative after 20 years. The table also displays findings for the No-Action Alternative to provide a benchmark for assessing the effects of a particular alternative relative to closure conditions.

Table S-1. Comparison of Reuse Alternatives
Page 1 of 3

Resource	No-Action Caretaker Status	Change from No-Action Alternative				
		Proposed Action	Castle Aviation Center Alternative	Commercial Aviation Alternative	Aviation with Mixed Use Alternative	Non-Aviation Alternative
Economic Activity[a]						
Regional Employment	62 jobs	6,251 jobs	10,554 jobs	6,698 jobs	7,055 jobs	4,101 jobs
Regional Earnings ($1989)	$1,429,000 per year	$152,345,000 per year	$279,177,000 per year	$166,698,000 per year	$178,048,000 per year	$91,515,000 per year
Population	Zero effect	6,114 people	9,979 people	6,373 people	6,708 people	4,105 people
Housing	Zero demand	2,101 units	3,429 units	2,190 units	2,305 units	1,410 units
Public Services						
General Government, Police, and Fire						
Merced County	Minimal added demand for services	5,703 additional persons served	9,266 additional persons served	5,929 additional persons served	6,236 additional persons served	3,845 additional persons served
City of Atwater	Minimal added demand for services	2,361 additional persons served	3,830 additional persons served	2,452 additional persons served	2,578 additional persons served	1,594 additional persons served
City of Merced	Minimal added demand to services	1,962 additional persons served	3,187 additional persons served	2,040 additional persons served	2,145 additional persons served	1,323 additional persons served
Education						
Atwater School District	Zero enrollments	176 enrollments	290 enrollments	184 enrollments	194 enrollments	118 enrollments
Merced City School District	Zero enrollments	146 enrollments	241 enrollments	153 enrollments	161 enrollments	97 enrollments
Winton School District	Zero enrollments	34 enrollments	56 enrollments	36 enrollments	37 enrollments	23 enrollments
Merced Union High School District	Zero enrollments	184 enrollments	302 enrollments	192 enrollments	203 enrollments	123 enrollments
Health Care	Castle AFB hospital closed	Civilian primary care center open	Civilian primary care center open	Civilian primary care center open	Civilian primary care center open	Medical training facility open

Note: (a) All effects presented in this table apply specifically to 2015 but may be interpreted as long-duration effects that extend indefinitely beyond 2015. Economic Activity, as shown, is based upon site-related demands. Population, Housing, Public Services and Public Finance are based upon migratory-related demands.

Table S-1. Comparison of Reuse Alternatives
Page 2 of 3

Resource	No-Action Caretaker Status	Change from No-Action Alternative: Proposed Action	Castle Aviation Center Alternative	Commercial Aviation Alternative	Aviation with Mixed Use Alternative	Non-Aviation Alternative
Public Finance[b]						
Merced County	Shortfalls to $12,015,897/year	Shortfalls of $7,690,650 by 2015	Shortfalls of $2,155,732 by 2015	Shortfalls of $7,555,890 by 2015	Shortfalls of $7,650,596 by 2015	Shortfalls of $8,864,961 by 2015
City of Atwater	Shortfalls to $252,189/year	Shortfalls of $113,778 by 2015	Shortfalls of $41,924 by 2015	Shortfalls of $121,124 by 2015	Shortfalls of $108,958 by 2015	Shortfalls of $170,006 by 2015
City of Merced	Shortfalls to $709,797/year	Shortfalls of 305,998 by 2015	Positive; shortfalls offset by 2005	Shortfall of $267,982 by 2015	Shortfall of $237,974 by 2015	Shortfalls of $466,664 by 2015
Atwater Elementary School District	Shortfalls to $754,403/year	Shortfalls of $752,819 by 2015	Shortfalls of $751,793 by 2015	Shortfalls of $752,747 by 2015	Shortfalls of $752,657 by 2015	Shortfalls of $753,341 by 2015
Merced City School District	Shortfalls to $6,927/year	Shortfalls of $5,212 by 2015	Shortfalls of $4,095 by 2015	Shortfalls of $5,129 by 2015	Shortfalls of $5,035 by 2015	Shortfalls of $5,787 by 2015
Winton School District	Shortfalls to $17,892/year	Shortfalls of $9,324 by 2015	Shortfalls of $3,780 by 2015	Shortfalls of $8,820 by 2015	Shortfalls of $8,568 by 2015	Shortfalls of $12,096 by 2015
Merced Union High School District	Shortfalls to $155,713/year	Shortfalls of 147,157 by 2015	Shortfalls of $141,671 by 2015	Shortfalls of $146,785 by 2015	Shortfalls of $146,274 by 2015	Shortfalls of $149,994 by 2015
Other Relevant Resources						
Transportation	Base-related traffic reductions on key local roads widely offset by projected increases in area population	Traffic increases on key local roads due to development of six new base-access points provided. Reuse-generated traffic would accelerate deterioration to LOS F on SH 99 (by 2008) and Santa Fe Drive (by 2001), and decrease LOS on Bellevue Road to F by 2011.	Traffic increases on local roads due to development of six new base-access points provided. Reuse-generated traffic would accelerate deterioration to LOS F on SH 99 (by 2007) and Santa Fe Drive (by 2000), and decrease LOS on Bellevue Road to F (by 2004). These effects are slightly higher than those of the Proposed Action.	Traffic increases on local roads due to development of six new base-access points provided. Reuse-generated traffic would accelerate deterioration to LOS F on SH 99 (by 2008) and Santa Fe Drive (by 2000), and decrease LOS on Bellevue Road to F (by 2008). These effects are comparable to those of the Proposed Action.	Traffic increases on local roads due to development of six new base-access points provided. Reuse-generated traffic would accelerate deterioration to LOS F on SH 99 (by 2008) and Santa Fe Drive (by 2003), and decrease LOS on Bellevue Road to F (by 2010). These effects are slightly lower than those of the Proposed Action.	Traffic increases on local roads due to development of six new base-access points provided. Reuse-generated traffic would accelerate deterioration to LOS F on SH 99 (by 2009) and Santa Fe Drive (by 2006), and decrease LOS on Bellevue Road to F (by 2012). These effects are comparable to those of the Aviation with Mixed Use Alternative.

Note: *(b) Projected shortfalls assume there are no offsetting changes in revenues or service delivery standards.*
LOS = Level of Service.
SH = State Highway.

Table S-1. Comparison of Reuse Alternatives
Page 3 of 3

Resource	No-Action Caretaker Status	Change from No-Action Alternative: Proposed Action	Castle Aviation Center Alternative	Commercial Aviation Alternative	Aviation with Mixed Use Alternative	Non-Aviation Alternative
Other Relevant Resources (Continued)						
Utilities	Projected demand in utilities ROI for water, wastewater treatment, solid waste disposal, electricity, and natural gas 14 to 18 percent lower than preclosure levels	Increased demand in utilities (3 to 4 percent) above post-closure projections	Increased demand for utilities (4 to 8 percent) above post-closure projections	Increased demand in utilities (2 to 4 percent) above post-closure projections	Increased demand in utilities (2 to 4 percent) above post-closure projections	Increased demand in utilities (2 to 4 percent) above post-closure projections

ROI = Region of Influence.

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

TABLE OF CONTENTS
(Continued)

TABLE OF CONTENTS
(Continued)

TABLE OF CONTENTS
(Continued)

LIST OF TABLES

LIST OF TABLES
(Continued)

LIST OF TABLES
(Continued)

LIST OF FIGURES

1.0 INTRODUCTION

Chapter 1 presents the purpose of this study, briefly discusses the reason for and nature of the closure of Castle Air Force Base (AFB), reviews results of previous base closures, and defines the potential reuse alternatives in terms relevant to the analysis of socioeconomic effects.

This report is organized to provide an assessment of the socioeconomic characteristics and effects of base operation; the effects of alternative site reuse scenarios on the region; and the post-closure conditions for activities related to the base property assuming the base remains in caretaker status and is not redeveloped. The remainder of the report is structured as follows:

Chapter 2 defines the Region of Influence (ROI) and community setting and profile of personnel, payrolls, and activities at the base.

Chapter 3 establishes the preclosure reference and closure conditions for the area at base closure and assumes the base will remain in caretaker or "mothballed" status.

Chapter 4 evaluates the effects of alternative reuse plans and compares them to the post-closure conditions without reuse.

1.1 PURPOSE OF THE STUDY

The Socioeconomic Impact Analysis Study (SIAS) focuses on the socioeconomic effects resulting from the closure and potential reuse of Castle AFB. The scope of issues addressed includes economic activity, population, housing, and other major issues of local concern, such as public services, public finance, transportation, and utilities. These factors substantially influence the character of communities in the vicinity of the base, and are important to local residents. The analysis of these issues is intended to provide local planning officials with necessary information with which to plan for changes at Castle AFB. The SIAS is not a National Environmental Policy Act (NEPA) document.

The Environmental Impact Statement (EIS), Disposal and Reuse of Castle AFB, California, analyzes the environmental issues associated with disposal of the base and its reuse under a range of potential redevelopment plans. The EIS was initiated to fulfill NEPA requirements that apply to federal actions, such as the decision for final disposition of Castle AFB. Socioeconomic factors are addressed within the EIS only from the perspective of their potential effect on the biophysical environment.

For instance, changes in economic activity, particularly in regional spending and employment, may lead to changes in area population, public service demand, and vehicular traffic on the area's road network. These effects, in turn, have the potential for beneficial or adverse environmental consequences on land use, air quality, water quality, noise, and biological and cultural resources.

1.2 CLOSURE OF CASTLE AFB

In light of the changing international political scene and the resultant shift toward a reduction in defense spending, the Department of Defense (DOD) must realign and draw down its forces. The Department of the Air Force has been tasked under the Defense Base Closure and Realignment Act (DBCRA) of 1990 (Public Law [P.L.] 101-510, Title XXIX) to identify the facilities, properties, and installations that are no longer essential to support the limited force structure authorized by Congress. The Secretary of Defense then provided DOD closure and realignment recommendations to the Defense Base Closure and Realignment Commission, which was formed as a result of the DBCRA.

The 1991 Defense Base Closure and Realignment Commission recommended a list of military bases for closure or realignment that was accepted by the President and submitted to Congress on July 12, 1991. The recommended closure and realignment list was not disapproved by Congress within the time given under the statute to do so. Therefore, under DBCRA, the recommendations have become law. As Castle AFB was on the Commission's list, the decision to close the base is final. Castle AFB is scheduled to close in September 1995.

The Air Force plans to dispose of excess and surplus real property and facilities at Castle AFB. The disposal will be through transfer to another federal agency, public benefit conveyance to an eligible entity, negotiated sale to a public body, and/or sealed bid or auction to the general public. This disposal will be in compliance with the Surplus Property Act of 1944, the Federal Property and Administrative Services Act of 1949, and the DBCRA, which delegated to the Secretary of the Air Force many of the powers of the Administrator of the General Services Administration.

The closure action involves consolidation of Air Force activities and personnel transfers from Castle AFB to other Air Force bases in the United States and/or a reduction in military forces through retirement of weapon systems and reducing military manpower levels (U.S. Department of Defense, 1991).

The projected post-closure conditions identified for this study occur once the base has gone into "caretaker status" after the phase-down of residual operations at the base and its subsequent closure. Caretaker status includes

provision of security and limited maintenance to keep base facilities in "mothballed" condition.

Analysis of this projected closure scenario, referred to as the No-Action Alternative, provides an assessment of near-term and long-term conditions in communities near the base with the base no longer in operation. This provides a benchmark for comparison of the socioeconomic consequences of alternative reuse plans.

1.3 PREVIOUS BASE CLOSURES

Because of the potential for severing long-standing social and economic relationships, base closures can be a very disrupting experience for host communities. The future state of the local economy is always of concern, although many communities affected by base closures have successfully implemented installation reuse plans. A study completed by the President's Economic Adjustment Committee indicates that opportunities exist for successful conversion of military installations to civilian use (U.S. Department of Defense, Office of Economic Adjustment, 1990).

Included in the study was a review of the experience of nearly 100 communities that lost a local military base between 1961 and 1990. Several important findings resulted from this review.

- Military jobs that were transferred out of the local communities numbered almost 136,800. These transfers represented permanent long-term reductions in the economic base of the communities.

- Conversion to civilian use led to a total of 158,100 direct jobs, more than replacing the 93,400 DOD civilian and contractor jobs lost due to closings.

- Fifty-seven former bases became the seat of a number of four-year colleges, community colleges, and post-secondary vocational-technical programs. These schools accommodate 73,200 college students, 25,000 secondary vocational-technical students, and 62,200 trainees.

- Seventy-five former bases became host to industrial parks or plants, and 42 established municipal or general aviation airports.

The study concluded that in the short term, closure can have substantial negative effects on the local economy. The difficult transition period generally lasts 3 to 5 years (U.S. Department of Defense, Office of Economic Adjustment, 1990).

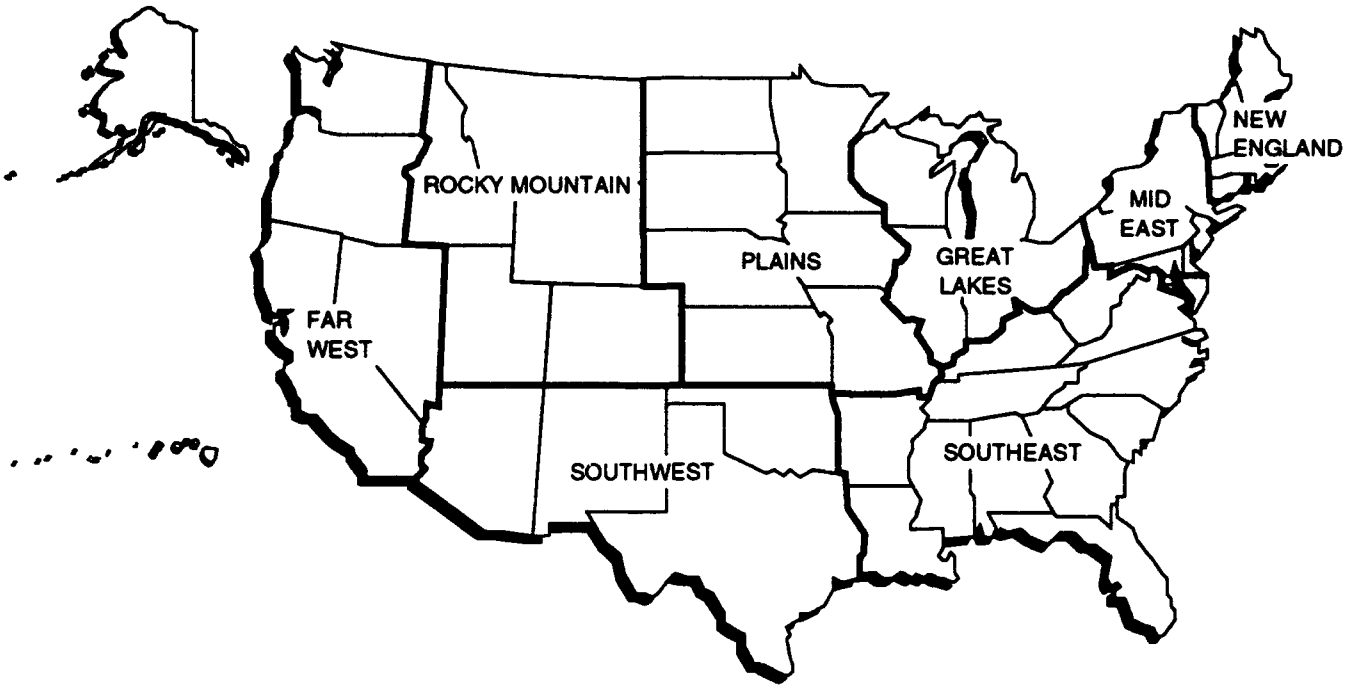
Figure 1.3-1 provides employment statistics for 48 Air Force installation closure and reuse actions completed between 1961 and 1990. These Air Force actions resulted in the transfer of approximately 100,000 military personnel. About 28,500 on-base civilian jobs were lost in these actions. More than 70,000 civilian jobs were gained due to reuse of the sites. Considering individual installations, in most cases the number of civilian jobs in 1990 was greater than when the base was under military control. In only about 20 percent of the cases, however, does the number of new civilian jobs exceed the number of civilian and military jobs lost as a result of base closure.

1.4 REUSE OPTIONS

To help identify potential socioeconomic effects associated with the disposal of Castle AFB, this study addresses a range of reasonable reuse alternatives. For the purpose of conducting the required analysis, the Air Force has adopted the redevelopment plans developed by the Castle Joint Powers Authority (CJPA) as the Proposed Action. Furthermore, the Air Force has analyzed the effects associated with other reasonable reuse alternatives. These include three additional aviation proposals, a non-aviation proposal, and a No-Action Alternative that involves no reuse. Actual decisions on reuse of the property will be made by its recipients subsequent to disposal.

Under all alternatives, an Air Force Base Conversion Agency (AFBCA) Operating Location (OL) will be established at Castle AFB. The responsibilities of the OL will include coordinating post-closure activities with the active force closure activities, establishing a caretaker force to maintain Air Force-controlled properties after closure, and serving as the Air Force local liaison to community reuse groups until lease termination, title surrender, or disposal (as appropriate) of the Air Force-controlled property has been completed. For the purposes of environmental analysis, it was assumed that the OL would consist of approximately 50 direct employees at the time of closure, conceptually composed of 10 Air Force employees and 40 non-federal supporting personnel. The OL, as used in this document, may refer to either the AFBCA or non-federal personnel.

The Proposed Action for reuse of Castle AFB is based on the reuse plan developed by the CJPA, and is discussed in Section 1.4.1. The Castle Aviation Center Alternative is discussed in Section 1.4.2; the Commercial Aviation Alternative is discussed in Section 1.4.3; the Aviation with Mixed Use Alternative is discussed in Section 1.4.4; and the Non-Aviation Alternative is discussed in Section 1.4.5. The No-Action Alternative is discussed in Section 1.4.6 and represents post-closure conditions. Section 1.4.7 discusses Other Land Use Concepts, which include proposed federal property transfers and property conveyances to non-federal agencies and private parties for specific facilities or portions of the base property that are not included within the reuse alternatives.



REGION	No. of Bases Closed	Military Jobs Transferred	Civilian Jobs Lost	New Civilian Jobs on Base
1. New England	5	11,241	921	9,947
2. Mid East	3	4,064	11,085	4,298
3. Great Lakes	6	7,595	2,453	10,380
4. Plains	7	18,502	3,129	9,530
5. Southeast	10	22,103	3,349	20,252
6. Southwest	9	24,472	6,058	10,942
7. Rocky Mountain*	3	3,663	336	307
8. Far West	5	8,539	1,093	4,421
Total	48	100,179	28,424	70,077

* Data for one AFB not available.
Source: U.S. Department of Defense, Office of Economic Adjustment, 1990.

Summary of Air Force Installation Closure and Reuse Actions Completed between 1961 and 1990

Figure 1.3-1

Under the various reuse alternatives, the acreage proposed to be utilized includes 2,777 acres of base fee-owned and leased property. Table 1.4-1 lists the proposed reuse activities by type of use and the proposed acreage of each use (reported acreages throughout this document are approximate).

Table 1.4-1. Land Use Acreage by Alternative

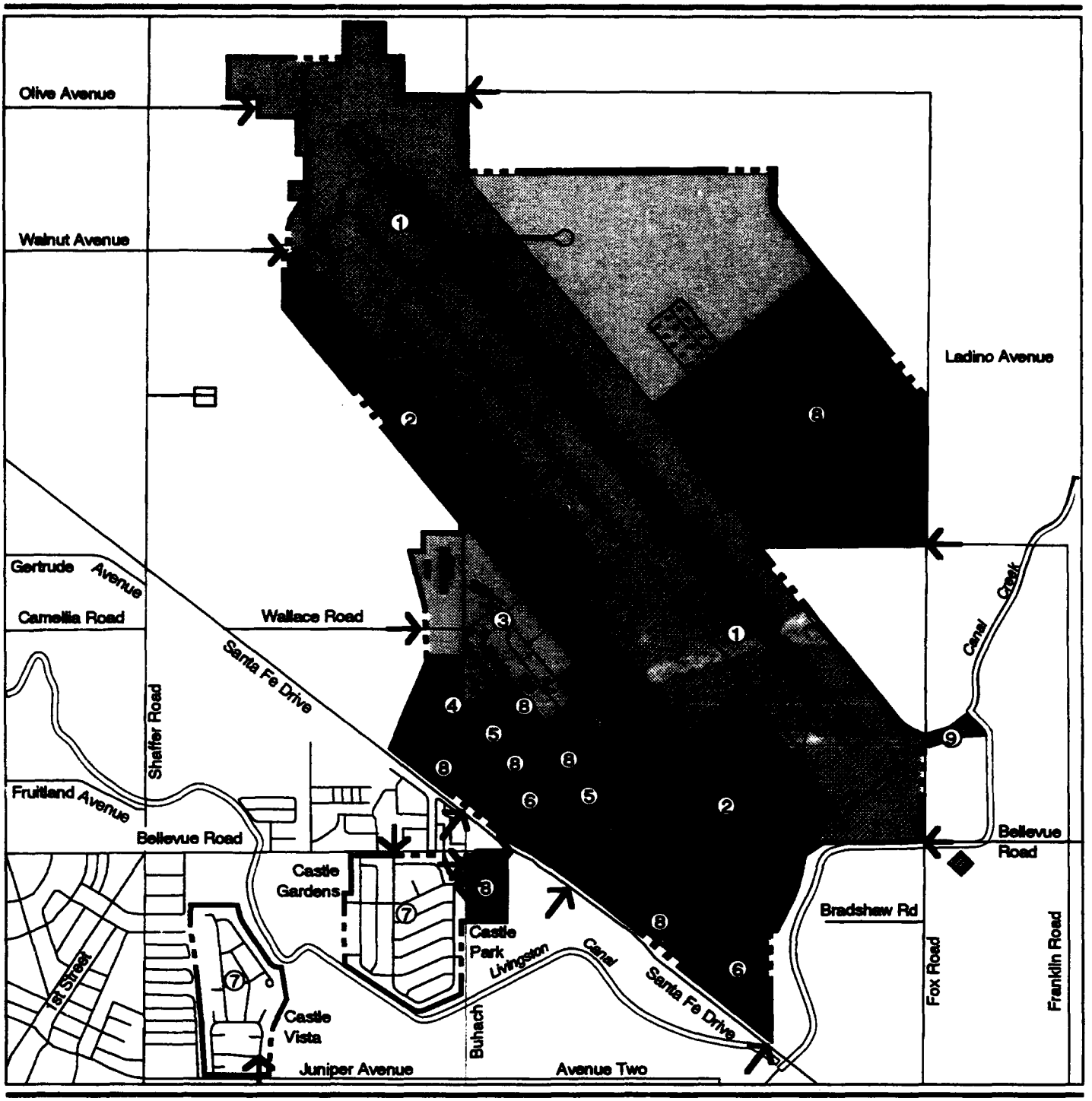
Land Use	Proposed Action	Castle Aviation Center	Commercial Aviation	Aviation with Mixed Use	Non-Aviation
Airfield	1,033	1,033	997	1,033	0
Aviation support	472	158	254	386	0
Industrial	447	641	875	206	991
Institutional					
Educational	51	70	0	115	545
Medical	23	20	113	20	0
Commercial	124	45	59	99	47
Residential	188	240	342	188	333
Public facilities/ recreation	433	564	81	724	696
Agriculture	6	6	56	6	165
Total	2,777	2,777	2,777	2,777	2,777

1.4.1 Proposed Action

The Proposed Action is a comprehensive reuse plan for Castle AFB for major aircraft maintenance, aviation training and general aviation, and aircraft storage. Under the Proposed Action, most of the Castle AFB airfield and aviation support facilities would be retained. Other components of land use under the Proposed Action include industrial, institutional (medical and educational), commercial, residential, public facilities/recreation, and agriculture (Figure 1.4-1).

Airfield. The airfield land use category includes 1,033 acres, or 37 percent of the base property, and incorporates the runway, taxiways, aircraft parking aprons, and runway protection zones. The airfield would be used primarily for wide-body aircraft flight and maintenance crew training, aircraft servicing, general aviation operations, aircraft equipment and engine retrofits, and temporary large aircraft storage.

The airfield and aviation support areas would likely be conveyed to an airport authority, which would manage the development and operations of the airfield in accordance with Federal Aviation Administration (FAA), and state aviation regulations.



EXPLANATION

- ① Airfield
- ② Aviation Support
- ③ Industrial
- ④ Institutional (Medical)
- ⑤ Institutional (Educational)
- ⑥ Commercial
- ⑦ Residential
- ⑧ Public Facilities/ Recreation
- ⑨ Agriculture
- ⑩ Vacant Land *
- Base Boundary
- Access Points
- Runway

0 650 1300 2600 Feet

* This standard land use designation is not applicable to this figure.

Proposed Action

Figure 1.4-1

Aviation Support. The aviation support area, comprising 472 acres, or approximately 17 percent of the total base area, would include the control tower, aircraft rescue and fire station, hangars, aircraft maintenance facilities, fuel farm, engine test cells, alert facilities, and other aviation-related facilities. In addition, this area would include several non-aviation industrial facilities, former landfills, and undeveloped open space. The aviation support area parallels the southwest side of the airfield. Reuse activities and functions would include aircraft maintenance, engine maintenance, aircraft refurbishing and conversion, aircraft painting, and long-term aircraft storage. The reuse of these facilities and the development of new facilities could commence shortly after base closure and would continue throughout the 20-year analysis period. The development of facilities and operations within the aviation support area would be managed in accordance with FAA and state aviation regulations.

Industrial. The industrial land use component covers 447 acres, or approximately 16 percent of the total base area, and is located in two distinct areas, north and south of the airfield. The northern area, comprising 335 acres, includes portions of the Weapons Storage Area (WSA), Explosive Ordnance Disposal (EOD) Range, and landfills on undeveloped open space. This area is proposed as a prison site or for light manufacturing, agricultural product processing, or warehousing. Industrial development, including road access and infrastructure systems, could be complete by 2015.

The southern area, comprising 112 acres, contains the civil engineering facilities, the flight simulator building, several administrative offices, and a variety of residential facilities. Approximately 34 percent of this land area is vacant or paved and suitable for redevelopment.

Institutional (Medical and Educational). The medical land use area comprises 23 acres on the western edge of the cantonment, and includes the base hospital (with related parking) and four 20-person dormitories. Reuse of the hospital as a community medical facility, and the residential units as staff or outpatient housing, is proposed to be complete by 2000.

An educational land use is proposed for two areas and consists of 51 acres, or 3 percent of the base area when combined with the medical acreage. The western half of the cantonment contains two major classroom facilities, the base chapel, library, shoppette, and several residential facilities. Reuses would include classrooms, living quarters, and support facilities for a vocational and/or community education center, or for aircraft maintenance training. The eastern parcel includes dormitories and dining halls, and would be used for student housing. Educational development could be complete by 2005.

Commercial. The commercial area comprises 124 acres, or 4 percent of the base property, and is generally located in the south-central portion of the

cantonment. This area is proposed for various commercial uses, including two retail centers, office space, and a tourist/convention complex.

The base community center, on the southwestern edge of the cantonment, includes the Base Exchange, Commissary, bowling center, theater, credit union, auto service station, and package store, and is proposed for reuse as a shopping center. Commercial tourist/convention facilities are proposed for the area containing the Officers' Club, recreation center, and child-care center. A five-block area in the center of the cantonment, containing the base and wing headquarters, is proposed for airport and CJPA administrative offices. The second retail center is located in the southern portion of the base. Commercial development could be complete by 2005

Residential. The residential land use area covers 188 acres, or 7 percent of the base area, and is located within two noncontiguous parcels outside the main base. Castle Gardens (south of Bellevue Road and west of Buhach Road) contains 677 duplex and single-family units, and Castle Vista (south of Bellevue Road and east of Schaffer Road) contains 244 duplex and single-family units.

The Castle Gardens housing area is proposed for conversion to affordable or retirement housing. Conversion would include demolition of some units, and extensive renovation and infrastructure improvements to others. Reuse would be phased over a 10-year period beginning between 1995 and 2005. Castle Vista would be retained under the Proposed Action, with reuse occurring over a 10-year period beginning in 1995.

Public Facilities/Recreation. The public facilities/recreation area covers 433 acres, or approximately 16 percent of the total base area. Most of the acreage is northeast of the airfield. This area contains portions of the WSA, EOD Range, and various military communications, navigational, and radar facilities. Proposed uses for this area could include a trapshooting range and gun club, or other outdoor activities, such as hiking, with development occurring throughout the 20-year analysis period.

Another component of the public facilities/recreation land use is the physical fitness center and outdoor recreation complex, which includes the gymnasium, and four outdoor fields south of the cantonment. Castle Park, located outside the cantonment, contains similar outdoor recreation facilities, as well as a youth center and picnic pavilion. Reuse of these facilities by the local community is proposed throughout the analysis period. No new public facilities/recreation development is proposed.

The Castle Air Museum would continue to operate as a community enterprise, with the vacant land to the north of the facility reserved for future expansion.

Agriculture. Six acres of farmland (less than 1 percent of the base property) located east of Fox Road and across from the southern end of Runway 31, would be reused for agricultural purposes. Reuse would begin immediately after base closure.

1.4.2 Castle Aviation Center Alternative

The Castle Aviation Center Alternative (Figure 1.4-2) focuses on a general aviation center with major aircraft maintenance and refurbishing, classic aircraft restoration and repair, aircraft storage, sales, and testing, and support for air shows and the air museum. Under the Castle Aviation Center Alternative, the airfield and aviation support areas would be retained. Other land uses under this alternative include industrial, institutional (medical and educational), commercial, residential, public facilities/recreation, and agriculture. The total acreage for each land use category is shown in Table 1.4-1.

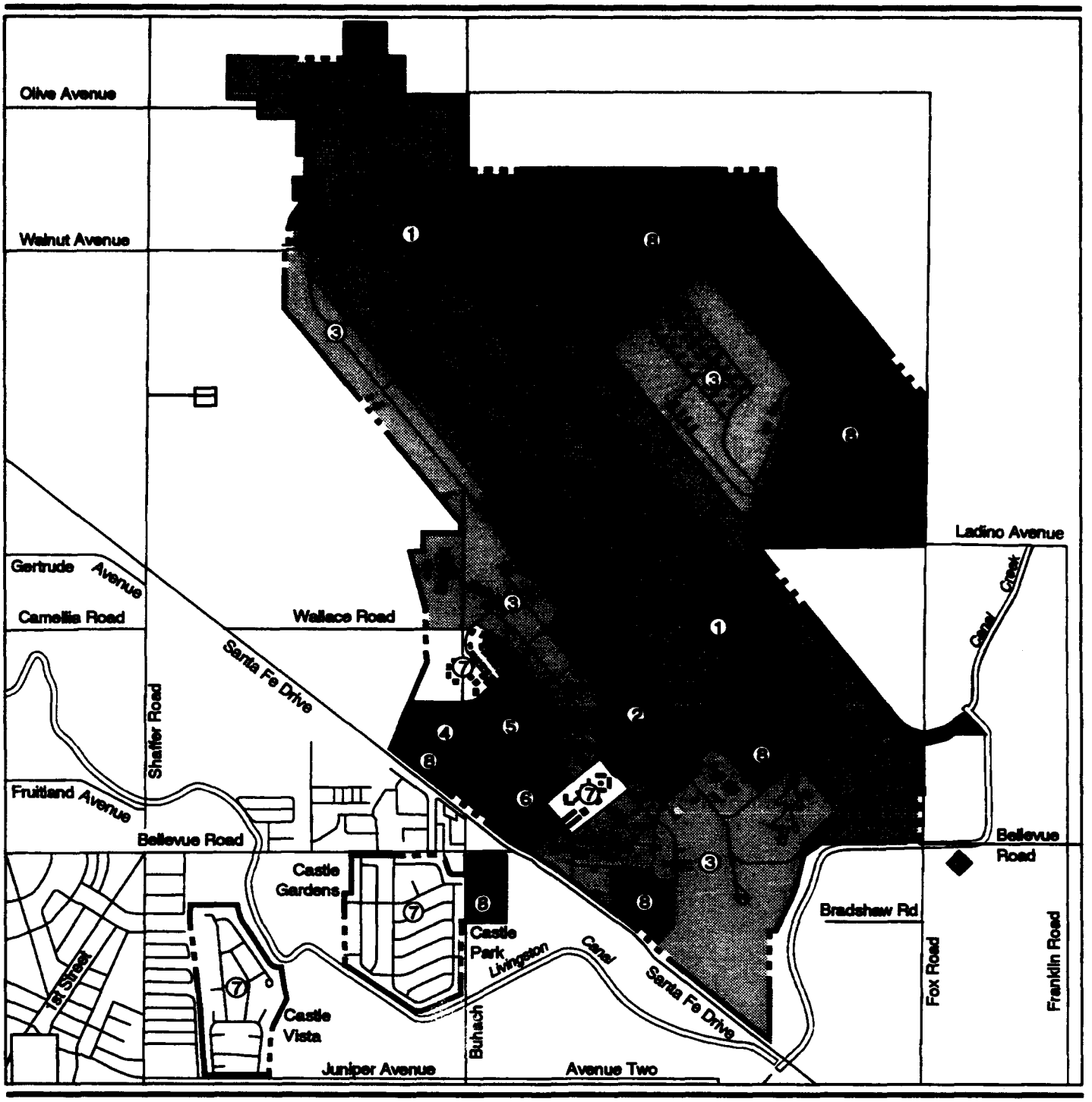
Airfield. The airfield includes 1,033 acres, or over 37 percent of the base, and is identical to the Proposed Action. A fixed base operator (FBO) to support general aviation is proposed for this alternative.

Aviation Support. The aviation support land use category includes 158 acres, or 6 percent of the base area, in the operational flightline area of the former military airfield. The area contains hangars, maintenance docks, and aircraft maintenance areas that are proposed for reuse under this alternative for large or small aircraft maintenance, storage, and display.

Industrial. The industrial area comprises 641 acres, or approximately 23 percent of the total base acreage, and is located in two areas, north and south of the airfield. The area northwest of the airfield contains 160 acres and includes the WSA. This area is proposed to be used for film and television production operations.

The area south of the airfield consists of the civil engineering complex and other related facilities, as well as 175 acres of vacant land. The proposed reuse for this area includes warehousing, general office, or light industrial development, with over half of the area designated as open space to support film and television production operations. Other facilities within this area are to be used for light industry or warehousing. The vacant acreage would be available to support other Castle Aviation Center functions.

Institutional (Medical and Educational). The 20-acre parcel on the western edge of the cantonment, containing the base hospital and associated parking, is proposed for medical reuse under this alternative. Reuse would be similar to the Proposed Action.



EXPLANATION

- 1 Airfield
- 2 Aviation Support
- 3 Industrial
- 4 Institutional (Medical)
- 5 Institutional (Educational)
- 6 Commercial
- 7 Residential
- 8 Public Facilities/ Recreation
- 9 Agriculture
- 10 Vacant Land *
- Base Boundary
- Access Points
- Runway

0 650 1300 2600 Feet

* This standard land use designation is not applicable to this figure.

Castle Aviation Center Alternative

Figure 1.4-2

The proposed educational component of the Castle Aviation Center is located on 70 acres in the western part of the cantonment, or 3 percent of the base area when combined with the medical acreage, and includes two major classroom facilities, the base chapel, library, shoppette, and residential facilities. The proposed reuse would be similar to that described in the Proposed Action.

Commercial. Commercial land includes 45 acres, or 2 percent of the base property, in the central portion of the cantonment. The 25-acre parcel containing the Base Exchange and Commissary is proposed to be redeveloped as a retail complex by 2000. The remainder of the commercial component would include reuse of the Officers' Club, the recreation center, and the child-care center.

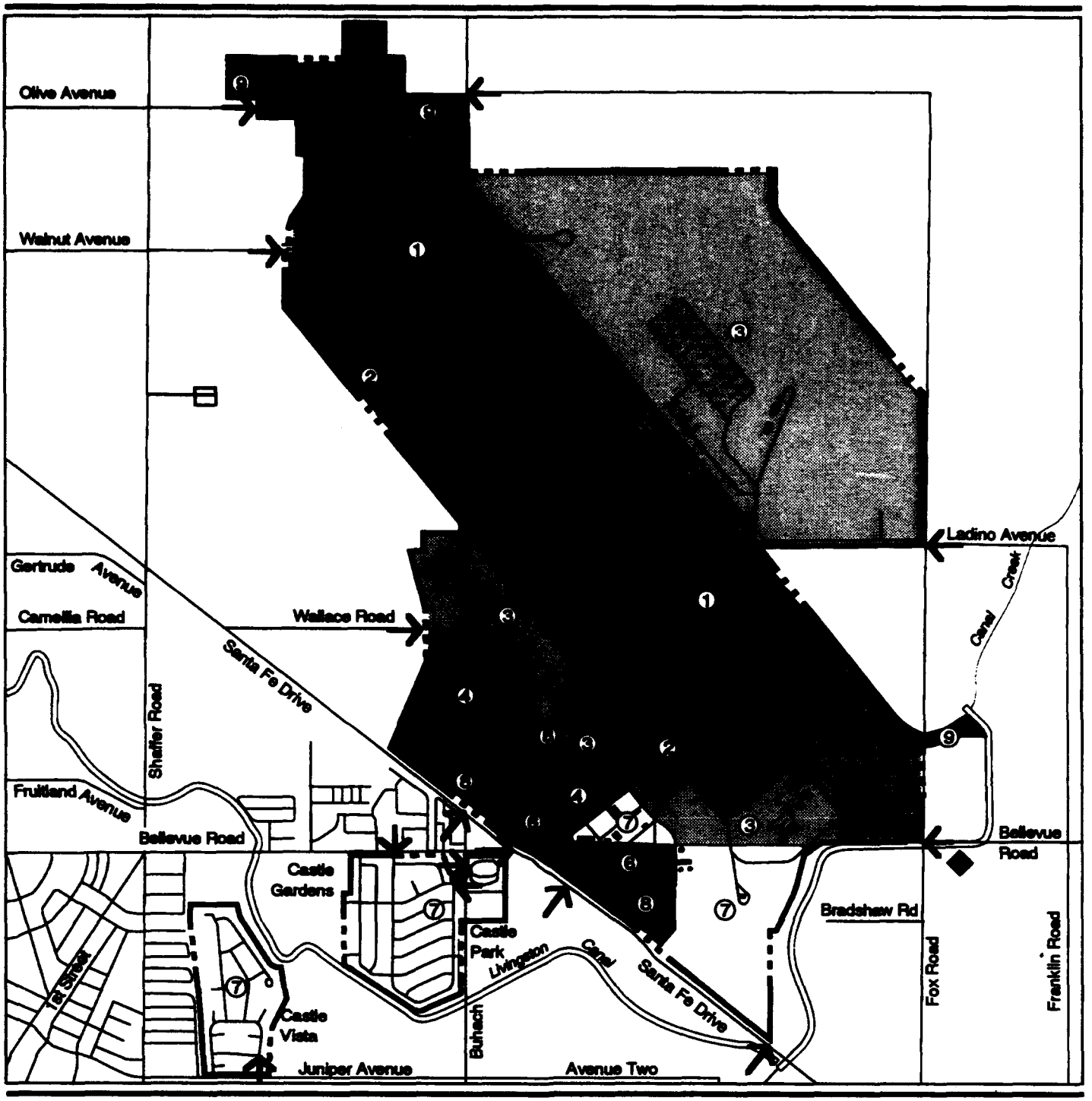
Residential. The residential land use category comprises 240 acres, or 9 percent of the base area, including the Castle Vista and Castle Gardens housing areas and the two unaccompanied personnel facilities. Castle Vista and Castle Gardens housing areas would provide housing for employees and trainees under the Castle Aviation Center Alternative. The unaccompanied personnel facilities, which are proposed for use in coordination with the educational land use, could be renovated and fully occupied by 2000.

Public Facilities/Recreation. The public facilities/recreation land use category comprises 564 acres, or approximately 20 percent of the total base area and is located in five areas. The largest area contains 500 acres northeast of the airfield. Reuse of this area includes passive outdoor recreation, or open space support for film and television production operations. The other four areas are the recreation facilities (including the gymnasium), the Castle Air Museum, a proposed second aviation museum site in the alert/flightline area, and Castle Park. Reuse of these areas and facilities under this alternative would be similar to the Proposed Action.

Agriculture. Six acres of farmland (less than 1 percent of the base property) east of Fox Road, across from the southern end of Runway 31, would be reused for agricultural purposes. Reuse of this parcel could begin immediately after base closure.

1.4.3 Commercial Aviation Alternative

The Commercial Aviation Alternative (Figure 1.4-3) focuses on a general aviation airport with commercial passenger service, airline pilot proficiency training, and air cargo services. The airfield and aviation support areas comprise 1,251 acres, or 45 percent of the base property. Non-aviation land uses comprise the remaining 1,526 acres and include industrial, medical, commercial, residential, public facilities/recreation, and agricultural. It was assumed for this alternative that Merced, Atwater, and Turlock airports would be closed and the majority of their general aviation operations



EXPLANATION

- ① Airfield
- ② Aviation Support
- ③ Industrial
- ④ Institutional (Medical)
- ⑤ Institutional (Educational) *
- ⑥ Commercial
- ⑦ Residential
- ⑧ Public Facilities/ Recreation
- ⑨ Agriculture
- ⑩ Vacant Land *
- Base Boundary
- Access Points
- Runway

0 650 1300 2600 Feet

*This standard land use designation is not applicable to this figure.

Commercial Aviation Alternative

Figure 1.4-3

would be transferred to Castle AFB. The total acreage for each land use category is shown in Table 1.4-1.

Airfield. The airfield land use category includes 997 acres, or approximately 36 percent of the base acreage, and would be used primarily by commercial aircraft being flown for pilot proficiency training and by general aviation aircraft. The reuse proposed under this alternative is similar to that of the Proposed Action.

Aviation Support. Aviation support covers 254 acres, or nearly 9 percent of the base, and includes the control tower, aircraft rescue and fire station, hangars, and facilities for aircraft maintenance, air cargo, general aviation, and other aviation uses. Aviation support uses could include a commercial passenger terminal, air cargo facilities, pilot proficiency training, aircraft maintenance and refurbishing, engine maintenance, refurbishing and conversion, and aircraft painting. The development of facilities and operations within the aviation support area would be managed in accordance with FAA and state regulations. Reuse of base facilities and new construction could occur throughout the 20-year analysis period and be 32 percent complete by 2015.

Industrial. The industrial area covers 875 acres, or approximately 32 percent of the base, and includes three separate locations, one northeast and two southwest of the airfield. The northern area includes portions of the WSA, EOD Range, and landfills. The WSA is proposed for warehousing and storage. Other uses in the northern area include light industry and manufacturing development that could be 40 percent complete by 2015.

One of the southern areas, containing the civil engineering facilities, the new flight simulator building, three administrative offices, and a dormitory, is proposed for redevelopment throughout the analysis period as an office/ industrial park, and could be 40 percent complete by 2015.

A portion of the southern area located east and southeast of the cantonment is designated for an office/industrial park. Redevelopment and new construction would begin at closure and be 40 percent complete by 2015. The eastern portion of this area is designated for light industrial/manufacturing and includes the readiness crew building and the alert apron. The remaining area is vacant and is proposed for new development. Redevelopment and new construction could begin at closure and be 40 percent complete by 2015.

Institutional (Medical). The medical component is in the center of the cantonment and comprises 113 acres, or 4 percent of the base. Proposed reuse as a major medical institution includes the dormitories, administrative/medical offices, day-care center, hospital, unaccompanied

residential facilities, and new outpatient residential facilities. Development of this medical rehabilitation facility could occur between 2005 and 2015.

Commercial. The commercial area includes 59 acres, or 2 percent of the base, and is generally located in the south-central cantonment fronting Santa Fe Drive. Components of the commercial land use include a neighborhood shopping center and a new community center.

The base community center, which includes the Base Exchange, Commissary, bowling center, theater, credit union, and package store, is proposed for reuse as a neighborhood shopping center. Reuse could occur in the 1995-2000 period.

The new community center would be on Santa Fe Drive near Bellevue Road. Development of this area could occur between 2000 and 2005.

Residential. The residential area covers 342 acres, or 12 percent of the base, and is located in five parcels. The first parcel is in the southeastern corner of the base just north of Santa Fe Drive. All facilities would be demolished, and 409 new single-family residential units are proposed by 2015.

The second residential area is southeast of the base dormitory complex. All facilities would be demolished, and 300 new multi-family units are proposed by 2015.

The Castle Park area, southwest of the base, would be developed with 68 single-family units by 2015. The base youth center could be retained as a neighborhood recreation center.

The Castle Gardens family housing area, southwest of the base, is proposed for conversion to affordable or retirement housing. Conversion includes some demolition, renovation, and infrastructure improvements. No additional units are proposed. Reuse could begin between 1995 and 2005 and would be phased over a 5-year period.

The Castle Vista housing area, north of Juniper Avenue and east of Schaffer Road, would be retained as single-family and duplex units. Additional open space, from two former landfill areas south and west of the housing area would be retained. Reuse could begin in 1995 and be complete by 2005.

Public Facilities/Recreation. Public facilities/recreation land uses cover 81 acres, or 3 percent of the total base acreage, and include an indoor and outdoor recreation complex south of the cantonment. Facilities include a gymnasium, three softball fields, and one football/soccer field with a running track. The Castle Air Museum, on the southwest side of the base, would continue to operate as a community enterprise. The Commercial Aviation

Alternative also identifies a park within the cantonment to complement and enhance the adjacent medical, commercial, and industrial uses. The Castle AFB chapel is in this area and would be retained for reuse for religious purposes. Proposed reuse of all public facilities/recreation components could occur between 1995 and 2000.

Agriculture. Three areas comprising 56 acres, or approximately 2 percent of the base, could be converted to agricultural use. Two of these parcels are in the northern portion of the base on both sides of the airfield. The third is located east of Fox Road across from the southern end of Runway 31. Agricultural land use could begin during the first 5 years of the analysis period.

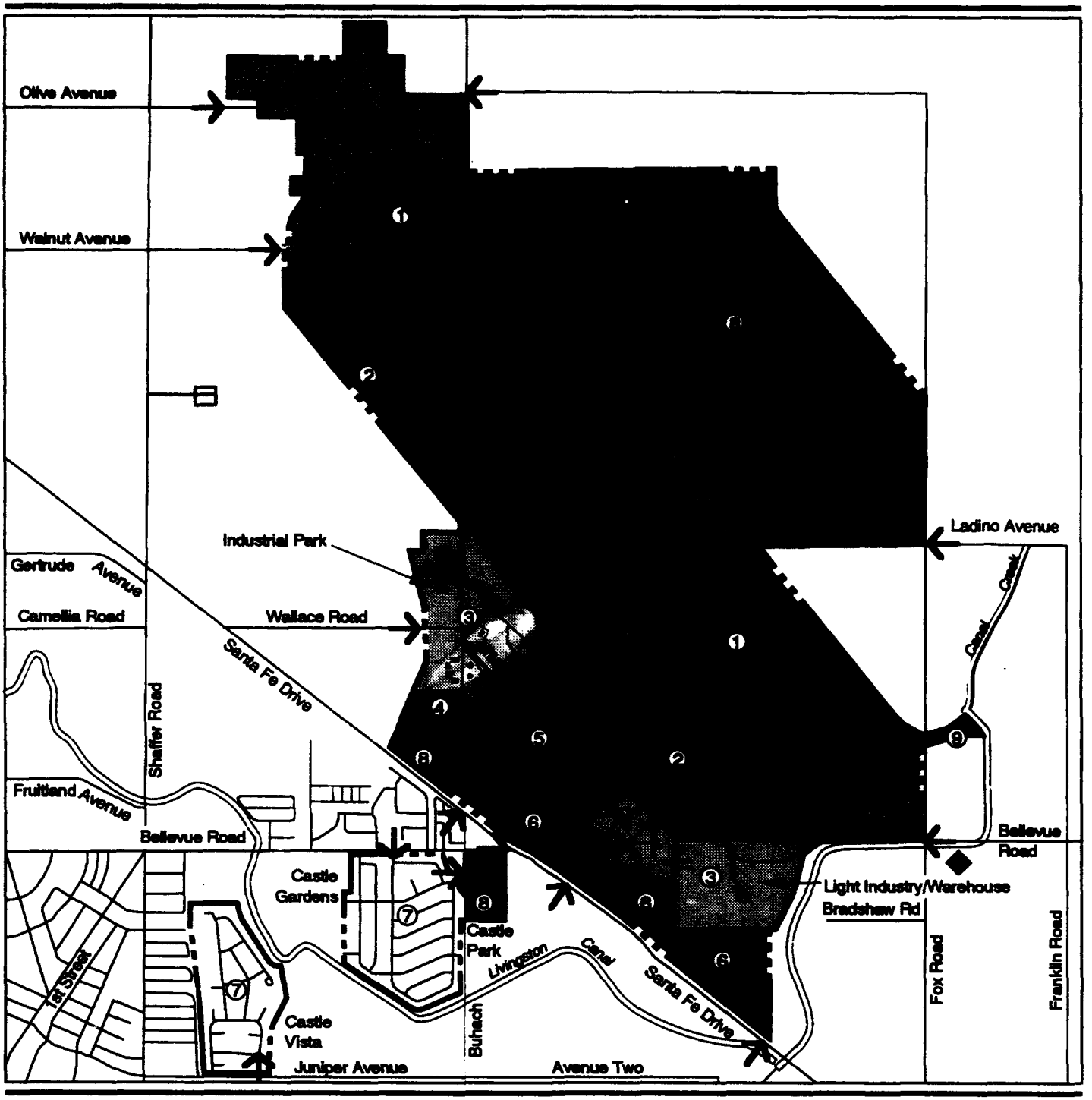
1.4.4 Aviation with Mixed Use Alternative

The Aviation with Mixed Use Alternative (Figure 1.4-4) focuses on a general aviation airport with major aircraft maintenance and refurbishing activities. The airfield and aviation support areas comprise 1,419 acres, or over 51 percent of the base property. Non-aviation land uses make up the remainder of the area and include office/industrial park, general light industrial or warehousing, institutional (medical and educational), commercial, residential, public facilities/recreation, and agriculture. The total acreage for each land use category is shown in Table 1.4-1.

Airfield. The airfield includes 1,033 acres, or approximately 37 percent of the base acreage, and would be used primarily by transport aircraft flown in for maintenance and by general aviation aircraft. The reuse proposed under this alternative is similar to that of the Proposed Action.

Aviation Support. The aviation support area covers 386 acres, or approximately 14 percent of the base, and includes the control tower, aircraft rescue and fire station, hangars, aircraft maintenance facilities, fuel farm, engine test cells, and other aviation uses. Aviation support uses could include aircraft maintenance and general aviation support services. The development of facilities and operations within the aviation support area included in the airport plan would be managed in accordance with FAA and state of California regulations. The base facilities (hangars, docks, and maintenance shops) would be suitable for large aircraft maintenance operations.

Industrial. The industrial category includes 206 acres, or 7 percent of the base property, in two areas northwest and southeast of the cantonment. The northwest area includes the civil engineering complex and would be suitable for development as an office/industrial park with over half of the area available for new development. Industrial development could occur throughout the 20-year analysis period.



EXPLANATION

- 1 Airfield
- 2 Aviation Support
- 3 Industrial
- 4 Institutional (Medical)
- 5 Institutional (Educational)
- 6 Commercial
- 7 Residential
- 8 Public Facilities/ Recreation
- 9 Agriculture
- 10 Vacant Land *
- Base Boundary
- Access Points
- Runway

0 650 1300 2600 Feet

* This standard land use designation is not applicable to this figure.

Aviation with Mixed Use Alternative

Figure 1.4-4

Most of the facilities in the southeastern area are proposed for demolition to make room for new development. A few facilities, which are suitable for light industrial or warehousing reuse, would be retained. Industrial development in this area could begin in 2000.

Institutional (Medical and Educational). The institutional (medical) land use category consists of a 20-acre parcel, or 5 percent of the base area when combined with the educational acreage, on the western edge of the cantonment that contains the base hospital and associated parking. The hospital would be reused as a community medical facility under this alternative. The educational component of this land use category would be similar to the Proposed Action, and would be 80 percent complete by 2015.

Commercial. The commercial area under the Aviation with Mixed Use Alternative contains 99 acres, or 4 percent of the base area, in two areas. One area east of Santa Fe Drive contains two 25-acre parcels: one containing the Base Exchange and Commissary would be redeveloped as a retail complex, and another adjoining this area could be reused for commercial development. Commercial development of these areas would occur between 2005 and 2015. The second commercial area, in the extreme southern corner of the base, would be reserved for a second retail center. Commercial reuse would be 60 percent complete by 2015.

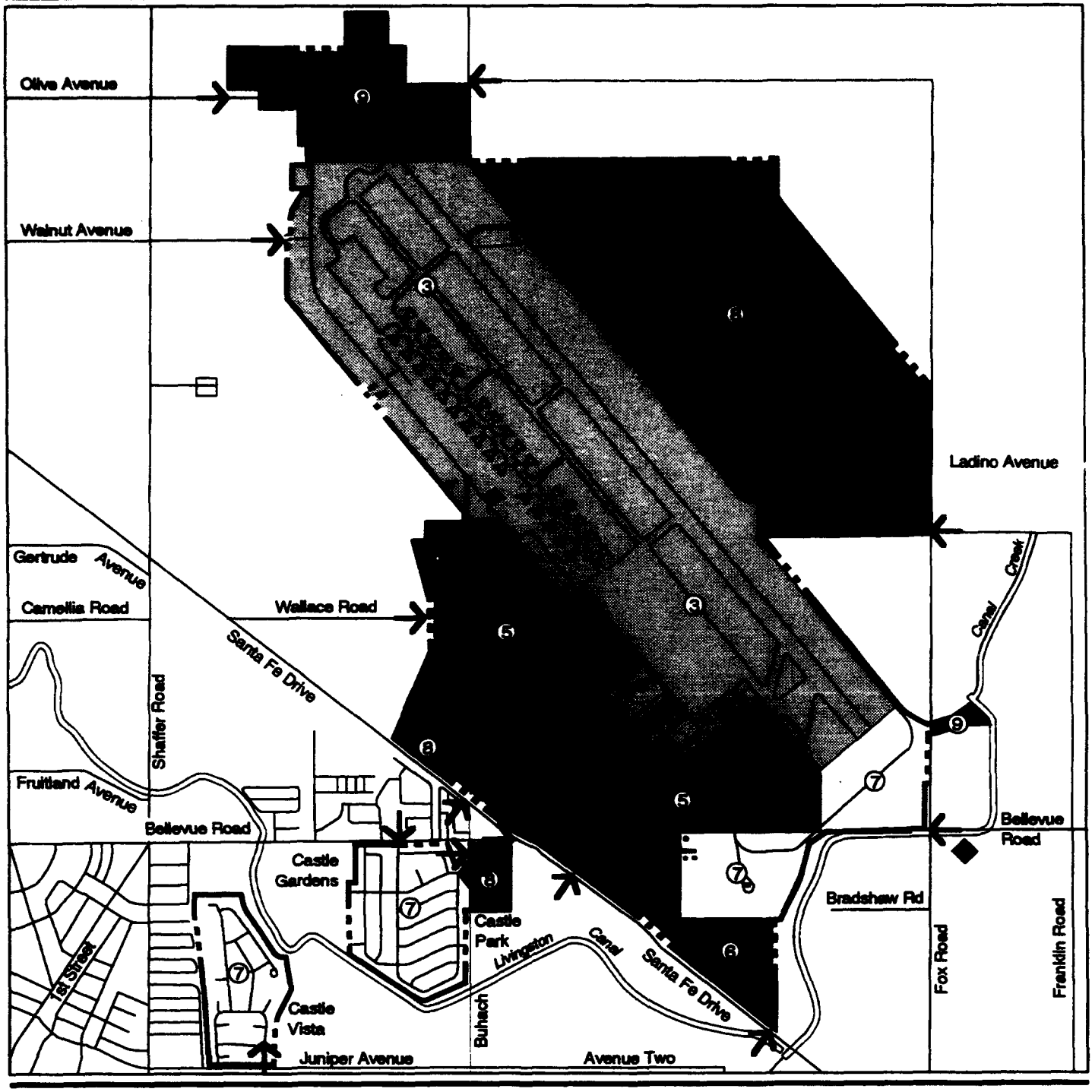
Residential. The residential land use category under the Aviation with Mixed Use Alternative contains 188 acres, or 7 percent of the base property. The Castle Vista housing area is proposed for reuse as single-family housing. The Castle Gardens housing area would be redeveloped into a cooperative housing complex for senior citizens. Residential development is projected to be complete by 2005.

Public Facilities/Recreation. The public facilities/recreational land use category under the Aviation with Mixed Use Alternative contains 724 acres, or 26 percent of the base area. The public facilities/recreation land use component of this alternative is similar to the Proposed Action. Differences include the absence of park blocks within the cantonment and the reduction in the size of the physical fitness and air museum components, which would be limited to the facilities already on the base.

1.4.5 Non-Aviation Alternative

The Non-Aviation Alternative focuses on a major educational campus, with extensive research and development-oriented industry and multi-family residences (Figure 1.4-5). The total acreage of each land use category is shown in Table 1.4-1.

Industrial. The industrial land use category comprises 991 acres, or nearly 36 percent of the base and includes most of the former airfield and



EXPLANATION

- ① Airfield *
- ② Aviation Support *
- ③ Industrial
- ④ Institutional (Medical) *
- ⑤ Institutional (Educational)
- ⑥ Commercial
- ⑦ Residential
- ⑧ Public Facilities/ Recreation
- ⑨ Agriculture
- ⑩ Vacant Land *
- Base Boundary
- Access Points

0 650 1300 2600 Feet

* This standard land use designation is not applicable to this figure.

Non-Aviation Alternative

Figure 1.4-5

aviation-related facilities on base. Proposed land use would be laboratory-related agricultural research and development. New development would occur after 2000 and continue through the 20-year analysis period.

Institutional (Educational). The educational component in the Non-Aviation Alternative occupies the entire cantonment and many of the flightline facilities, and comprises 545 acres, or over 19 percent of the total base area. Proposed reuse as a major higher educational campus would include the aviation training facilities, administrative offices, community service facilities, industrial support facilities, the base hospital, and all of the unaccompanied residential facilities. The types of educational uses would be similar to a University of California campus and/or a consortium of public and private educational institutions. Development of this land use could occur between 2005 and 2015, and continue beyond the 20-year analysis period.

Commercial. The commercial area includes 47 acres, or 2 percent of the base property, in an undeveloped parcel in the south end of the base. The proposed use consists of a retail complex to be developed in the 2005 to 2015 period.

Residential. The residential area includes 333 acres, or nearly 12 percent of the base, and consists of single-family and multi-family residential units. The single-family component would be similar to the Proposed Action. The multi-family component would be developed on vacant land south of the alert area and in the southeast clear zone of the former military airfield.

Approximately 70 percent of this new residential development is expected to occur during the 20-year analysis period, with construction beginning in 1995 (closure).

Public Facilities/Recreation. The public facilities/recreation land comprises 696 acres, or approximately 25 percent of the total base property, and is located in three areas. The largest area, containing 660 acres, is northeast of the airfield. The other two areas are the Castle Air Museum and Castle Park. Reuse of these areas would be similar to that proposed in the Aviation with Mixed Use Alternative.

Agriculture. The agriculture land use category comprises 165 acres, or 6 percent of the base area, in the northern portion of the base. This area would be used for agricultural research, in addition to the research conducted within the industrial component of this alternative.

1.4.6 No-Action Alternative

The No-Action Alternative would result in the base property being put to no further use. The base would be placed under long-term caretaker status.

Caretaker activities would consist of base resource protection, grounds maintenance, utilities operations as necessary, and building maintenance. No other military activities/missions would be performed on the property.

The future land uses and levels of maintenance would be as follows:

- Maintain structures to limit deterioration.
- Isolate or deactivate utility distribution lines on base.
- Provide limited maintenance of roads to ensure access.
- Provide limited grounds maintenance of open areas to eliminate fire, health, and safety hazards.

1.4.7 Other Land Use Concepts

This section describes proposed federal property transfers and conveyances to non-federal agencies and private parties. These property transfers and conveyances are not part of any integrated reuse option, and would be initiated on an individual basis. They are independent of one another and could be implemented individually or in combination with a modified reuse alternative.

In compliance with the Federal Property and Administrative Services Act of 1949, the Air Force solicited proposals from other federal agencies regarding their interest in acquiring any lands or facilities identified for disposal at Castle AFB. Responses include one proposal for direct federal use, and one proposal for sponsorship of a local governmental program.

Federal Correctional Complex. The U.S. Department of Justice, Federal Bureau of Prisons has requested approximately 660 acres, or nearly 24 percent of the total base acreage, for the development of a minimum of two low-security federal correctional facilities. The federal correctional facilities would occupy the largely undeveloped portion of the base northeast of the airfield, containing the WSA and the small arms, grenade, and EOD ranges. Each of the correctional facilities would house approximately 1,600 inmates. Facilities would include one- to two-story buildings inside a fenced compound surrounded by a buffer zone. Employment is estimated at 450 full-time jobs.

Private Recreational Facility. The California Golden State Trapshooting Association (CGSTA) has proposed a trapshooting range and gun club. This facility would occupy 235 acres east of the airfield, which is primarily undeveloped except for the WSA and the small arms, grenade, and EOD ranges. Proposed uses would include private use of facilities for trapshooting and other shooting events sponsored by the CGSTA and a

recreational vehicle park. Development of the range would create approximately 10 full-time jobs and 175 temporary jobs during peak events.

2.0 COMMUNITY SETTING AND REGION OF INFLUENCE

This chapter describes the community setting in which Castle AFB is located. In addition, the ROIs for the various issues, economic activity, population, housing, public services, public finance, transportation, and utilities, are also identified.

2.1 COMMUNITY SETTING

In late 1940 the Merced, California, City Council initiated steps to bring a U.S. Army flying school to the area. By July 1941, the city had acquired 900 acres of farm and pasture land at the site of the base. The base was officially established in September 1941, and was activated in December 1941 as the Merced Army Flying School. In May 1943, the base became the Merced Army Air Field as part of the Western Flying Training Command.

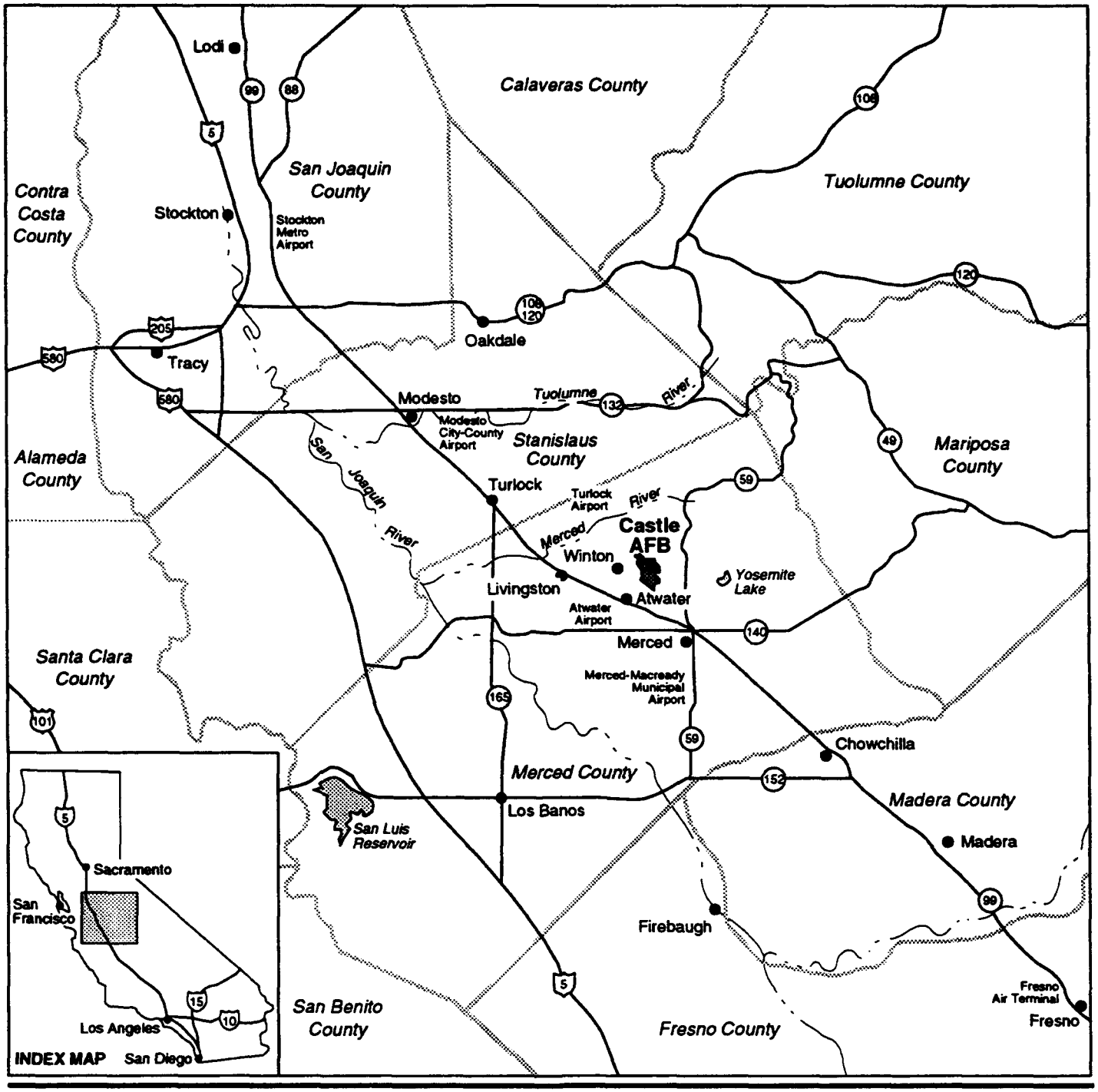
In January 1946, the base was renamed for Medal of Honor recipient Brigadier General Frederick W. Castle, a World War II B-17 pilot. In April 1946, Castle AFB became a Strategic Air Command (SAC) base; the Air Combat Command (ACC) assumed control of the base in June 1992, with the disestablishment of SAC (U.S. Air Force, 1992).

Castle AFB is in north-central Merced County, adjoining the east side of the city of Atwater, about 7 miles northwest of Merced in the San Joaquin Valley. The base is about 63 miles northwest of Fresno and about 29 miles southeast of Modesto. Yosemite National Park and the Sierra Nevada are about 1 hour's drive from the northeast side of the base. The Monterey Bay coastal areas are located about 2 hour's driving time from the southwest portion of the base (Figure 2.1-1).

Castle AFB adjoins Santa Fe Drive (County Road J7), which is approximately 2 miles north of and parallel to State Highway (SH) 99. Santa Fe Drive is used as local access by base personnel traveling from Atwater and Merced. SH 99 is the main highway connecting the cities of Fresno and Modesto. The area has rail freight service and Amtrak passenger service at Merced. The closest commercial airport is Merced Municipal Airport, in southwestern Merced.

The base encompasses 2,777 acres. The surrounding region, like the rest of the San Joaquin Valley, is characterized by intensely developed, large-scale agriculture mixed with centers of industrial, commercial, and residential development.

Castle AFB is the area's largest employer, supporting 6,236 active duty military and civilian personnel in 1991. Food processing, publications, and aluminum products manufacturers are the largest private employers in



EXPLANATION

- Interstate Highway
- U. S. Highway
- State Highway
- County Line

Regional Map

0 3.75 7.5 15 Miles

Figure 2.1-1

Merced County. The agricultural sector produces a diverse mix of livestock and poultry products, fruit, nuts, and field crops. On a broad sectoral basis, the services sector employs more residents than any other industrial sector (about 20 percent), followed by government, retail trade, and manufacturing. Since 1970, jobs and population in the area have increased at a rate faster than for the nation as a whole.

Approximately 99 percent of the active duty military and civilian personnel assigned to Castle AFB live in Merced County (primarily in and around the cities of Atwater and Merced, and to a lesser extent in the unincorporated community of Winton). Less than 1 percent live in Stanislaus County, and a few personnel live in other communities in adjoining counties. A total of 2,868 military retirees lived in the area in 1990.

The cities of Atwater and Merced and the community of Winton are the principal support communities for the base.

Atwater, which had a population of 22,282 in 1990, is home for about 35 percent of base workers. The two Castle AFB family housing areas, Castle Gardens and Castle Vista, are within the city of Atwater. The city is adjacent to the southwest corner of Castle AFB, between Santa Fe Drive on the north and SH 99 on the south. The southern portion of the city contains industrial park sites on both sides of SH 99.

The city of Merced, with a 1990 population of 56,216, is about 7 miles southeast of the base, and is home to about 31 percent of base personnel. The industrial part of the city is located to the south, in the vicinity of the airport and the Merced County Fairgrounds. Merced Community College is near the northern city limit.

Winton, home to about 3 percent of base personnel, is a small (7,559 population in 1990), unincorporated community, about 2 miles northwest of the Main Gate.

Several units of local government provide public services to the population associated with Castle AFB. These jurisdictions include Merced County and the cities of Atwater and Merced. The Atwater Elementary School District, Merced City School District, Winton School District, and the Merced Union High School District provide elementary and secondary education services to more than 80 percent of the children who are dependents of Castle AFB employees.

The Atwater Elementary School District includes Castle AFB and the two military family housing areas. The Merced City School District serves the city of Merced and rural residential areas north of the city. The Winton School District includes the unincorporated community of Winton. The

Merced Union High School District serves Atwater, Merced, and Winton school districts as well as eight other primary school districts.

2.2 REGION OF INFLUENCE

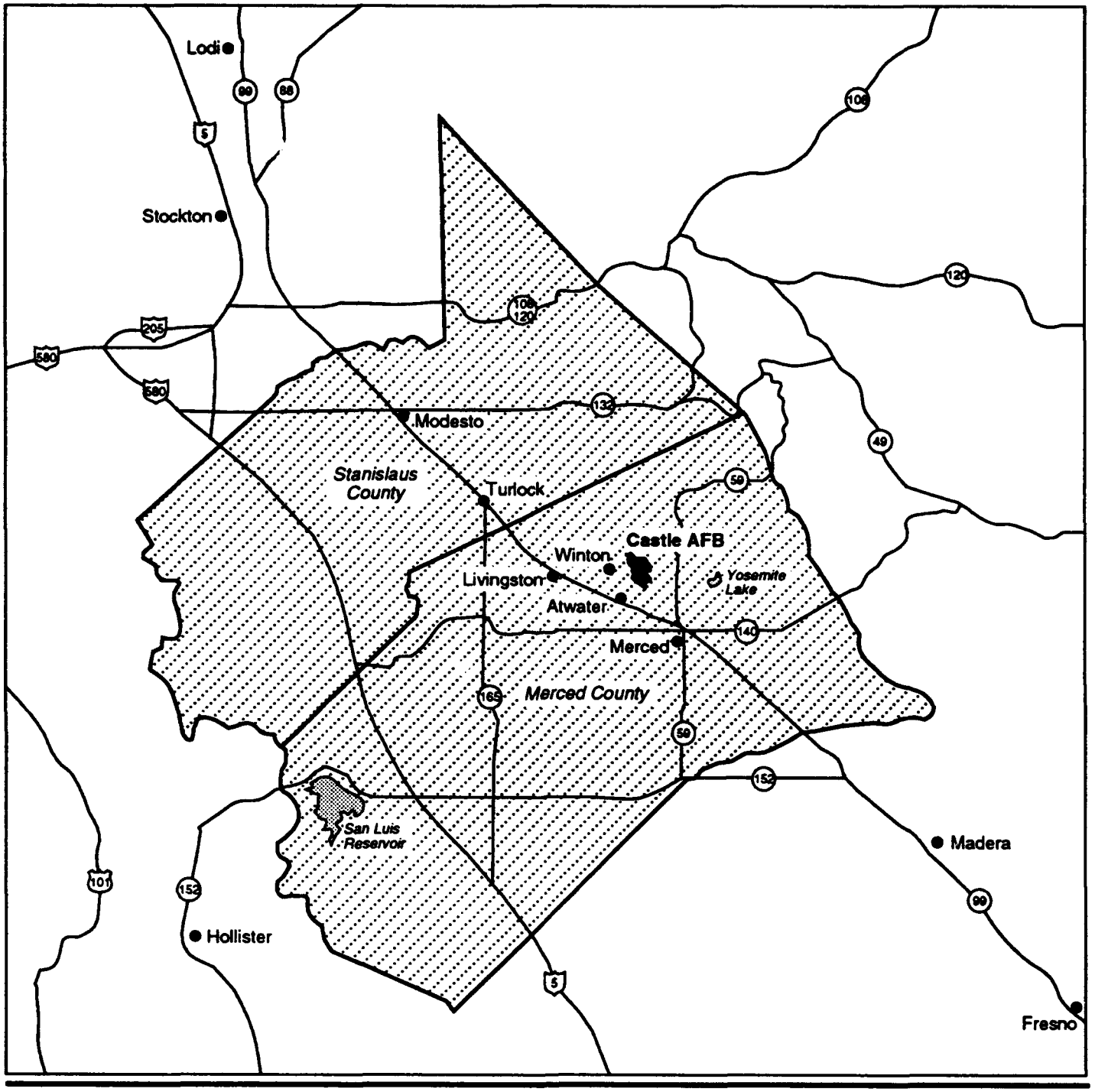
The ROI is defined as the region in which the principal direct and secondary socioeconomic effects of closure and reuse actions at Castle AFB are likely to occur and are expected to be of most consequence for local jurisdictions (Figure 2.2-1). It is important to note that the ROI may vary from one issue to another.

Two factors were important in determining the ROI used in this analysis. The first was the distribution of residences for military and civilian personnel stationed at Castle AFB in 1992. This residential distribution is not only an aid in determining where the greatest effects of closure would occur, but also provides a guide to where the possible effects of reusing the base would occur as well, because it reflects the revealed preferences of those employed at the site. Data for this residential distribution were obtained by zip code for all personnel employed at the base for which data were available.

The second factor in determining the extent of socioeconomic effects is the degree of linkage among the economies of the various communities in the region. This linkage, based on trade among sectors within the region, determines the nature and magnitude of multiplier effects of actions at the base. While both the residential locations of Castle AFB personnel and the nature of economic interactions in the region helped define the ROIs for this analysis, other specific socioeconomic factors such as service area boundaries were also used in selection of ROIs discussed in this document.

Economic Resource Impact Statements

Regional purchases associated with Castle AFB, including both base spending for goods and services and base personnel spending of payrolls, are reported in Castle AFB's Economic Resource Impact Statements (ERISs). The ERISs prepared for the past five federal fiscal years (FYs), 1987 through 1991, were examined. The regional expenditures cited in these statements are reported for an area within a 50-mile radius of the base, which includes the counties of Merced and Stanislaus, and all or parts of seven other counties in the central California area. While this 50-mile radius captures the socioeconomic effects of the base and serves as a departure point in defining the ROI, it is often too wide an area for pinpointing where the socioeconomic effects will occur within the region. Consequently, this 50-mile radius was not used to define the ROIs.



EXPLANATION

- 5 Interstate Highway
- 101 U. S. Highway
- 99 State Highway
- ROI Boundary

0 3.75 7.5 15 Miles

Region of Influence

Figure 2.2-1

Economic Activity

It is anticipated that almost all of the regional reuse demands associated with construction and operation payroll expenditures, and most of the demands associated with construction and operation goods and services expenditures, would occur within Merced and Stanislaus counties. Most demands associated with regional economic effects of base closure also are anticipated to be concentrated within this two-county ROI. Potential secondary effects that may occur outside the ROI are expected to be minimal after dispersion and are excluded from further analysis.

Castle AFB is the largest employer in the ROI. Castle AFB employed 6,437 military and civilian personnel in 1990. Locally, World Color Press Corporation in Merced is a large private employer with approximately 700 employees. The Keller Aluminum Products Company in Merced is another principal employer in the local area with approximately 500 employees. Other prominent economic activities in the area include agriculture, food processing, and food distribution. In 1990, livestock and poultry and their products comprised about 53 percent of the agricultural economy, followed by fruits and nuts (24 percent) and field crops (11 percent) (Modesto Chamber of Commerce, 1991).

In 1990, there were a total of 241,681 jobs in the two-county ROI. The military's share of ROI employment was 2.7 percent in 1990, more than the state average of 2.3 and the national average of 1.9 percent.

All government employment (federal military and civilian, state, and local) accounted for 16.9 percent of the total 1990 two-county ROI jobs. The services sector accounted for 19.7 percent, retail trade 16.3 percent, manufacturing 15.0 percent, agriculture 8.0 percent, and all other sectors the remaining 24.1 percent of ROI jobs.

Jobs in the ROI increased at an average annual rate of 3.3 percent for the 20-year period from 1970 through 1990. This compares with a statewide growth rate of 3.2 percent and a national rate of 2.1 percent over the same period. The job growth rate in the 1980 to 1990 period was 2.7 percent in the ROI, 2.8 percent in the state, and 2.0 percent in the United States. Stanislaus County, with a growth rate of 3.6 percent, accounted for most of the job increase.

Population

Population effects from the closure and potential reuse of Castle AFB were analyzed for the two-county ROI of Merced and Stanislaus counties, including the cities of Atwater and Merced and the unincorporated community of Winton. The ROI accounts for more than 99 percent of the places of residence of civilian and military personnel employed at Castle

AFB. Atwater, Merced, and Winton are the principal support communities for the base.

There were 2,868 military retirees living in the ROI in 1990, about half the number of active duty military assigned to the base in that year.

The population in the ROI totaled 548,925 in 1990, an average annual rate of 3.2 percent between 1980 and 1990. From 1970 to 1980, the ROI population increased at an average annual rate of 3.0 percent.

Merced and Stanislaus counties increased in population at average annual rates of 2.9 percent and 3.4 percent, respectively, from 1980 to 1990. The populations of Atwater, Merced, and Winton experienced increases of 2.4, 4.4, and 4.2 percent, respectively, between 1980 and 1990.

Housing

Housing effects from the closure and reuse of Castle AFB were analyzed for the ROI, defined as Merced and Stanislaus counties, including the cities of Atwater and Merced and the unincorporated community of Winton. Because housing effects are expected to follow the distribution of population effects as discussed above, the ROI is the same for housing issues as it is for population issues.

Total off-base ROI housing units numbered 189,501 in 1990, having an average annual increase of 3,792 units (2.3 percent) since 1980. Both counties experienced growth in housing stock. Merced County housing increased 1.6 percent per year between 1980 and 1990, and Stanislaus County 2.6 percent per year. Winton experienced the greatest growth rate (2.7 percent per year) among the base support communities.

Public Services

The ROI for the public services analysis (i.e., general government, public education, police and fire protection, and health care) includes the principal jurisdictions that have the closest linkages to Castle AFB: those providing services directly to Castle AFB military and civilian personnel or their dependents; those having public service and facility arrangements with the base; and those likely to be most affected by potential reuse of the base.

Potentially affected jurisdictions include the governments of Merced County and the cities of Atwater and Merced. School districts that would be affected by closure and reuse of the base include the Atwater Elementary School District, the Merced City School District, the Winton School District, and the Merced Union High School District, which provide elementary and secondary education to more than 80 percent of students who are dependents of Castle AFB personnel.

Merced and Stanislaus counties provide building inspection, road maintenance, public safety services, judicial services, health care, and social services. The cities in the ROI provide planning and building services, recreation and community services, public works, police and fire protection, and development services.

In fall 1991, 1,425 students, or 30 percent, of the Atwater Elementary School District enrollment were directly related to Castle AFB. Of that total, 1,357 were active-duty military dependents. Total student enrollment in the district increased by about 9 percent between 1989 and 1991.

In fall 1991, 334 students, or 3 percent, of the Merced City School District enrollment were directly related to the base. Of that total, 302 were active-duty military dependents. Total student enrollment in the district increased by about 7 percent between 1989 and 1991.

In fall 1991, 77 students, or 5 percent, of the Winton School District enrollment were directly related to the base. Of that total, 63 were active-duty military dependents. Total student enrollment in the district increased by about 10 percent between 1989 and 1991.

In fall 1991, 485 students, or 6 percent, of the Merced Union High School District enrollment were directly related to the base. Of that total, 373 were active-duty military dependents. Total student enrollment in the district increased by about 9 percent between 1989 and 1991.

Merced Community College is the closest institution of higher education to Castle AFB. Chapman University, a private institution, has four academic centers in the area.

The Castle AFB Fire Department (93rd Civil Engineering Squadron) provides fire protection services for the base area, including the two family housing areas (Castle Gardens and Castle Vista).

Public Finance

The ROI for public finance consists of the local governmental units that are expected to experience most of the effects from base closure and/or potential reuse. These jurisdictions include Merced County; the cities of Atwater and Merced; Atwater Elementary School District; Merced City School District; Winton School District; and Merced Union High School District.

These local government units provide services to Castle AFB area residents using funds raised principally through taxes, charges to community residents and local organizations for services, state transfers, and federal transfers.

The Atwater Elementary School District received about 72 percent of its FY 1991 general fund revenue from revenue limit sources (property taxes and noncategorical state aid), and the remaining 28 percent from other local, state, and federal sources. Federal financing included about $946,200 from the Federal Impact Assistance Program (P.L. 81-874) for community schools serving military bases.

The Merced City School District received about 74 percent of its FY 1991 general fund revenue from revenue limit sources, and the remaining 26 percent from other local, state, and federal sources. Federal financing included $14,600 from the Federal Impact Assistance Program.

The Winton School District received about 81 percent of its FY 1991 general fund revenue from revenue limit sources, and the remaining 19 percent from other local, state, and federal sources. Federal financing did not include money from the Federal Impact Assistance Program.

The Merced Union High School District received about 79 percent of its FY 1991 general fund revenue from revenue limit sources, and the remaining 21 percent from other local, state, and federal sources. Federal financing included about $96,500 from the Federal Impact Assistance Program.

The CJPA is the local organization chartered with coordination of the reuse proposals for Castle AFB. Member jurisdictions include the county of Merced, the city of Atwater, and the city of Merced.

Transportation

The ROI for the transportation analysis includes the cities of Atwater and Merced, and the unincorporated community of Winton. Within this geographic area, the analysis examines the principal road, air, and rail transportation networks, including the segments in the region that serve as direct or indirect linkages to the base and those that would be affected during reuse, including those commonly used by military and civilian personnel at Castle AFB.

The base is on the north side of Santa Fe Drive northeast of the city of Atwater. SH 99 is the major north-south highway between Fresno to the southeast and Modesto to the northwest. In the ROI, Santa Fe Drive is north of SH 99 and nearly parallel to it.

Three gates provide access onto the base. The Main Gate (Gate 1) is at the intersection of Santa Fe Drive and Buhach Road, and is used by civilian and military personnel and visitors; Gate 2 is just off Santa Fe Drive about 0.6 mile southeast of the Main Gate and is used for industrial and commercial deliveries; Gate 3 is about 0.6 mile north of the Main Gate on Wallace Road

and is used for general purposes under limited hours. Gates 2 and 3 are open part-time on weekdays only.

Air transportation in the area is provided at Merced Municipal Airport, Modesto City-County Airport, Turlock Municipal Airport, and Atwater Municipal Airport, and the Fresno Air Terminal (see Figure 2.1-1). The city of Atwater has scheduled the airport for closure in 1994, due to a recent decline in airport business and in anticipation of relocating operations to Castle AFB (Haug, 1993). Air cargo service is only available at Fresno Air Terminal.

The Southern Pacific and Atchison, Topeka, & Santa Fe (AT&SF) railroads are the principal freight service carriers in the area. The AT&SF operates a rail line adjacent and parallel to Santa Fe Drive. This railroad serves the base with a spur that is not in use as of the date of this document. The nearest Amtrak service is approximately 7 miles southeast of the base in Merced.

Utilities

The ROI for the utilities analysis (including water supply and distribution, wastewater collection and treatment, solid waste collection and disposal, and energy supply and distribution) generally consists of the service areas of the local purveyors that serve Castle AFB and the communities of Atwater, Merced, Winton, and Franklin/Beachwood. Other communities represent only a small portion of the utility providers' base-related customers and will be affected to a very small degree; therefore, they were not included in the ROI for the utilities analysis.

Area utility providers include the cities of Atwater and Merced, the Winton Water and Sanitary District, and the Meadowbrook Water Company for water; the cities of Atwater, Merced, and the communities of Franklin/ Beachwood wastewater treatment plants; BFI Waste Systems, the Public Works Department of the city of Merced, and the Merced County Highway 59 Landfill for solid waste disposal; and Pacific Gas & Electric (PG&E) and Western Area Power Association (WAPA) for energy.

Utilities are provided to Castle AFB from both on-base and off-base sources. The base derives its water from on-base wells. Base wastewater is treated in the on-base wastewater treatment plant, which provides secondary treatment. Base effluent is chlorinated, pumped to an aeration basin, and then discharged under a National Pollutant Discharge Elimination System (NPDES) permit to Canal Creek downstream of the Livingston Canal diversion. Solid waste generated on base is hauled to the county's Highway 59 Landfill. Natural gas and electricity for the base are purchased from PG&E and WAPA.

Communities near the base provide some of their own utilities and contract with regional suppliers for others. The cities of Atwater and Merced obtain water from their own wells, and each has its own wastewater treatment plant. The Atwater treatment plant also serves the community of Winton. Winton has its own water system. The Franklin/Beachwood community has its own water system and wastewater treatment plant. All of these communities dispose of their solid waste at the county's Highway 59 Landfill and obtain their gas and electricity from PG&E.

THIS PAGE INTENTIONALLY LEFT BLANK

3.0 SOCIOECONOMIC CONDITIONS

3.1 INTRODUCTION

This chapter presents recent socioeconomic trends in the region (preclosure conditions), and outlines the effects of base closure (closure conditions) for comparison with projected effects of each potential reuse.

Of particular importance in this analysis are the site-related and migratory-related effects. Site-related effects are defined as the activities associated with the base area. These would include both direct and secondary employment and the resultant effects on population. Migratory-related effects are defined to be the persons who would leave the ROI because of closure-related reductions in employment, and the corresponding effects on population, housing, public services, public finance, transportation, and utilities.

The migratory-related effects are a component of the site-related effects. For example, the site-related employment effects would show the total job losses due to closure of the base. Some of these newly unemployed people would leave the region to seek employment elsewhere, thus resulting in migratory-related effects. The difference between the site- and migratory-related effects is the portion of people who would lose their jobs due to closure and remain in the ROI, adding to the available labor pool. Persons unrelated to the site-related activities who would leave the ROI due to closure are not included in the analysis.

A summary of conditions at closure of Castle AFB is provided in Table 3.1-1. The methods, data, and technical approach used in analyzing regional socioeconomic conditions due to base closure are discussed in Appendix B.

3.2 ECONOMIC ACTIVITY

This section presents recent trends in regional employment, earnings, and income, and describes the effects of base closure. As defined in Chapter 2, most of the regional economic effects of base closure will be concentrated in the ROI comprised of Merced and Stanislaus counties.

Recent Trends

Jobs. The number of jobs within the ROI totaled 241,681 in 1990. This key measure of regional economic activity increased between 1970 and 1990 by an average of 3.3 percent per year (Table 3.2-1). This regional job growth rate was about the same as the average annual job growth rate in

Table 3.1-1. Effects of Closure of Castle AFB

Resource Category	1990 through Closure
Economic Activity	
Employment	Decline of 7,262 direct and secondary site-related jobs from 1990 to closure in the ROI
Earnings (1989$)	Decline of 148.9 million/year from 1990 to closure in the ROI
Population	
Military-related	Decline of 4,563 on-base and 12,206 off-base residents from 1990 to closure in the ROI
Civilian-related	Decline of 2,305 additional off-base residents from 1990 to closure in the ROI (including military retirees)
Housing	Decline in demand of approximately 3,623 off-base units from 1990 to closure in the ROI
Public Services	
General Government, Police and Fire	
Merced County	Decline in off-base population served of 14,112 from 1990 to closure
Atwater	Decline in off-base population served of 5,936 from 1990 to closure
Merced	Decline in population served of 5,329 from 1990 to closure
Education	Decline in ROI enrollments of 2,217 students from 1990 to closure
Health care	Castle AFB hospital closed
Public Finances (1989$)	
Merced County	Shortfalls of 12,015,897 per year
Atwater	Shortfalls of 252,189 per year
Merced	Shortfalls of 709,797 per year
Atwater Elementary School District	Shortfalls of 754,403 per year
Merced City School District	Shortfalls of 6,927 per year
Winton School District	Shortfalls of 17,892 per year
Merced Union High School District	Shortfalls of 155,713 per year
Other Relevant Resources	
Transportation	Base-related traffic reductions on all local roads in the immediate vicinity of the base: 10 to 30 percent on Santa Fe Drive; 20 to 40 percent on Buhach Road; and up to 10 percent on Bellevue Road.
Utilities	Projected demand for water, wastewater, solid waste disposal, and natural gas would be up to 1.5 percent higher than 1990 levels. Electrical consumption would be 5 percent lower.

Note: Although Castle AFB is scheduled to close in September 1995, data limitations required that most effects be calculated annually. Because 1996 is the first full calendar year following closure, short-term effects were calculated through that year.

ROI = Region of Influence.

Table 3.2-1. Summary of Economic Indicators, Two-County ROI, State of California, and United States
Page 1 of 2

	1970	1980	1989	1990	Average Annual % Change
Merced County					
Total Jobs	44,624	63,105	73,475	75,025	2.6
Civilian	37,781	57,553	67,865	69,701	3.1
Military	6,843	5,552	5,610	5,324	-1.2
Military, % of total	15.3	8.8	7.6	7.1	NA
Civilian Labor Force	39,675	62,500	74,475	72,000	1.4
Unemployment Rate	8.6	10.8	11.1	12.2	NA
Earnings per Job (1989$)	21,505	21,722	21,521	21,245	-0.1
Per Capita Income (1989$)	11,924	14,067	13,368	13,244	0.5
Stanislaus County					
Total Jobs	81,872	121,735	160,899	166,656	3.6
Civilian	81,046	120,958	159,709	165,480	3.6
Military	826	777	1,190	1,176	1.8
Military, % of total	1.0	0.6	0.7	0.7	NA
Civilian Labor Force	---	129,900	164,900	164,300	2.4
Unemployment Rate	---	13.1	11.2	11.5	NA
Earnings per Job (1989$)	21,017	21,368	21,676	21,757	0.2
Per Capita Income (1989$)	12,517	14,471	14,474	14,457	0.7
ROI Total					
Total Jobs	126,496	184,840	234,374	241,681	3.3
Civilian	118,827	178,511	227,574	235,181	3.5
Military	7,669	6,329	6,800	6,500	-0.8
Military, % of total	6.1	3.4	2.9	2.7	NA
Civilian Labor Force	---	192,400	239,375	236,300	2.1
Unemployment Rate	---	12.4	11.2	11.7	NA
Earnings per Job (1989$)	21,190	21,489	21,628	21,598	0.1
Per Capita Income (1989$)	12,309	14,335	14,113	14,064	0.7

NA = Not applicable.
ROI = Region of Influence.

Table 3.2-1. Summary of Economic Indicators, Two-County ROI, State of California and United States
Page 2 of 2

	1970	1980	1989	1990	Average Annual % Change
State of California					
Total Jobs	8,857,086	12,512,866	16,245,925	16,547,911	3.2
Civilian	8,389,202	12,170,694	15,850,975	16,165,875	3.3
Military	467,884	342,172	394,950	382,036	-1.0
Military % of total	5.3	2.7	2.4	2.3	NA
Civilian Labor Force	---	11,584,000	14,518,000	14,670,000	2.4
Unemployment Rate	---	6.8	5.1	5.6	NA
Earnings per Job (1989$)	26,666	24,798	26,483	26,389	-0.1
Per Capita Income (1989$)	15,169	17,460	19,734	19,629	1.3
United States					
Total Jobs	89,752,500	112,256,700	136,074,700	137,160,200	2.1
Civilian	86,520,500	109,805,700	133,306,700	134,492,200	2.2
Military	3,232,000	2,451,000	2,768,000	2,668,000	-1.0
Military, % of total	3.6	2.2	2.0	1.9	NA
Civilian Labor Force	82,771,000	106,940,000	123,869,000	124,787,000	2.1
Unemployment Rate	4.9	7.1	5.3	5.5	NA
Earnings per Job (1989$)	23,421	22,590	23,348	23,381	0.0
Per Capita Income (1989$)	12,946	14,926	17,592	17,738	1.6

Notes: Jobs are full- and part-time civilian and military employment by place of work. Civilian labor force and unemployment rate are by place of residence. Earnings and income are in constant 1989 dollars, reflecting price levels prevailing in 1989. Earnings per job and per capita income for 1970, 1980, and 1990 were converted to constant 1989 dollars using the Consumer Price Index for all urban consumers/all items. Average annual percent change is compound average for period covering the earliest and most recent years of available data. All values shown represent annual averages. Earnings per job are the sum of wage and salary disbursements, including personal contributions for social insurance, other labor income, and proprietors' income divided by total jobs. Per capita income is personal income received by persons from all sources divided by the U.S. Census Bureau mid-year population estimate.

NA = Not applicable.

Sources: California Employment Development Department, 1992a, 1992b; Lyons, 1992; Rogers, 1992; Shea, 1992; U.S. Bureau of Economic Analysis, 1991, 1992b; U.S. Council of Economic Advisors, 1992.

California during the same period (3.2 percent), and higher than the job growth rate at the national level (2.1 percent per year). The job growth rate in the ROI between 1970 and 1980 was 3.9 percent per year, while between 1980 and 1990 jobs increased more slowly at 2.7 percent per year.

Jobs by Major Sector. The major employment sectors within the two-county ROI are services, government, retail trade, and manufacturing (Figure 3.2-1). Services provided 47,601 ROI jobs in 1990, or 19.7 percent of the total. Government, including state and local government, and federal military and civilian sectors, provided 40,750 jobs in the ROI in 1990, or 16.9 percent of the ROI total. There were 39,449 retail trade jobs and 36,316 manufacturing jobs within the two counties in 1990, or 16.3 percent and 15.0 percent, respectively, of total ROI jobs in that year.

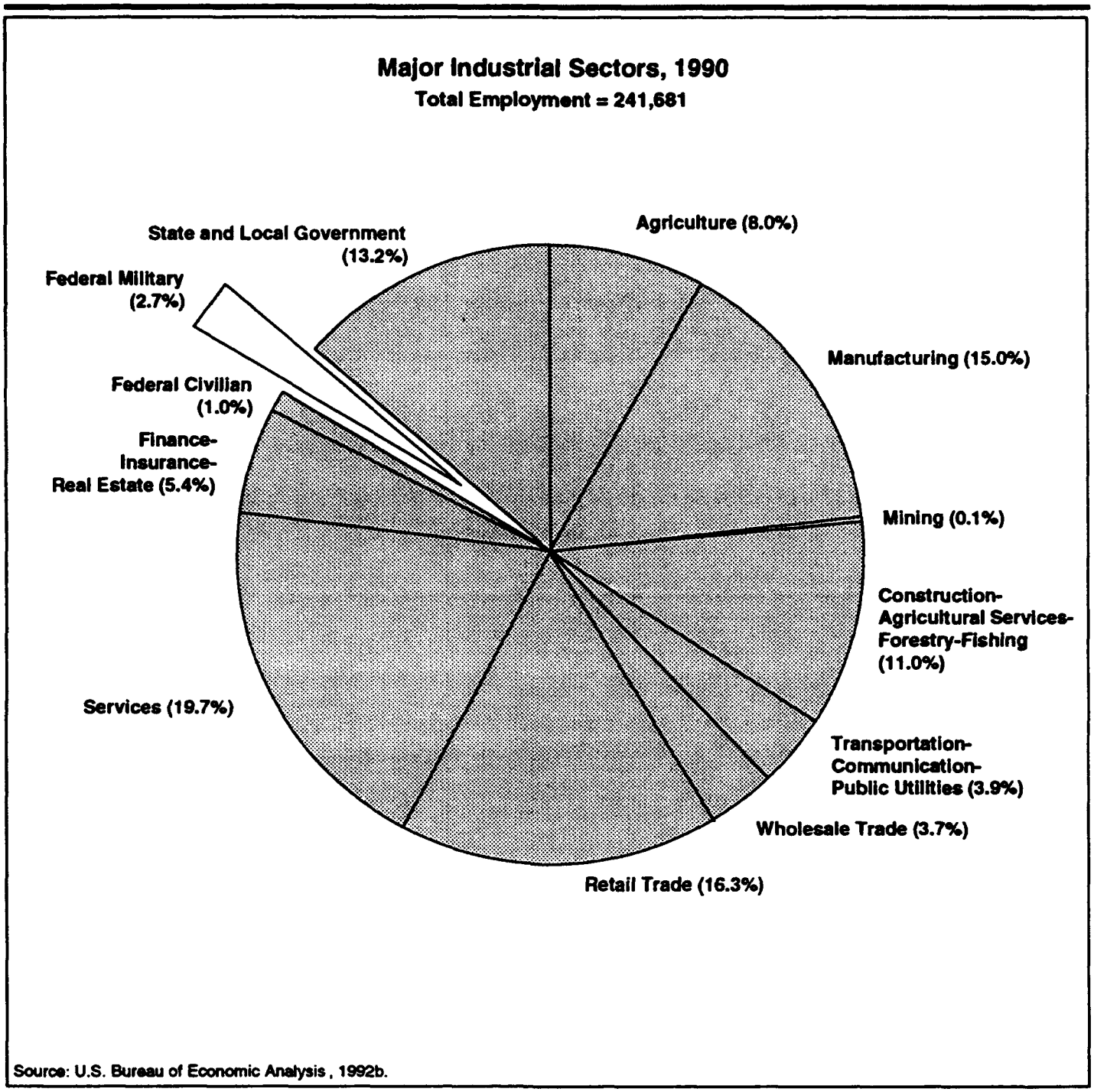
The ROI unemployment rate was 11.7 percent in 1990 (see Table 3.2-1), and increased to 14.4 percent in 1991 (California Employment Development Department, 1992a, 1992b). ROI unemployment rates for 1980, 1989, and 1990, have exceeded those of California and the nation as a whole.

Stanislaus County accounts for most of the jobs in the two-county ROI. In 1990, it provided 69.0 percent of total ROI jobs.

Earnings and Income. Average annual earnings per job and per capita personal income in the ROI were lower than the state and national average in 1990 (see Table 3.2-1). Earnings per job (in 1989 dollars) in the ROI were $21,598 in 1990, up from $21,190 in 1970. A comparison of average 1990 earnings per job by sector indicates that annual earnings for jobs in the transportation and public utilities, manufacturing, mining, wholesale trade, and agriculture sectors were higher than the average for other sectors. Average earnings per job in the government and services sectors of the two-county economy were the next highest. Earnings per job declined in 4 of the 12 sectors of the region's economy between 1980 and 1990.

In 1990, per capita income in 1989 dollars in the ROI, including both labor and non-labor income per person, was $14,064, compared with $12,309 in 1970 (0.7 percent per year). This increase was less than the comparable annual state and national increases (1.3 and 1.6 percent) over the same period, resulting in 1990 state and United States per capita incomes of $19,629 and $17,738, respectively.

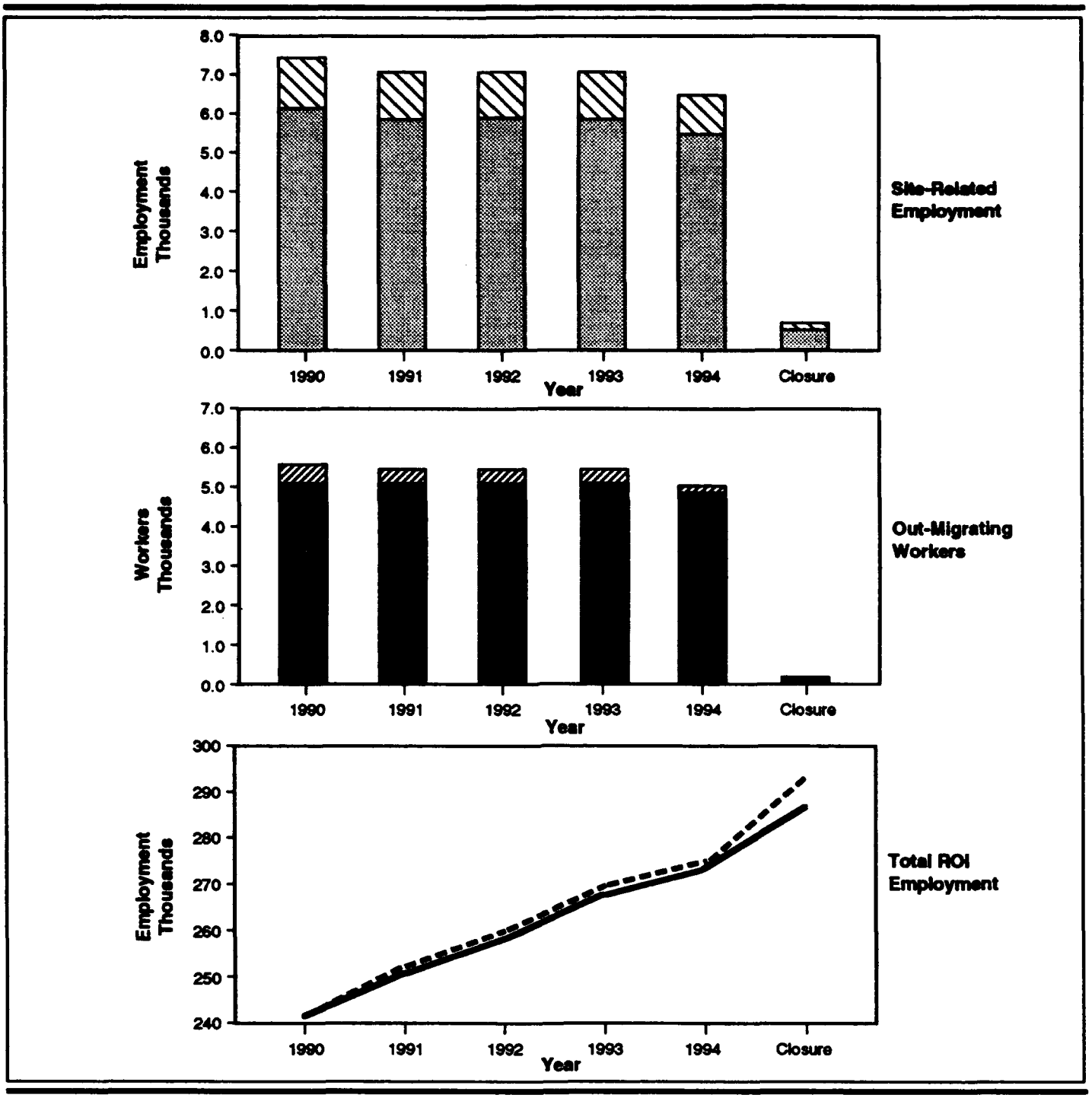
Castle AFB Employment, Payrolls, and Expenditures. Total employment at Castle AFB in FY 1991 was 6,236, including 5,028 military jobs and 1,208 civilian jobs (Figure 3.2-2 and Table 3.2-2). Total employment decreased by 510 jobs (7.6 percent) between FY 1987 and FY 1991. The number of military personnel assigned to the base decreased by 865 (14.7 percent)



Source: U.S. Bureau of Economic Analysis, 1992b.

Distribution of ROI Jobs by Major Industrial Sectors, 1990

Figure 3.2-1



EXPLANATION

- ROI Direct Employment
- ROI Secondary Employment
- Military Employment
- Civilian Employment
- Actual & Closure Projection
- Assumes No Base Closure

Note: Closure represents September 1995.

ROI Site-Related, Out-Migrating, and Total Employment Projections

Figure 3.2-2

Table 3.2-2. Castle AFB Employment, FY 1987-1991

Employment Category	1987	1988	1989	1990	1991
Military personnel	5,893	5,398	5,434	5,176	5,028
Civilian personnel	853	1,057	1,166	1,261	1,208
Appropriated fund	375	367	384	492	391
Nonappropriated fund/Base Exchange	443	434	471	445	476
Contract civilians on base	N/A	209	267	279	288
Private business on base	35	47	44	45	53
Total employment	6,746	6,455	6,600	6,437	6,236

N/A = Not available.
Sources: U.S. Air Force, 1987, 1988, 1989, 1990, 1991.

during this period. The number of civilian personnel at the base increased by 355 (41.6 percent) during the same period.

In 1990, military jobs at Castle AFB represented 79.6 percent of the 6,500 military jobs in the ROI. Other military jobs in the ROI were Reserve and National Guard personnel. This federal military sector excludes civilian jobs on a military base. Overall, military jobs constituted 2.7 percent of all the jobs in the region in 1990 (see Figure 3.2-1). Due to the presence of the base, the percentage of total jobs provided by the military sector within the ROI historically has been about 150 percent of the respective percentage for the nation (see Table 3.2-1). In Merced County military jobs represented 7.1 percent of all jobs in 1990.

The military sectors for both the ROI and the nation decreased steadily between 1970 and 1990. For the nation as a whole, military jobs comprised 3.6 percent of the total jobs in 1970 and 1.9 percent in 1990. Military jobs comprised 6.1 percent of all ROI jobs in 1970, compared with 2.7 percent in 1990. Two factors contributed to the decrease in the region's share of military employment: (1) the number of military jobs decreased by 1,169 between 1970 and 1990; while (2) over the same period non-military jobs, increased by 116,354 in 1990 (including both private sector jobs and civilian jobs within federal, state, and local governments). The number of military jobs in the ROI during the past two decades decreased 0.8 percent per year, a little less than the national trend (-1.0 percent per year).

Total base payrolls in FY 1991 were $137,578,000, having increased by $14,795,000 between FY 1987 and FY 1991 (Table 3.2-3). About 58.9 percent of the growth in total base payroll was attributed to military personnel. Total base payroll increased at an average rate of 2.9 percent per year from FY 1987 to FY 1991, including the pay increases. Total

Table 3.2-3. Castle AFB Payrolls, FY 1987-1991 (thousands of current year dollars)

Category	1987	1988	1989	1990	1991
Military	111,991	111,355	125,339	112,373	120,712
Civilian	10,792	13,450	14,024	15,600	16,866
Appropriated fund	6,895	9,424	10,023	10,535	11,741
Nonappropriated fund and other[a]	3,897	4,026	4,001	5,065	5,125
Total Payrolls	122,783	124,805	139,363	127,973	137,578

Notes: Monetary data shown are in thousands of current-year dollars (i.e., they have not been adjusted for inflation) and, therefore, are not directly comparable with the constant-year monetary data (i.e., adjusted for inflation) presented elsewhere in this document.
(a) Excludes on-base contract civilians due to lack of data.

Sources: U.S. Air Force, 1987, 1988, 1989, 1990, 1991.

military payrolls increased at an average rate of 1.9 percent per year. Total civilian payrolls increased at an average annual rate of 11.8 percent.

Total local expenditures by Castle AFB were less, $26,657,000 in FY 1991 versus $27,833,000 in FY 1987 (Table 3.2-4). During this period, construction and services were the largest categories of expenditures. Between FY 1987 and FY 1991, total expenditures ranged from $46,065,000 to $26,657,000.

Table 3.2-4. Castle AFB Annual Expenditures, FY 1987-1991 (thousands of current year dollars)

Expenditure Category	1987	1988	1989	1990	1991
Total construction	3,773	11,467	15,378	28,626	8,369
Total services	7,948	11,804	11,836	7,605	9,249
Commissary/base exchange	2,381	2,345	2,574	352	595
Education	1,615	1,776	1,622	327	345
Health	1,523	1,606	2,037	1,916	2,369
Temporary duty	4,157	599	618	1,145	293
Other	6,436	5,644	7,927	6,094	5,437
Total expenditures	27,833	35,241	41,992	46,065	26,657

Note: Monetary data shown are in thousands of current-year dollars (i.e., they have not been adjusted for inflation) and, therefore, are not directly comparable with the constant-year monetary data (i.e., adjusted for inflation) presented elsewhere in this document.

Sources: U.S. Air Force, 1987, 1988, 1989, 1990, 1991.

Closure Conditions

Castle AFB military and civilian employment levels will decline as the drawdown of personnel at the base continues through September 1995 (Table 3.2-5 and Figure 3.2-2). From FY 1990 to closure, 5,176 military and 937 appropriated fund, nonappropriated fund, and Base Exchange civilian positions would be lost from the regional economy.

Because of the loss of personnel, jobs, and spending, a total of 1,211 secondary jobs attributable to base operation would be lost (see Table 3.2-5). This figure includes the 279 contract civilians on base in FY 1990. Secondary job losses would be distributed among services, trade, and other ROI economic sectors. The private business on-base employees, including the museum and the credit union employees, are excluded because these businesses will not close.

Based on 1990 base activity levels, a total of 5,176 military workers and 412 civilian workers (291 direct and 121 secondary) would out-migrate from the ROI (see Table 3.2-5). The out-migrating direct workers are comprised of 246 appropriated fund and 45 nonappropriated fund workers. These workers are in the ROI due to their site-related employment and, when their site-related jobs are phased out, they are projected to leave the ROI.

By 1995, direct and secondary site-related earnings levels will decline by $148,854,000 (1989 dollars) compared to 1990 levels (see Table 3.2-5).

At closure, a caretaker team will be retained by the federal government. It is estimated that 50 direct jobs would be created by the caretaker team, and related procurement for small amounts of goods and services would generate 12 secondary jobs in the regional economy. Direct earnings levels, attributable to the caretaker team, are projected to be $1,164,000, with regional secondary earnings projected at $265,000 per year.

Based on 1990 employment data, regional population projections, and the effects of base closure, ROI employment is projected to increase from 241,681 in 1990 to 287,262 at closure (see Table 3.2-5).

3.3 POPULATION

The population effects of closure of Castle AFB were analyzed at both the regional and local levels. The ROI consists of Merced and Stanislaus counties. Population effects are described based on residency patterns and the communities most affected by base closure, i.e., the cities of Atwater and Merced and the unincorporated community of Winton.

Table 3.2-5. ROI Employment and Earnings Projections, 1990 to Closure (constant 1989 dollars)

	1990	1991	1992	1993	1994	Closure[a]
Site-Related Employment and Earnings						
Base Operations						
Employment	7,324	7,007	7,007	7,007	6,572	0
Direct	6,113	5,895	5,895	5,895	5,529	0
Secondary[b]	1,211	1,112	1,112	1,112	1,043	0
Earnings ($000)	150,283	152,528	152,528	152,528	143,071	0
Direct	122,538	127,552	127,552	127,552	119,644	0
Secondary	27,745	24,976	24,976	24,976	23,427	0
Operating Location (OL)						
Employment	0	0	0	0	0	62
Direct	0	0	0	0	0	50
Secondary	0	0	0	0	0	12
Earnings ($000)	0	0	0	0	0	1,429
Direct	0	0	0	0	0	1,164
Secondary	0	0	0	0	0	265
Total Site-Related Projections						
Employment	7,324	7,007	7,007	7,007	6,572	62
Direct	6,113	5,895	5,895	5,895	5,529	50
Secondary	1,211	1,112	1,112	1,112	1,043	12
Earnings ($000)	150,283	152,528	152,528	152,528	143,071	1,429
Direct	122,538	127,552	127,552	127,552	119,644	1,164
Secondary	27,745	24,976	24,976	24,976	23,427	265
ROI Employment						
Employment projection[c]	241,681	250,643	259,300	268,316	277,330	294,524
Employment loss (cumulative)[d]	0	-317	-317	-317	-752	-7,262
Baseline projection (with closure)	241,681	250,326	258,983	267,999	276,578	287,262
Out-Migrating Workers[e]						
Direct	5,467	5,271	5,271	5,271	4,944	0
Military	5,176	5,028	5,028	5,028	4,716	0
Civilian	291	243	243	243	228	0
Secondary	121	111	111	111	104	0
Total	5,588	5,382	5,382	5,382	5,048	0

Notes: (a) Closure represents September 1995 conditions. ROI employment closure data are for 1996, the first full year of closure.

(b) On-base contract civilians were considered secondary employees as payroll data were unavailable for calculating direct economic effects. Museum and credit union operations (private on-base personnel) were excluded from the closure effects analysis since they will remain after closure of the base.

(c) ROI employment projection represents hypothetical future conditions with the base operating at the 1990 level. Data for 1991 were estimated from change in ROI employment, based on information from California Employment Development Department (1992a, 1992b). Data for 1992 and thereafter were developed from employment and population projections prepared by Merced County Association of Governments (1992b) and Stanislaus Area Association of Governments (1992).

(d) Employment loss is calculated as total site-related employment in 1991, 1992, 1993, 1994, and at closure less total site-related employment in the preclosure year (1990).

(e) Out-migrating workers are military personnel and civilian workers who are in the ROI due to their site-related employment and are projected to leave the ROI once their jobs are phased out.

ROI = Region of Influence.

Sources: California Employment Development Department, 1992a, 1992b; Merced County Association of Governments, 1992b; Stanislaus Area Association of Governments, 1992.

Recent Trends

ROI Population. According to final 1990 census counts, the population within the ROI was 548,925 persons, an average annual increase of 3.2 percent. Growth trends during the 1980s were greater than the 1970s (3.0 percent per year). Table 3.3-1 presents population growth trends for the counties and communities for 1970, 1980, and 1990, as well as average annual growth rates for the periods 1970 to 1980 and 1980 to 1990.

The growth experienced in the ROI was greater than that experienced by the state, which grew by 2.3 percent per year from 1980 to 1990. The population growth rate in the ROI was also greater than for the United States as a whole, which had an annual average growth of 0.9 percent between 1980 and 1990 (see Table 3.3-1).

Table 3.3-1. Population Trends for ROI, Counties, and Communities

	Population			Average Annual Percentage Growth Rate	
	1970	1980	1990	1970-1980	1980-1990
Merced County	104,629	134,560	178,403	2.5	2.9
Atwater	11,640	17,530	22,282	4.2	2.4
Merced	22,670	36,499	56,216	4.9	4.4
Winton	3,393	4,995	7,559	3.9	4.2
Rest of County	66,926	75,536	92,346	1.2	2.0
Stanislaus County	194,506	265,900	370,522	3.2	3.4
ROI Total	299,135	400,460	548,925	3.0	3.2
California (000)	19,971	23,667	29,760	1.7	2.3
United States (000)	205,052	227,722	249,975	1.1	0.9

ROI = Region of Influence.

Sources: U.S. Bureau of the Census, 1972, 1982c, 1991b.

Military Population and Retirees. The total number of military personnel and their dependents assigned to Castle AFB was 16,308 in FY 1991, down 505 persons (3.0 percent) from the FY 1990 total of 16,813 (Table 3.3-2).

There were 2,616 fewer military personnel and their dependents (13.8 percent) in FY 1991 than in FY 1987.

In FY 1991, 4,474 military and dependents resided in base housing (1,874 military personnel and their 2,600 dependents [Table 3.3-2]). This represented 27.4 percent of all military personnel and dependents assigned to the base, compared with an average of 28.0 percent for the prior 4 years.

Table 3.3-2. Military Population and Housing, Castle AFB, FY 1987-1991

Category	1987	1988	1989	1990	1991
Military Personnel	5,893	5,398	5,434	5,176	5,028
Living on base	1,964	1,949	2,027	1,951	1,874
Living off base	3,929	3,449	3,407	3,225	3,154
Military Dependents	13,031	11,363	11,981	11,637	11,280
Living on base	4,159	2,412	2,612	2,612	2,600
Living off base	8,872	8,951	9,369	9,025[a]	8,680
Total Military Personnel and Dependents	18,924	16,761	17,415	16,813	16,308
Military retirees	2,572	2,686	2,784	2,812	2,868
Housing assets					
Family housing units[b]	937	937	937	936	936
Unaccompanied quarters					
Dormitory facilities	31	31	30	33	33
Bed capacity	1,834	1,834	1,448	1,856	1,856

Notes: (a) Figure for off-base dependents for FY1990 is average of FY1989 and FY1991 numbers to adjust for unexplained drop in ERIS-reported number for FY1990.
(b) Includes three temporary living facilities.

Sources: U.S. Air Force, 1987, 1988, 1989, 1990, 1991.

The remaining 11,834 total military and dependents (3,154 military personnel and their 8,680 dependents) assigned to the base in FY 1991 (see Table 3.3-2) lived in area communities rather than in base housing.

Based on 1992 employee zip code data (see Appendix B), military and civilian base personnel reside primarily in the communities of Atwater (34.7 percent), Merced (31.0 percent), and Winton (2.8 percent). Merced County is the place of residence of 98.9 percent of all base personnel.

Military retirees in the ROI numbered 2,868 in FY 1991 (see Table 3.3-2), an increase of 296 persons (11.5 percent) from 2,572 in FY 1987.

The number of site-related employees, their dependents, plus military retirees and their dependents was estimated at 28,688 persons in 1990 (Table 3.3-3). This total included 16,813 military personnel plus dependents; 6,251 direct and secondary civilian workers and their dependents; and 5,624 retired military personnel and their dependents.

Closure Conditions

Site-Related Population. Site-related population is projected to decrease to 4,791 in 1995, as the number of jobs associated with the base declines (Table 3.3-3). Of the total at closure, 4,611 are projected to be retirees and

Table 3.3-3 Site-Related Population, 1990 to Closure

	1990	1991	1992	1993	1994	Closure[a]
Persons by Labor Category						
Military	16,813	16,307	16,307	16,307	15,297	0
Civilians	6,251	5,760	5,760	5,760	5,402	180
Direct	2,727	2,523	2,523	2,523	2,366	146
Secondary	3,524	3,237	3,237	3,237	3,036	34
Retired military	5,624	5,736	5,736	5,736	5,736	4,611[b]
Total	28,688	27,803	27,803	27,803	26,435	4,791
Persons by Location						
Merced County	26,386	25,740	25,740	25,740	24,439	3,988
Atwater	12,436	12,218	12,218	12,218	11,572	1,508
Merced	7,986	7,781	7,781	7,781	7,401	1,384
Winton	925	907	907	907	869	250
Rest of County	5,039	4,834	4,834	4,834	4,597	846
Stanislaus County	2,183	1,947	1,947	1,947	1,886	800
ROI total	28,569	27,687	27,687	27,687	26,325	4,788
Outside ROI	119	116	116	116	110	3
Total	28,688	27,803	27,803	27,803	26,435	4,791

Notes: Site-related population represents all direct and secondary workers, their dependents, and military retirees and dependents residing in the region as a result of base operations.
(a) Closure represents September 1995 conditions. Closure data are for 1996, the first full year after closure.
(b) Represents reduction from 1994 level by 20 percent of preclosure level (1990) retirees.

Sources: U.S. Air Force, 1990, 1991, 1992b.

their dependents. The balance is projected to be direct and secondary civilian workers associated with OL activities, plus their dependents.

Out-Migrating Population. Based on 1990 employment levels, a total of 5,588 site-related employees are expected to leave the ROI after their jobs are phased out. Under closure conditions, all 16,813 active duty military personnel and their dependents reported in Table 3.3-3 are expected to be transferred out of the ROI to other assignments. In addition, 50 percent, or 716, of total appropriated fund civilian personnel and their dependents are projected to leave the area. Most appropriated fund civilians are long-term civil servants who can transfer to other government agencies. Many are also eligible for relocation assistance and, thus, more likely to leave the area.

A total of 481, or 10 percent, of other direct (nonappropriated fund and base exchange) and secondary (including contract civilian) civilian workers

and their dependents are expected to leave due to closure. The remaining 90 percent of other direct and secondary civilian workers and their dependents are expected to remain in the ROI and seek other employment. It was assumed that 1,125 persons, or 20 percent of the military retirees and their dependents living in the area, would choose to leave after the base closed due to the loss of retirement benefit services. For a detailed discussion of the out-migrating population assumptions, see Appendix B.

Some of the civilians who would otherwise leave upon closure of the base are expected to become part of the caretaker team during the maintenance and disposal of the base property and would remain in the area until disposal of the base. Of the 28,569 site-related population in the ROI associated with operation of the base in 1990 (Table 3.3-3), 19,074 persons (employees, retirees, and dependents) are projected to leave the region by the time the base closes in September 1995 (Table 3.3-4), and the balance of 9,524 persons are projected to remain in the ROI.

Based on the residential distribution of persons leaving the region shown in Table 3.3-4, Merced County will experience the greatest loss in population (18,675 persons including the on-base population). This will include the loss of 9,484 persons from Atwater, 5,329 persons from Merced, and 515 persons from Winton. Stanislaus County will lose 399 persons by closure.

ROI Population with Base Closure. Without closure of the base, the population in the ROI is projected to increase from its 1990 level of 548,925 persons to 654,400 persons by the end of 1995, an annual increase of 3.0 percent over this 6-year period (see Table 3.3-4). This trend projection is based on prior forecasts prepared by the state of California, the Merced County Association of Governments, and the Stanislaus Area Association of Governments, adjusted to reflect state estimates through 1992. As Castle AFB draws down its missions, the ROI population will increase at a slower rate to 635,326 at closure.

3.4 HOUSING

Recent Trends

Housing Stock. The number of housing units in the two-county ROI, excluding the 936 units on Castle AFB, totaled 189,501 in 1990 (Table 3.4-1), representing an average annual increase of 2.3 percent from the 151,586 units in the ROI in 1980. This growth in the housing stock was greater than the California average rate of 1.9 percent and over five times the United States rate of 0.4 percent for the same period.

The total number of housing units increased in both ROI counties between 1980 and 1990 (see Table 3.4-1). The total number of off-base units in Merced County was 57,474 in 1990, an increase from 49,114 in 1980. In

Table 3.3-4. Regional Population Projections, 1990 to Closure

	1990	1991	1992	1993	1994	Closure[a]
Migratory-Related Population Changes[b]						
Merced County	18,675	18,038	18,038	18,038	16,978	0
Atwater	9,484	9,244	9,244	9,244	8,693	0
Merced	5,329	5,125	5,125	5,125	4,827	0
Winton	515	495	495	495	468	0
Rest of county	3,347	3,174	3,174	3,174	2,990	0
Stanislaus County	399	368	368	368	357	0
ROI Total	19,074[c]	18,406	18,406	18,406	17,335	0
ROI Population						
Without Closure						
Merced County	178,403	183,100	187,100	193,344	199,589	213,417
Atwater	22,282	22,700	22,850	23,533	24,218	25,695
Merced	56,216	57,400	58,400	60,548	62,698	67,408
Winton	7,559	7,817	8,076	8,334	8,593	9,153
Rest of County	92,346	95,183	97,774	100,929	104,080	111,161
Stanislaus County	370,522	382,300	393,400	405,297	417,192	440,983
ROI Total	548,925	565,400	580,500	598,641	616,781	654,400
Closure Effects						
Merced County	0	-637	-637	-637	-1,697	-18,675
Atwater	0	-241	-241	-241	-792	-9,484
Merced	0	-204	-204	-204	-502	-5,329
Winton	0	-20	-20	-20	-47	-515
Rest of County	0	-172	-172	-172	-356	-3,347
Stanislaus County	0	-31	-31	-31	-42	-399
ROI Total	0	-668	-668	-668	-1,739	-19,074
With Closure						
Merced County	178,403	182,463	186,463	192,707	197,892	194,742
Atwater	22,282	22,459	22,609	23,292	23,426	16,211
Merced	56,216	57,196	58,196	60,344	62,196	62,079
Winton	7,559	7,797	8,056	8,314	8,546	8,638
Rest of County	92,346	95,011	97,602	100,757	103,724	107,814,
Stanislaus County	370,522	382,269	393,369	405,266	417,149	440,584
ROI Total	548,925	564,732	579,832	597,973	615,041	635,326

Notes: (a) Closure represents September 1995 conditions. Closure data are for 1996, the first full year after closure.
(b) Migratory-related population represents those site-related employees, dependents, and retirees living in the region who are projected to leave the ROI once the site-related jobs are phased out. All other site-related employees, dependents, and retirees are assumed to remain in the region after base closure.
(c) Includes 1990 on-base population of 4,563 and off-base population of 14,511.

ROI = Region of Influence.

Sources: California Department of Finance, 1992; Merced County Association of Governments, 1992b; Stanislaus Area Association of Governments, 1992; U.S. Air Force, 1990, 1991, 1992b; U.S. Bureau of the Census, 1991b.

Table 3.4-1. Housing Units and Vacancies for the Castle AFB ROI: 1980, 1990

County and Community	Total Off-Base Housing Units		Average Growth Rate	Vacancy Rates (%)			
					1990		
	1980	1990	(%/yr)	1980	Owner	Renter	Avg.
Merced County	49,114	57,474	1.6	4.9	1.0	3.3	2.1
Atwater	5,465	6,486	1.7	6.7	0.6	3.4	2.0
Merced	14,686	18,965	2.6	6.9	1.1	4.0	2.7
Winton	1,716	2,242	2.7	2.6	0.3	3.1	1.6
Rest of County	27,247	29,781	0.9	3.4	1.2	2.6	1.7
Stanislaus County	102,472	132,027	2.6	3.0	2.2	4.8	3.2
ROI Total	151,586	189,501	2.3	3.6	1.9	4.3	2.9
State of California (000)	9,279	11,183	1.9	3.6	2.0	5.9	3.8
United States (000)	88,411	91,947	0.4	7.1	2.1	8.5	3.0

Note: Merced County total housing units were reduced by the 933 on-base family housing units and 3 transient lodging facilities existing in 1990.

ROI = Region of Influence.

Sources: U.S. Bureau of the Census, 1982b, 1991a.

Atwater there were 6,486 off-base housing units in 1990, an increase from 5,465 in 1980. The total number of housing units in Merced was 18,965 in 1990, an increase from 14,686 in 1980. The number of units in Winton totaled 2,242 in 1990, an increase from 1,716 in 1980. The total number of housing units in Stanislaus County was 132,027 in 1990, up from 102,472 in 1980.

Castle AFB Housing Stock. In 1991, Castle AFB contained 933 family housing units and 3 temporary living facilities in its inventory (see Table 3.3-2). These units are arranged in two separate clusters in Atwater, though still considered on-base units. Castle Gardens comprises 683 Wherry housing units constructed in the early 1950s. With the exception of 63 detached, single-family structures, the development consists entirely of duplexes. Castle Vista, the second cluster of housing, contains 250 units, all duplexes, constructed in 1972. The 33 dormitory facilities on Castle AFB will accommodate 1,856 persons (see Table 3.3-2).

ROI Vacancy Rates. The 1990 housing vacancy rate in the ROI, adjusted to exclude seasonal vacancies, was 2.9 percent (see Table 3.4-1), which is less than the 1980 rate of 3.6 percent.

Merced and Stanislaus counties had 1990 vacancy rates of 2.1 percent and 3.2 percent, respectively. Atwater's 1990 vacancy rate was 2.0 percent; Merced's was 2.7 percent; and Winton's was 1.6 percent.

Vacancy rates for rental housing in the ROI in 1990 were higher than for the owner housing stock (see Table 3.4-1); this was true for the state and nation as well. The 1990 ROI average vacancy rate of 2.9 percent represented a composite of a lower (1.9 percent) owner vacancy rate and a higher (4.3 percent) renter vacancy rate. These vacancy rates exclude seasonal vacancies.

Housing Costs and Tenure. The median value of ROI owner-occupied housing in 1990 was $114,812 (Table 3.4-2). This represented an average annual increase of 7.4 percent from the 1980 median value of $56,460. The 1990 median home value in the ROI was 58.7 percent of the state value and 145.1 percent of the national value. The 7.4 percent average annual increase from 1980 to 1990 was below the average of 8.7 percent per year for the state and above the 5.3 percent annual increase for the nation.

Table 3.4-2. Housing Tenure, Median Value, and Median Contract Rent for the Castle AFB ROI: 1980, 1990

	1980			1990		
Area	Percent Owner-Occupied	Median Value [a]	Median Contract Rent [b]	Percent Owner-Occupied	Median Value [c]	Median Contract Rent [d]
Merced County	52.3	52,000	192	52.3	90,800	358
Atwater	51.7	54,000	225	54.5	89,800	377
Merced	46.0	56,400	206	43.0	91,100	374
Winton	54.4	45,300	201	50.8	70,600	354
Rest of County	55.8	50,082	170	57.9	92,198	336
Stanislaus County	57.7	58,400	207	57.7	124,300	417
ROI Average	55.9	56,460	202	56.0	114,812	397
State of California	52.0	84,500	253	51.6	195,500	561
United States	64.4	47,200	198	64.2	79,100	374

Notes: (a) Owner-occupied units, 1980 dollars.
(b) Renter-occupied units, 1980 dollars (per month).
(c) Owner-occupied units, 1990 dollars.
(d) Renter-occupied units, 1990 dollars (per month).

ROI = Region of Influence.

Sources: U.S. Bureau of the Census, 1982a, 1982b, 1991b.

In 1980, median housing values were $58,400 in Stanislaus County, $52,000 in Merced County, and $45,300 in Winton (Table 3.4-2).

The proportion of owner-occupied housing in 1990 averaged 56.0 percent in the ROI, about the same as in 1980.

Housing Construction Trends. Data on new housing units authorized by building permits in the two counties are presented in Table 3.4-3. New authorized units averaged 1,008 per year in Merced County and 2,817 per year in Stanislaus County from 1980 through 1990.

Table 3.4-3. Total Housing Units Authorized by Building Permits for the Castle AFB ROI: 1980, 1985, and 1990

	1980	1985	1990	Average, 1980, 1985, and 1990
Merced County	850	996	1,178	1,008
Stanislaus County	1,725	2,768	3,957	2,817

ROI = Region of Influence.

Sources: U.S. Bureau of the Census, 1981, 1986, 1991a.

Much of the construction in Merced County during the 1980s consisted of single-family units. Construction of multi-family units peaked in 1982, when almost 59 percent of the building permits issued were for multi-family units and dropped to about 10 percent by 1990 (U.S. Bureau of the Census, 1981, 1982a, 1983a, 1984, 1985, 1986, 1987b, 1988, 1989, 1990, 1991a). About half of the 1992 housing stock was constructed in the last 30 years.

Closure Conditions

Migratory-Related Housing Demand. The effects on housing demand from closure of the base are presented in Table 3.4-4. These projections represent the number of units vacated by the out-migrating population, through 1995, and the change in ROI housing demand due to closure of the base. Units occupied by these households are projected to be vacant as their occupants move out.

ROI off-base housing demand is expected to decrease from 3,623 units in 1990 to zero units at closure. Merced County will experience 97.2 percent of this decrease. Closure is projected to cause base-related demand in Atwater to decline from 1,482 units in 1990 to zero units at closure. Demand in Merced associated with the base will decrease from 1,330 units in 1990 to zero units in 1995. Winton will experience decreased demand

Table 3.4-4. Migratory-Related Projected Housing Demand, 1990 to Closure

	1990	1991	1992	1993	1994	Closure[a]
Merced County[b]	3,523	3,401	3,401	3,401	3,188	0
Atwater	1,482	1,431	1,431	1,431	1,341	0
Merced	1,330	1,285	1,285	1,285	1,204	0
Winton	129	124	124	124	117	0
Rest of County	582	561	561	561	526	0
Stanislaus County	100	92	92	92	89	0
ROI Total	3,623	3,493	3,493	3,493	3,277	0

Notes: Data are migratory-related housing demand and reflect demand from site-related population, excluding persons expected to remain in the area after the base closes.
(a) Closure represents September 1995 conditions.
(b) On-base housing demand is excluded from this table.
ROI = Region of Influence.

from 129 units to zero due to base closure. On-base demand will also fall to zero at closure.

ROI Housing Demand with Base Closure. The reduction in housing demand, excluding on-base unit demand, is estimated at 3,623 units. This reduction in demand associated with departing base personnel is expected to be overshadowed by growth in the ROI. Demand for off-base housing is projected to increase from 179,062 in 1990 to 204,064 in 1995.

3.5 PUBLIC SERVICES

The ROI for studying the effects on public services includes the areas within the region that will realize the greatest population effects and, therefore, the greatest effects on the provision of these services due to the closure and potential reuse of the base. These ROI jurisdictions include the Merced County government, the Atwater and Merced city governments, the Atwater Elementary School District, the Merced City School District, the Winton School District, and the Merced Union High School District.

The key public services examined in this analysis are local government administration, public education, police and fire protection, and health care. In the ROI, providers of these services are county and city governments, public school districts, police and fire departments, and hospitals and medical clinics. The following section presents a discussion of the recent trends and closure conditions for each of these major public services in the ROI.

The levels of general public service are usually determined by the ratio of employees (e.g., municipal employees, sworn officers, professional fire fighters) to serviced population, and by student/teacher ratios in the primary

and secondary public school levels. In addition, staffing per area of service (e.g., per square mile) is used where jurisdictional population is unknown or where effects of boundary changes need to be assessed. Minimum staffing requirements were addressed based on interviews with key local government personnel.

3.5.1 Governmental Structure

Recent Trends

Merced County. Merced County is a general law county formed in 1855 granting the Board of Supervisors fundamental powers as the county's legislative and executive body. The board consists of five supervisors, one from each of five districts, who are elected to 4-year terms; one supervisor serves as board chairman. Each district is apportioned based on population. The county covers approximately 1,984 square miles and the county seat is Merced (Merced County, 1991).

Merced County provides local government services to the entire county, with the exception of police and fire protection within the cities of Merced, Los Banos, and Atwater, which provided their own services. These services include public protection, public ways and facilities, health and sanitation, social services, education, culture and recreation, and general government services. Of the county's departments, the Human Services Department, Health Department, County Jail, Municipal Court, and County Roads are the largest in terms of staff (Merced County, 1992). In 1990, the county employed approximately 2,425 full- and part-time personnel (2,203 full-time equivalents [FTEs]) providing an overall level of service of 12.7 FTE personnel per 1,000 population living off base. This level of service is based upon a population of 173,840 persons. Population living in base housing is served by the base.

City of Atwater. Atwater, incorp[illegible]n 1922, operates as a council-manager form of government. The [illegible]or and four council members are elected at large for 4-year terms. The City Manager provides day-to-day administration within the 4.6 square miles of the city. The city provides administration, planning and building services, recreation and community services, public works, and public safety services. Within the city government, the City Manager's, Finance, and various Public Works departments are the largest employers. The city employed approximately 123 full-time and part-time (98 FTE) personnel in 1990, with a level of service of 5.2 FTE personnel per 1,000 people living off base. This level of service is based upon a population of 18,734 persons. Population living in base housing is served by the base (Johnson, 1992; City of Atwater, 1992b).

City of Merced. The city of Merced was incorporated in 1889. The charter for the city government was approved by the California legislature in 1949 granting the City Council fundamental powers as the city's legislative and executive body. The city is a council-manager form of government. The Mayor who is elected from the council serves a 2-year term and council members are elected for 4-year terms. The city provides public safety, highway and street maintenance, water, trash and wastewater collection, parks and recreation, planning and zoning, airport services, and general administration. The largest departments are Public Works, Community Services (including Parks and Recreation), Police (reserve), and Planning. In 1990, the city employed 346 full-time and part-time (344 FTE) personnel, representing a level of service of 6.1 FTE personnel per 1,000 population based upon a population of 56,216 (City of Merced, 1991, 1992).

Castle Joint Powers Authority. CJPA was formed in August 1991 by the cities of Atwater and Merced and Merced County, through the execution of a 5-year Joint Powers Agreement under California Government Code, Section 6500. CJPA is a multi-jurisdictional authority responsible for planning the civilian reuse and development of Castle AFB. The governing board of the CJPA consists of six members, two from Merced County Board of Supervisors, and two city council members (or mayor) each from the cities of Merced and Atwater. In addition, a representative of the congressional district may serve as a non-voting member. The governing board has appointed a permanent executive director and other staff to conduct the business of the CJPA.

Closure Conditions

Potential changes to local government employment arising from closure of Castle AFB are presented in Table 3.5-1. Potential effects attributable to changes in demand for local government services would follow the pattern of population out-migration (see Table 3.3-4) and would primarily affect Merced County and the cities of Merced and Atwater. These changes reflect possible reductions in the number of personnel needed by each jurisdiction due to base closure while maintaining 1990 (preclosure) service levels, excluding effects associated with non-base-related growth. Under closure conditions, the personnel associated with the caretaker activities are assumed to be primarily local hires and, thus, would represent no additional demands for local services.

Merced County local government staff needed to serve the out-migrating population is expected to decrease from 179 in 1990 to zero in 1995. For the city of Atwater, the decrease would be from 31 in 1990 to zero in 1995; and for the city of Merced, from 33 to zero.

Projected decreases in population in Merced County and the cities of Atwater and Merced resulting from base closure would be partially or

Table 3.5-1. Migratory-Related Local Government Employees, 1990 to Closure

	1990	1991	1992	1993	1994	Closure[a]
Merced County	179	172	172	172	162	0
City of Atwater	31	30	30	30	28	0
City of Merced	33	31	31	31	29	0
Total	243	233	233	233	219	0

Notes: Migratory-related local government employees represent the effects of migratory-related population changes on the number of government employees required. These numbers are derived from migratory-related population residing off base in the affected communities. Calculations are based on level-of-service ratios excluding on-base population.
(a) Closure represents September 1995 conditions.

entirely offset by population growth unrelated to actions at the base. Atwater will experience a reduction in its off-base population from 1990 through closure. Baseline population growth will partially offset the decline in population due to base closure. The city of Merced and the rest of Merced County, including Winton, would experience little or no change in population from 1994 through closure.

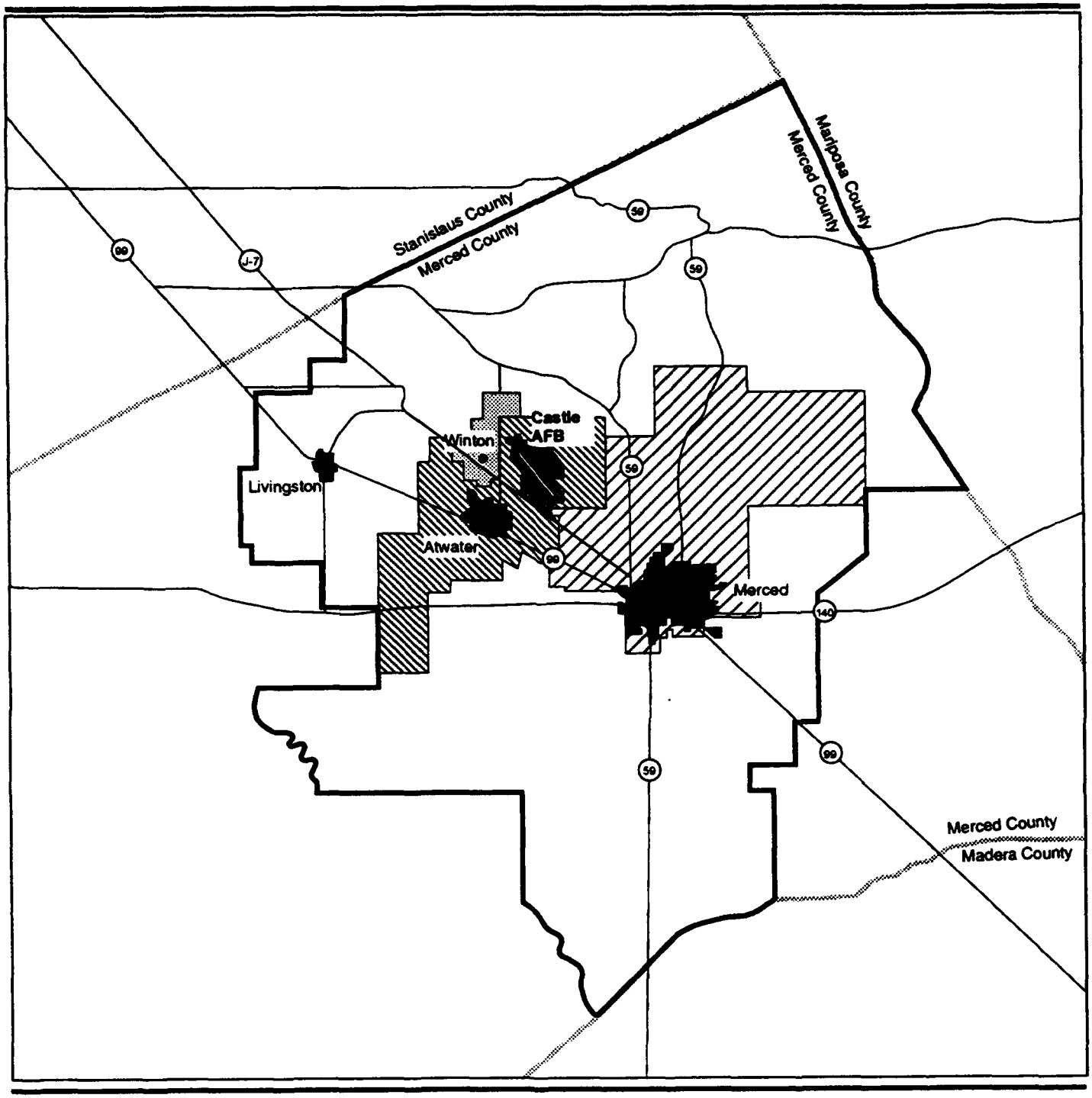
In the city of Merced and Merced County as a whole, the flattening of population growth due to base closure would delay adding local government staff that otherwise would be needed to accommodate growth.

3.5.2 Public Education

Recent Trends

The Atwater Elementary School District, Merced City School District, Winton School District, and Merced Union High School District provide elementary and secondary education to more than 80 percent of students who are dependents of Castle AFB personnel (Figure 3.5-1). These school district enrollments are most affected by military and civilian personnel changes at Castle AFB. There are no schools on Castle AFB.

In 1990, the ratio of students to teachers in the ROI was 23.0 (Table 3.5-2), compared with a state average of 23.1 (California Department of Education, 1992) and a national average of 17.2 (National Center for Education Statistics, 1991). Between 1990 and 1992, total enrollments in the ROI increased at an average annual rate of about 2.5 percent (Table 3.5-3).



EXPLANATION

- Merced City School District
- Atwater Elementary School District
- Winton School District
- Merced Union High School District

0 1.5 3 6 Miles

School District Boundaries

Figure 3.5-1

Table 3.5-2. Public School District Enrollment (K-12) and Student/Teacher Ratios

School District	Enrollment	Teachers	Students/ Teacher
Fall 1990			
Atwater	4,506	200	22.5
Merced City	11,040	429	25.7
Winton	1,483	59	25.1
Merced Union High	7,348	374	19.6
ROI Total	24,377	1,062	23.0
Fall 1991			
Atwater	4,692	199	23.6
Merced City	11,289	465	24.3
Winton	1,463	62	23.6
Merced Union High	7,839	373	21.0
ROI Total	25,283	1,099	23.0
Fall 1992			
Atwater	4,835	202	23.9
Merced City	11,387	489	23.3
Winton	1,572	63	25.0
Merced Union High	7,803	372	21.0
ROI Total	25,597	1,126	22.7

Note: Independent study and adult education enrollment and teachers are not included in the totals for Merced Union High School District. Data are for school years beginning in the fall of each year.
ROI = Region of Influence.

Sources: Belluomini, 1992; California Department of Education, 1992; Fitchett, 1992; Lenker, 1992; Lis, 1992.

Table 3.5-3. Historic Fall Enrollments (K-12) in Public School Districts in Castle AFB Area: 1990-1992

School District	1990	1991	1992	Total % Change	Average Annual % Change
Atwater Elementary	4,506	4,692	4,835	7.3	3.6
Merced City	11,040	11,289	11,387	3.1	1.6
Winton	1,483	1,463	1,572	6.0	3.0
Merced Union High	7,348	7,839	7,803	6.2	3.0
ROI Total	24,377	25,283	25,597	5.0	2.5

ROI = Region of Influence.

Sources: Belluomini, 1992; California Department of Education, 1992; Fitchett, 1992; Lenker, 1992; Lis, 1992.

Atwater Elementary School District. The Atwater Elementary School District operates seven schools in Merced County: six elementary schools and one middle school. Castle AFB is included within district boundaries; therefore, the school district provides public primary education to residents of military family housing at Castle AFB. District enrollments, total certificated teaching staff, and service ratios are presented in Table 3.5-2. In fall 1992, with 4,835 students enrolled and a teaching staff of 202 personnel, the student/teacher ratio was 23.9. In fall 1990, with 4,506 students enrolled and a teaching staff of 200 personnel, the student/teacher ratio was 22.5.

Schools within the district are operating at or above design capacity, with 26 portable classrooms in use. The district has been experiencing steady enrollment growth in recent years. District enrollment increased at an average annual rate of 3.6 percent between 1990 and 1992 (see Table 3.5-3). Enrollment grew from 4,506 in 1990 to 4,835 in 1992, a 7.3 percent change overall.

Approximately one-third of all students in the Atwater Elementary School District are dependents of Castle AFB personnel. In fall 1991, dependents of military and civilian personnel accounted for 1,425 of the district's 4,692 enrollments (Table 3.5-4). Site-related enrollments, including dependents of secondary workers, decreased from a 38.0 percent share of district enrollments in 1989 to 33.3 percent, or 1,563 students, in fall 1991. An estimated 138 of these enrollments were dependents of secondary workers.

Merced City School District. The Merced City School District serves the city of Merced and rural residential areas north of the city, with 11 elementary schools, three middle schools, and one preschool. The enrollment in the district totaled 11,387 students in fall 1992. With 489 teachers employed, the student/teacher ratio was 23.3 (see Table 3.5-2). In fall 1990, with enrollments of 11,040 and 429 teachers employed, the student/teacher ratio was 25.7.

The Merced City School District has the capacity to accommodate 9,000 students within permanent facilities. More than 100 portable classrooms are in use.

Enrollment in the district has been increasing, but at a slower rate, in recent years, due to inter-district transfers. At an annual rate of 1.6 percent, enrollment rose from 11,040 in 1990 to 11,387 in 1992, a total increase of 3.1 percent over the 3-year period (see Table 3.5-3). Of the 11,289 students enrolled in the district in fall 1991, approximately 4 percent, or 458 students, were dependents of military, civilian, or secondary workers associated with Castle AFB (Table 3.5-4). Of these, 124 were estimated enrollments of dependents of secondary workers.

Table 3.5-4. Enrollments Related to Castle AFB

Enrollment Breakdown	Fall 1989	Fall 1990	Fall 1991
Atwater Elementary School District			
Total Enrollment	4,286	4,506	4,692
Military Dependents	1,395	1,387	1,357
Civilian Dependents	76	73	68
Estimated Secondary Dependents	159	136	138
Total AFB-Related Dependents	1,630	1,596	1,563
AFB-Related Percentage of Total Enrollment	38.0	35.4	33.3
Merced School District			
Total Enrollment	10,591	11,040	11,289
Military Dependents	241	268	302
Civilian Dependents	41	59	32
Estimated Secondary Dependents	155	126	124
Total AFB-Related Dependents	437	453	458
AFB-Related Percentage of Total Enrollment	4.1	4.1	4.1
Winton School District			
Total Enrollment	1,330	1,483	1,463
Military Dependents	63	63	63
Civilian Dependents	14	14	14
Estimated Secondary Dependents	33	27	27
Total AFB-Related Dependents	110	104	104
AFB-Related Percentage of Total Enrollment	8.3	7.0	7.1
Merced Union High School District			
Total Enrollment	7,161	7,348	7,839
Military Dependents	388	389	373
Civilian Dependents	80	79	112
Estimated Secondary Dependents	144	120	120
Total AFB-Related Dependents	612	588	605
AFB-Related Percentage of Total Enrollment	8.5	8.0	7.7

Note: Enrollment figures for military dependents are estimates. Civilian enrollment is based on direct federal employees including both appropriated and non-appropriated fund civilians. Military and civilian dependents in the Winton School District were estimated by the Superintendent of Schools. Data are for school years.

Sources: Atwater Elementary School District, 1992; Belluomini, 1992; California Department of Education, 1992; Fitchett, 1992; Lenker, 1992; Lis, 1992; Merced City School District, 1989, 1990, 1991; Merced Union High School District, 1989, 1990a, 1991a.

Winton School District. The Winton School District, northwest of Castle AFB, encompasses the unincorporated community of Winton. The district's three schools, including a middle school, are operating at capacity. The district operates on a four-track year-round schedule to alleviate overcrowding. In fall 1992, the district had an enrollment of 1,572 students. The district employed 63 teachers, for a student/teacher ratio of 25.0 (see Table 3.5-2). In fall 1990, with enrollments of 1,483 and 59 teachers, the student/teacher ratio was 25.1.

From 1990 to 1992, enrollment increased from 1,483 students to 1,572 students, a total change of 6.0 percent over the 3-year period (see Table 3.5-3). A total of 104 students, or approximately 7 percent of the 1,463 students enrolled in the district in fall of 1991, were dependents of military, civilian, or secondary workers associated with Castle AFB (see Table 3.5-4). It is estimated that 27 of these were dependents of secondary workers.

Merced Union High School District. The Merced Union High School District provides public secondary education at five campuses. Atwater Elementary, Merced City, Winton, and eight other primary school districts feed into the high school district. Castle AFB is centrally located in this district. In fall 1992, with 7,803 students enrolled and a teaching staff of 372, the student-teacher ratio was 21.0 (see Table 3.5-2). In fall 1990, there were 7,348 enrolled and a teaching staff of 374 for a student/teacher ratio of 19.6.

At all high schools in the district, enrollments exceed the permanent enrollment capacity of approximately 5,891 students (Merced Union High School District, 1991c). Enrollment increased by 6.2 percent, from 7,348 students to 7,803 students, between 1990 and 1992 (see Table 3.5-3).

The district serves the majority of high-school age dependents of Castle AFB personnel. The 605 students who were dependents of military, civilian, or secondary employees related to Castle AFB represented 7.7 percent of the district's 7,839 enrollment in fall 1991 (see Table 3.5-4). Of these enrollments, it is estimated that 120 were dependents of secondary workers.

Merced College and Chapman University. Merced College is a 2-year community college that provides residents of Merced County and the surrounding area with a variety of academic and vocational programs. Merced College offers courses at Castle AFB for military personnel, dependents, and civilians since 1964, and maintains an office on base where students may register and receive information.

Chapman University offers upper-division programs through four academic centers located in Modesto, Stockton, Merced, and Castle AFB. The Castle

Center provides Bachelor of Science programs in business administration and health science, a Bachelor of Arts program in social science, a Master of Arts program in education, and a Master of Science program in human resource management development.

Closure Conditions

Potential effects to public school enrollment and teaching staff due to base closure are presented in Table 3.5-5. Atwater Elementary School District would experience a 31.6 percent enrollment decrease from 1990 levels, Merced City School District would experience a 2.7 percent enrollment decrease, Winton School District a 4.8 percent decrease, and Merced Union High School District a 5.8 percent decrease in enrollment from 1990 levels.

Table 3.5-5. Migratory-Related Enrollment and Teaching Staff Effects

School District	1990	1991	1992	1993	1994	Closure[a]
Student Enrollment Effects						
Atwater Elementary	1,423	1,378	1,378	1,378	1,293	0
Merced City	298	287	287	287	269	0
Winton	71	68	68	68	64	0
Merced Union High	425	409	409	409	384	0
Total	2,217	2,142	2,142	2,142	2,010	0
Teaching Staff Effects						
Atwater Elementary	63	61	61	61	57	0
Merced City	12	11	11	11	10	0
Winton	3	3	3	3	3	0
Merced Union High	22	21	21	21	20	0
Total	100	96	96	96	90	0

Notes: Effects of migratory-related population changes on student enrollments and teaching staff requirements.
(a) Closure represents September 1995 conditions.

By 1995, the enrollment related to base operations would decline from 2,217 to zero students. This would reduce total enrollment in the Atwater Elementary School District from 4,506 to 3,083 students, and in the Merced City School District from 11,040 to 10,742 students. Enrollment would decrease from 1,483 to 1,412 in the Winton School District and from 7,348 to 6,923 in the Merced Union High School District. Corresponding reductions in base-related demand for teachers and facilities would be expected based on these projected enrollment decreases (see Table 3.5-5).

The number of teachers would decrease from 200 in 1990 to 137 at closure in the Atwater Elementary School District, and from 429 in 1990 to 417 at closure in the Merced City School District. In the Winton School District the number of teachers would decline from 59 to 56, and in the Merced Union High School District, the number would be reduced from 374 to 352. These adjusted total enrollment and teaching staff levels are independent of enrollment increases resulting from natural population increases or other non-base-related growth. These staffing changes are based on fall 1990 student/teacher ratios applied to changes in total enrollment and do not account for distribution of effects at the grade level.

3.5.3 Police Protection

Recent Trends

Police protection is provided by security forces from Castle AFB. Police protection in the ROI consists of the base security force, as well as the Merced County Sheriff's Department and the cities of Atwater and Merced police departments, which provide protection off base. Law enforcement services for the unincorporated community of Winton are provided by the Merced County Sheriff's Department. The Merced County Sheriff's Department operates two jails that serve all local law enforcement agencies in the county.

Merced County Sheriff's Department. The Merced County Sheriff's Department provides law enforcement and police protection services for all persons living in the unincorporated area of the county (including the community of Winton). The main office is in the city of Merced and a substation is located about 40 miles east of the base in the city of Los Banos. The department has a total of 76 sworn officers and, in 1990, provided a level of service of 0.4 officers per 1,000 population for the 173,840 persons living off base. The department maintains 65 marked and unmarked cars (Rodrigs, 1992). The county jail facilities operated by the Sheriff employed 93 non-sworn personnel in 1990. The main jail in the city of Merced has 177 state-rated beds; the Sandy Mush facility, about 8 miles south of the city of Merced, can hold 427 inmates. Both facilities are at capacity.

The department maintains mutual aid agreements with all city police departments within the county and the adjacent counties of Fresno, Madera, Mariposa, San Benito, and Stanislaus. The department has no formal mutual aid agreement with the base.

Atwater Police Department. The Atwater Police Department provides law enforcement and police protection services within the city, operating out of a single police station. Staffing in 1990 included 19 sworn officers and 15 reserve personnel (including 3 base security police). Reserve officers

augment sworn officers, but do not have the same authority as a sworn officer; therefore, they were not included in the analysis. The city's level of service for police protection is 1 sworn officer per 1,000 population for the 18,734 persons living off base in Atwater. The department maintains seven marked police cars and four unmarked cars. The department has two holding cells, used only for temporary detention. For incarceration and corrections services, the department relies on the county jail operated by the Merced County Sheriff's Department (O'Brien, 1992).

The Atwater Police Department maintains mutual aid agreements with the Merced County Sheriff's Department as well as with other local municipal police departments (O'Brien, 1992). The department has no formal aid agreements with the base.

Merced Police Department. The Merced Police Department provides law enforcement and police protection service within the city. With 73 sworn officers, the department maintained a 1990 level of service of 1.3 police officers per 1,000 population for the 56,216 persons living off base. The department operates out of a single station within the city, and maintains about 52 marked and unmarked vehicles including a K-9 unit. While the department has temporary holding facilities, all detention activities are handled through the county jail.

The Merced Police Department is part of the state mutual aid agreement, which provides mutual aid assistance among all law enforcement agencies throughout the state. In addition, the department has individual agreements with the Merced County Sheriff's Department and Atwater Police Department. The department has no formal mutual aid agreement with the base.

93rd Security Police Squadron. Law enforcement within the boundaries of Castle AFB is provided by the 93rd Security Police Squadron. The squadron maintains a staff of 180 total personnel, 40 of whom are equivalent to sworn law enforcement officers. The squadron operates from one station on the base with seven vehicles, including five sedans and two trucks. There are four or five security patrol areas on base, including one patrol in the Castle Gardens and Castle Vista housing areas located off the main base. The squadron operates a three-bed temporary holding facility. The Security Police maintain a policy of cooperation with all local law enforcement agencies; however, there are no formal mutual aid agreements due to separation of federal and local law enforcement jurisdictions under the Posse-Comitatus Act (Hobbs, 1992).

Closure Conditions

Projected effects on police protection in the ROI resulting from base closure are presented in Table 3.5-6. Changes in demand for police protection

Table 3.5-6. Migratory-Related Demand for Police Officers, 1990 to Closure

	1990	1991	1992	1993	1994	Closure[a]
Merced County Sheriff's Dept.	6	5	5	5	5	0
Atwater Police Dept.	6	6	6	6	5	0
Merced Police Dept.	7	7	7	7	6	0
Total	19	18	18	18	16	0

Notes: Effects of migratory-related population changes on number of sworn officers required to maintain preclosure levels of service.
(a) Closure represents September 1995 conditions.

services reflect the pattern of migratory-related population changes in the region. Due to the base closure and the resultant out-migration, the Atwater Police Department may reduce employment by up to six sworn officers, and still maintain preclosure levels of service; the Merced Police Department by up to seven; and Merced County Sheriff's Department by six officers.

With the closure of the base, the 93rd Security Police Squadron would no longer provide police protection for the base property. The site will remain fenced, and site security (including base housing areas) will be maintained by the caretaker team. The Merced County Sheriff's Department would supplement the private security as necessary for law enforcement on the site, since it is located in an unincorporated area of the county. The Atwater Police Department would supplement security in the on-base housing areas. Under closure conditions, the Merced County Sheriff's Department and the Atwater Police Department would not be required to patrol the site on a regular basis, although occasional calls may be made to assist security personnel. Therefore, no additional sheriff's officers are anticipated to be required to provide police protection services to the base area.

3.5.4 Fire Protection

Recent Trends

Fire protection is provided chiefly by Castle AFB and municipal and county fire departments. The staff of each of these organizations comprises mostly professional fire fighters; however, staffing strengths are augmented with volunteers. All fire fighters are trained to fight structural fires, address hazardous waste and civilian emergencies, and also to battle brush fires, which can flare in the semi-arid environment. Each fire department maintains specific mutual aid agreements and cooperates with others in the region during emergencies under a state mutual aid agreement. A Medi-Vac

helicopter, based in Modesto, is available for transporting people to Fresno, Modesto, or Stockton for trauma care (Sparks, 1992).

Merced County Fire Department. The Merced County Fire Department provides fire prevention, fire suppression, rescue operations, emergency medical response, and public service education for the county with the exception of the cities of Merced, Atwater, and Los Banos. Since 1987, the department has had a cooperative agreement for all risk protection with the California Department of Forestry and Fire Protection. The total number of fire fighting personnel is 73 full-time fire fighters and 321 paid-per-call volunteers. This staff strength yields a level of service of 2.3 fire fighters per 1,000 population for the 173,840 persons living off base. There are 20 fire stations throughout the county. Each station is staffed by one full-time and from 3 to 25 paid-per-call fire fighters depending on the location. In addition, each station typically has one engine, one rescue squad, and one water tender. There are three stations that serve the base vicinity. A new station is planned (Beachwood Station) at the corner of Franklin Road and Santa Fe Drive, about 2 miles southeast of the base (Robbins, 1992).

The Merced County Fire Department maintains automatic and mutual aid agreements with the cities of Atwater, Merced, and Los Banos, as well as other county municipal agencies throughout the state.

Atwater Fire Department. The Atwater Fire Department provides fire protection and emergency medical services for the city of Atwater. In 1990, the department had 7 full-time professional fire fighters and 30 certified volunteer fire fighters. The department maintains a level of service of 2.0 fire fighters per 1,000 population for the 18,734 persons living off base. The department operates two engines, one ladder truck, and a rescue squad from one station in Atwater (Sparks, 1992).

The Atwater Fire Department maintains an automatic aid agreement with Station 82 of the Merced County Fire Department located in the same building. The department also has mutual aid agreements with the rest of the Merced County Fire Department, the city of Merced Fire Department, and Castle AFB Fire Department. The Atwater Fire Department makes about five support calls to the base each year.

Merced Fire Department. Fire protection and emergency medical services within the city of Merced are provided by the Merced Fire Department with a staff of 52 professional full-time fire fighters. The department has provided fire protection services at a level of 0.9 fire fighter per 1,000 population in 1990 for the 56,216 persons living off base. The department operates four stations in the city and maintains four engines, one crash unit, one rescue squad, and one ladder truck. Mutual aid agreements are held with fire departments in the city of Atwater and Merced County, and the Castle AFB Fire Department (Mitten, 1992).

93rd Civil Engineering Squadron

The Castle AFB Fire Department provides fire protection services for the base area, including family housing in the city of Atwater, with 57 fire-fighting (42 military and 15 civilian) personnel. Approximately 17 base fire fighters serve as volunteers in local city and county fire departments. The squadron operates out of one fire station with 18 pieces of major equipment, including three engines, five crash trucks, four squad/rescue vehicles, two ramp vehicles, two command vehicles, one hazardous materials vehicle, and one water tender. The base fire department has mutual support through agreements with the Atwater, Merced, and Merced County fire departments. The only piece of specialized fire fighting equipment at Castle AFB that surrounding community fire departments do not have is a 5,000-gallon water tanker for remote rural fires.

Closure Conditions

Potential effects of base closure on fire protection services in the ROI are presented in Table 3.5-7. The Atwater Fire Department may reduce staffing levels by up to 12 fire fighters as a result of decreased per capita demand due to base closure and out-migration and still maintain preclosure levels of service. Merced Fire Department and Merced County Fire Department can expect similar staffing reductions of up to 5 and 32 fire fighters, respectively, and still maintain preclosure levels of service.

Table 3.5-7. Migratory-Related Demand for Fire Fighters, 1990 to Closure

	1990	1991	1992	1993	1994	Closure[a]
Merced County Fire Dept.	32	31	31	31	29	0
Atwater Fire Dept.	12	11	11	11	11	0
Merced Fire Dept.	5	5	5	5	4	0
Total	49	47	47	47	44	0

Note: Effects of migratory-related population changes on number of fire fighters required to maintain level-of-service ratios.
(a) Closure represents September 1995 conditions.

Upon closure of the base, with Castle AFB in caretaker status, the base fire department would no longer provide fire protection services. Local fire districts and communities would not be able to rely on mutual aid assistance in fire protection, fire suppression, or rescue from the base. In 1995, a caretaker fire protection team would operate an interim fire department at the base using base equipment. Mutual aid support would be provided primarily by Merced County Fire Department and would not require any additional fire fighters.

3.5.5 Health Care

Recent Trends

Fourteen acute and general care hospitals or health care facilities are licensed to provide health care services within Merced and Stanislaus counties. These facilities provide more than 1,851 inpatient beds (California Department of Health Services, 1992). Castle AFB also operates a 15-bed hospital with both inpatient and outpatient services for active duty military, retirees, and dependents. In the two-county ROI, 837 physicians, 189 dentists, 3,494 registered nurses (RNs), and 1,354 licensed vocational nurses are registered to practice (California Department of Consumer Affairs, 1992). In 1992, the service levels for physicians and RNs in the ROI were 1.44 physicians and 6.02 RNs per 1,000 people, compared with state averages of 2.36 physicians and 7.21 RNs per 1,000 people.

Military Health Care Services. The Castle AFB hospital provides health care services to active duty military personnel and their dependents, retired military personnel and their dependents, and to dependents of deceased military personnel. Medical services at the Castle AFB hospital consist of acute care, primary care, gynecology and obstetrics, physical therapy, optometry, and general dentistry. In addition, a full-service pharmacy and medical laboratory operate on site.

Other DOD installations where medical care is available to active duty and retired military personnel include Travis AFB, 120 miles to the north, and Lemoore Naval Air Station on a space available basis, about 90 miles south of the base. The closest Veterans Administration (VA) hospital is in Fresno, about 60 miles south of the base. Any honorably discharged veteran is eligible to use a VA hospital. If care is required for a non-service-related illness or injury a fee may be required for service.

In addition to military health services offered through the base hospital, military personnel and dependents have access to the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). Castle AFB is part of a CHAMPUS managed-care demonstration project in California and Hawaii, which offers a new CHAMPUS benefits plan (CHAMPUS Prime) to eligible dependents of active, retired, or deceased military personnel. Active duty military personnel are covered by the program for medical services not available at their base, or for emergencies. The new plan is a co-payment health care program, with no annual deductible, that covers the majority of the cost of a range of inpatient and outpatient services. The individual's cost share is typically $5.00 for most outpatient services including prescriptions. From a provider directory, members select a primary care provider who will manage all of their health care needs and make referrals when necessary. CHAMPUS is honored by hospitals, clinics, and doctors nationwide, including all health care facilities mentioned in this report.

Community Health Care Services. The largest inpatient health care provider in Merced County is the Merced Community Medical Center, located 8 miles southeast of the base in Merced. This hospital, which is owned by the county, is licensed for 176 beds and operates at 43 percent capacity. It provides basic acute and primary medical care, along with general and specialized medical and surgical services, outpatient and ambulatory care, and emergency and trauma care.

There are five other acute care hospitals in Merced County, including Mercy Hospital in Merced (101 beds) and Bloss Memorial District Hospital in Atwater (23 beds). The county contains eight skilled nursing facilities. Riggs Ambulance Service is the major emergency medical service provider in Merced County. The company operates four ambulances including two based in Merced and one in Atwater. Ambulance service in the county meets advanced life support standards, and staffing is provided by 28 paramedics and 25 emergency medical technicians (Baucom, 1992). In Merced County 205 physicians and 803 RNs were actively practicing in 1992, providing a level of service of 1.10 physicians and 4.29 RNs per 1,000 people. A psychiatric hospital is located in Stanislaus County, along with 8 acute care hospitals and 20 skilled nursing facilities (California Department of Health Services, 1992).

Closure Conditions

At base closure, the Castle AFB hospital will be closed. The 14 acute care hospitals and health care facilities and various resident medical personnel in the ROI would be adequate to provide medical, dental, and emergency services as required by the community after closure. Those most affected by the closure of the Castle AFB hospital will be the 4,611 retirees, plus associated dependents, projected to remain in the region. There are no other military medical facilities in the local area; however, retirees and dependents would have access to the new CHAMPUS program, which provides enhanced benefits.

Although veterans will not be able to use the base hospital, they will be able to continue to take advantage of the VA hospital and clinic facilities in Fresno, approximately 60 miles south of the base.

3.6 PUBLIC FINANCE

The financial characteristics of the ROI for public finance are presented in this section. The ROI, as defined in Chapter 2, includes Merced County, the cities of Atwater and Merced, Atwater Elementary School District, Merced City School District, Winton School District, and Merced Union High School District. Recent trends are discussed first and are followed by discussion of the effects associated with base closure and placement in caretaker status.

3.6.1 Merced County

Recent Trends

Services provided by Merced County are funded principally through the county's general and special revenue funds. In FY 1991, revenues and expenditures of these funds were $196,216,486 and $198,733,917, respectively. Fund balances were $23,237,240, or about 11.7 percent of operating expenditures (Table 3.6-1).

Table 3.6-1. Merced County Revenues, Expenditures, and Fund Balances, General and Special Revenue Funds, FY 1989-1991 (current dollars)

	1989	1990	1991
Revenues			
Taxes	26,027,898	26,147,047	29,182,296
Licenses, permits, and franchises	1,133,772	1,579,537	1,768,471
Fines, forfeitures, and penalties	2,087,904	2,185,581	2,380,702
Use of money and property	3,118,568	3,753,221	3,639,804
Intergovernmental	112,965,967	132,867,994	143,592,249
Charges for services	6,916,332	8,851,743	14,016,300
Miscellaneous	2,109,514	1,135,830	1,636,664
Total	154,359,955	176,520,953	196,216,486
Expenditures			
General government	10,634,937	13,497,399	13,727,646
Public protection	27,630,424	30,173,900	35,980,322
Public ways and facilities	6,053,040	4,891,073	8,302,560
Health and sanitation	10,097,674	12,232,132	16,440,540
Public assistance	94,944,245	106,105,333	118,176,773
Education	4,205,074	2,410,908	4,399,331
Recreational and cultural services	1,320,351	1,300,923	1,449,643
Miscellaneous	99,033	196,521	257,102
Total	154,984,778	170,808,189	198,733,917
Fund Balances [a]	18,379,141	24,179,642	23,237,240

Note: (a) Includes interfund transfers to and from funds other than general and special revenue funds; thus, fund balances will not total.

Sources: Merced County, n.d., 1991.

Revenues increased 27.1 percent from FY 1989 to FY 1991 with charges for services (102.7 percent) and license, permit, and franchise revenues (56.0 percent) experiencing the greatest percentage increases. Expenditures increased 28.2 percent over the same period with miscellaneous outlays and health and sanitation services experiencing the greatest percentage increases (159.6 percent and 62.8 percent, respectively).

The principal revenue sources of the county are intergovernmental revenues (73.2 percent of total FY 1991 collections) and taxes (14.9 percent of total FY 1991 general and special revenue fund collections). Intergovernmental revenue includes transfers from both state and federal sources.

The principal expenditures of the county are for public protection services (18.1 percent of total FY 1991 expenditures) and public assistance programs (59.5 percent of total FY 1991 expenditures).

Assessed valuation in the county is approximately $5.9 billion. The county had no outstanding general obligation bond indebtedness at of the end of FY 1991.

Closure Conditions

Reduced site-related earnings, lower employment, and out-migration of 18,675 residents from 1990 levels are projected to result in reductions in general and special revenue fund revenues of $14,865,702 by 1995. Lower intergovernmental revenues ($12,605,625), charges for services ($840,375), and sales and other taxes ($775,414) account for about 96 percent of the lost revenues.

Losses in revenue would be offset partially by a potential reduction in expenditures of $2,849,805. The net fiscal effect of closure is a revenue shortfall of $12,015,897 annually (Table 3.6-2).

Table 3.6-2. Net Fiscal Effects of Closure of Castle AFB on Potentially Affected Local Government Units, FY 1991 to Closure (1989 dollars)

Jurisdiction	1991	1992	1993	1994	Closure
County of Merced	-395,755	-395,755	-395,755	-1,079,402	-12,015,897
City of Atwater	-1,940	-1,940	-1,940	-17,067	-252,189
City of Merced	14,495	14,495	14,495	-30,270	-709,797
Atwater Elementary SD	-23,857	-23,857	-23,857	-68,919	-754,403
Merced City SD	-256	-256	-256	-651	-6,927
Winton SD	-756	-756	-756	-1,764	-17,892
Merced Union High SD	-5,862	-5,862	-5,862	-15,022	-155,713

Notes: Data reflect the difference in projected revenue losses less expenditure reductions. Positive values in FY 1991-1993 for city of Merced reflect increased payrolls in these years as presented in Economic Resource Impact Statement documents and the effect this would have on city sales tax revenue. Effects were developed based on FY 1990 data.
SD = School district.

Increases in local tax and non-tax revenue schedules and/or lower service levels may be required to maintain a balanced fiscal position after 1995.

3.6.2 City of Atwater

Recent Trends

Services provided by the city of Atwater are funded principally through general and special revenue funds. In FY 1991, revenues and expenditures of these funds were $5,146,566 and $5,326,620, respectively. Fund balances were $958,412, or about 18.0 percent of operating expenditures (Table 3.6-3). This was a decrease from FY 1989, when fund balances were $1,681,762, or about 40.4 percent of operating expenditures.

Revenues increased 11.9 percent from FY 1989 to FY 1991 with charges for license and permit revenue and services experiencing the greatest percentage increases (21.5 percent and 61.8 percent, respectively).

Table 3.6-3. City of Atwater Revenues, Expenditures, and Fund Balances, General and Special Revenue Funds, FY 1989-1991 (current dollars)

	1989	1990	1991
Revenues			
Taxes	1,815,003	2,004,746	2,150,638
Licenses and permits	85,556	177,627	103,970
Intergovernmental	1,711,544	1,563,521	1,794,996
Charges for services	324,503	445,787	525,186
Fines and forfeits	115,029	74,086	103,665
Miscellaneous	547,524	623,847	468,111
Total	4,599,159	4,889,614	5,146,566
Expenditures			
General government	833,309	1,123,582	1,301,234
Public safety	1,658,853	1,889,169	2,238,246
Highways and streets	411,757	755,957	612,143
Public works	341,742	182,724	256,150
Community development	147,285	182,069	325,555
Culture and recreation	773,979	1,173,105	593,292
Total	4,166,925	5,306,606	5,326,620
Fund Balances [a]	1,681,762	1,358,406	958,412

Note: (a) Includes interfund transfers to and from funds other than general and special revenue funds; thus, fund balances will not total.

Sources: Atwater, City of, 1989, 1990; Kemper CPA Group, 1992.

Expenditures increased 27.8 percent over the same period with the greatest percentage increases in general government expenditures and community development outlays (56.2 percent and 121.0 percent, respectively).

The principal revenue sources of the city are taxes (41.8 percent of total FY 1991 general and special revenue fund collections) and intergovernmental revenue (34.9 percent of total FY 1991 collections).

The principal expenditures of the city are general government and public safety (24.4 and 42.0 percent of total FY 1991 expenditures, respectively).

Assessed valuation in the city is approximately $411.1 million. The city had no general obligation bond indebtedness outstanding at the end of FY 1991.

Closure Conditions

Reduced site-related earnings, lower employment, and out-migration of approximately 9,484 residents from 1990 levels are projected to result in reductions in general and special revenue fund revenues by $1,354,230 by 1995. Lower intergovernmental revenue ($663,880), charges for services ($189,680), and sales taxes ($111,826) account for about 71 percent of the lost revenues.

Losses in revenue would be offset partially by a potential reduction in expenditures of about $1,102,041. The net fiscal effect of closure is a revenue shortfall of $252,189 annually (Table 3.6-2).

Increases in local tax revenue schedules and/or lower service levels may be required to maintain a balanced fiscal position after 1995.

3.6.3 City of Merced

Recent Trends

Services provided by Merced are funded principally through the city's general and special revenue funds. In FY 1991, revenues and expenditures of these funds were $22,996,144 and $24,055,007, respectively. Fund balances were $14,445,892, or about 60.1 percent of operating expenditures (Table 3.6-4). This compared to FY 1989 fund balances of $13,095,236, or about 71.4 percent of operating expenditures in that year.

Revenues increased 21.4 percent over the FY 1989 to FY 1991 period with charges for services and fines and forfeits experiencing the greatest percentage increases (70.4 percent and 56.7 percent, respectively).

Table 3.6-4. City of Merced Revenues, Expenditures, and Fund Balances, General and Special Revenue Funds, FY 1989-1991 (current dollars)

	1989	1990	1991
Revenues			
Taxes	8,682,621	9,654,056	10,186,188
Licenses and permits	468,260	491,725	343,231
Intergovernmental	5,150,615	4,864,847	5,181,564
Charges for services	2,656,041	3,289,653	4,526,684
Fines and forfeits	380,463	551,818	596,283
Miscellaneous	1,599,160	1,854,082	2,162,194
Total	18,937,160	20,706,181	22,996,144
Expenditures			
General government	3,279,410	3,455,925	4,563,016
Public safety	7,661,021	8,603,919	9,692,574
Public works	1,822,534	1,880,917	2,458,512
Parks and recreation	2,209,684	2,525,643	2,985,976
Miscellaneous	3,362,515	5,314,460	4,354,929
Total	18,335,164	21,780,864	24,055,007
Fund Balances [a]	13,095,236	13,312,657	14,445,892

Note: (a) Includes interfund transfers to and from funds other then general and special revenue funds; thus, fund balances will not total.

Sources: City of Merced, 1991, 1992.

Expenditures increased 31.2 percent over the same period with general government expenditures and parks and recreation expenditures having the greatest percentage increases (39.1 percent and 35.1 percent, respectively).

Principal revenue sources are taxes (44.3 percent of total FY 1991 general and special revenue fund collections), intergovernmental revenues (22.5 percent of total FY 1991 collections), and charges for services (19.7 percent of FY 1991 collections).

Principal expenditures are general government (19.0 percent of total FY 1991 expenditures) and public safety (40.3 percent of total FY 1991 expenditures).

Assessed valuation in the city is approximately $1.4 billion. The city had no outstanding general obligation bond indebtedness as of the end of FY 1991.

Closure Conditions

Reduced site-related earnings, lower employment, and out-migration of approximately 5,329 residents from 1990 levels are projected to result in reductions in general and special revenue fund revenues of approximately $1,921,079 by 1995. Lower sales taxes ($788,667), intergovernmental revenue ($458,294), and charges for services ($309,082) account for about 81 percent of the lost revenues.

Losses in revenue would be offset partially by a potential reduction in expenditures of about $1,211,282. The net fiscal effect of closure is a revenue shortfall of $709,797 (see Table 3.6-2).

Increases in local tax revenue schedules and/or lower service levels may be required to maintain a balanced fiscal position after 1995.

3.6.4 Atwater Elementary School District

Recent Trends

Services provided by the Atwater Elementary School District are funded principally through the district's general fund. In FY 1991, revenues and expenditures of these funds were $17,524,552 and $18,089,313, respectively. Fund balances were $2,332,293 or about 12.9 percent of operating expenditures (Table 3.6-5). This was a decrease from FY 1989, when fund balances were $3,096,816, or about 21.3 percent of operating expenditures.

Revenues increased 15.7 percent over the FY 1989 to FY 1991 period with revenue limit source and other local source revenues experiencing the greatest percentage increases (21.0 percent and 44.8 percent, respectively).

Expenditures increased 24.1 percent over the same period with instructional outlays and support services having the greatest percentage increases (25.1 percent and 23.1 percent, respectively).

Revenue limit sources (property taxes and noncategorical state aid) account for most general fund revenues (72.1 percent in FY 1991). Federal revenues included P.L. 81-874 program revenues of $946,201 in FY 1991 and $1,026,196 in FY 1990. Other federal aid programs, categorical state aid programs, and other local revenue sources account for the remaining revenue sources.

The principal expenditure by the district is for direct instruction ($16,525,734, or about 91.4 percent of total FY 1991 expenditures). Support services (administration and physical plant maintenance and

Table 3.6-5. Atwater Elementary School District Revenues, Expenditures, and Fund Balances, General Fund, FY 1989-1991 (current dollars)

	1989	1990	1991
Revenues			
Revenue limit sources	10,439,136	11,483,150	12,634,321
Federal revenue	1,912,663	1,567,888	1,627,910
Other state revenue	2,568,966	2,889,639	2,931,314
Other local revenue	228,654	357,572	331,007
Total	15,149,419	16,298,249	17,524,552
Expenditures			
Instruction	13,205,547	14,901,458	16,525,734
Support services	876,165	943,545	1,078,574
Miscellaneous	491,434	529,664	485,005
Total	14,573,146	16,374,667	18,089,313
Fund Balances [a]	3,096,816	2,982,647	2,332,293

Note: (a) Includes interfund transfers to and from funds other than general fund; thus, fund balances will not total.

Sources: Atwater Elementary School District, 1989, 1990, 1991.

operation) and other miscellaneous expenditures account for the remaining expenditures.

Closure Conditions

Reduced migratory-related enrollment of 1,423 students would result in reduced general fund revenues of $5,827,398 by 1995. Revenue limit source revenues (reduced by $3,742,490) and P.L. 81-874 program revenues (reduction of $1,026,196) would be the principal revenue sources affected.

These losses could be offset partially by reductions in expenditures of $5,072,995. The net fiscal effect of closure is a revenue shortfall of $754,403 annually (see Table 3.6-2). Reductions in service levels and/or increases in other revenue sources may be required to maintain a balanced fiscal position.

3.6.5 Merced City School District

Recent Trends

Services provided by the Merced City School District are funded principally through the district's general fund. In FY 1991, revenues and expenditures

of this fund were $42,025,261 and $42,004,447, respectively. Fund balances were $4,829,760, or about 11.5 percent of operating expenditures (Table 3.6-6). This was lower than FY 1989, when fund balances were $5,752,890, or about 18.1 percent of operating expenditures.

Table 3.6-6. Merced City School District General Fund, Revenues, Expenditures, and Fund Balances, FY 1989-1991 (current dollars)

	1989	1990	1991
Revenues			
Revenue limit sources	25,341,240	28,393,750	31,197,865
Federal revenue	2,062,776	2,490,104	2,750,002
Other state revenue	6,877,873	7,917,663	7,500,099
Other local revenue	442,822	662,009	577,295
Total	34,724,711	39,463,526	42,025,261
Expenditures			
Instruction	29,165,02?	35,151,181	38,788,384
Support services	1,689,357	2,148,033	2,371,736
Miscellaneous	924,352	1,262,266	844,327
Total	31,778,733	38,561,480	42,004,447
Fund Balances [a]	5,752,890	5,244,968	4,829,760

Note: (a) Includes interfund transfers to and from funds other than general fund; thus, fund balances will not total.

Sources: Olson et al., 1989, 1990, 1991.

Revenues increased 21.0 percent over the FY 1989 to FY 1991 period with revenue limit source revenue and federal revenue experiencing the greatest percentage increases (23.1 percent and 33.3 percent, respectively).

Expenditures increased 32.2 percent over the same period with instructional outlays and support services experiencing the greatest percentage increases (33.0 percent and 40.4 percent, respectively).

Revenue limit sources (property taxes and noncategorical state aid) account for most general fund revenues (74.2 percent of FY 1991 general fund revenues). Federal revenues included P.L. 81-874 program revenues of $14,583 in FY 1991 and $27,340 in FY 1990. While qualified enrollments increased, the low-income housing component of the program experienced reductions, that outweighed the increase in enrollments. Other federal aid programs, categorical state aid programs, and other local revenue sources account for the remaining revenue sources.

The principal expenditure by the district is for direct instruction ($38,788,384, or about 92.3 percent of total FY 1991 expenditures). Support services (administration and physical plant maintenance and operation) and other miscellaneous expenditures account for the remaining expenditures.

Closure Conditions

Reduced migratory-related enrollment of 298 students will result in reduced general fund revenues of $1,039,348 by 1995. Revenue limit source revenues ($777,184) would be the principal revenue source affected. Lost P.L. 81-874 program revenues would amount to approximately $27,340 in 1995.

These losses could be offset partially by potential reductions in expenditures of $1,032,421. The net fiscal effect of closure is a revenue shortfall of $6,927 annually (see Table 3.6-2). Small reductions in service levels and/or increases in other revenue sources may be required to maintain a balanced fiscal position.

3.6.6 Winton School District

Recent Trends

Services provided by the Winton School District are funded principally through the district's general fund. In FY 1991, revenues and expenditures of this fund were $5,206,714 and $4,916,800, respectively, and fund balances were $903,158, or 18.4 percent of operating expenditures (Table 3.6-7). This is lower than FY 1989, when fund balances were $1,074,051, or 26.9 percent of operating expenditures.

Revenues increased 18.7 percent over the FY 1989 to FY 1991 period with other local revenue and revenue limit source revenue experiencing the greatest percentage increases (34.1 percent and 24.8 percent, respectively).

Expenditures increased 23.0 percent over the same period with instructional outlays and support services experiencing the greatest percentage increases (32.8 percent and 53.1 percent, respectively).

Revenue limit sources (property taxes and noncategorical state aid) account for most general fund revenues (80.6 percent of FY 1991 general fund revenues). The district had no P.L 81-874 program revenues in FY 1991. Other federal aid programs, categorical state aid programs, and other local revenue sources account for the remaining revenue sources.

Table 3.6-7. Winton School District General Fund Revenues, Expenditures, and Fund Balances, FY 1989-1991 (current dollars)

	1989	1990	1991
Revenues			
Revenue limit sources	3,363,239	3,688,132	4,196,399
Federal revenue	188,357	251,668	210,965
Other state revenue	770,440	807,117	710,503
Other local revenue	66,238	83,442	88,847
Total	4,388,274	4,830,359	5,206,714
Expenditures			
Instruction	3,239,393	3,854,392	4,303,495
Support services	301,582	391,424	461,753
Miscellaneous	457,732	284,040	151,552
Total	3,998,707	4,529,856	4,916,800
Fund Balances [a]	1,074,051	728,281	903,158

Note: (a) Includes interfund transfers to and from funds other than general fund; thus, fund balances will not total.

Sources: Kemper CPA Group, 1989, 1990, 1991.

The principal expenditure by the district is for direct instruction ($4,303,495, or about 87.5 percent of total FY 1991 expenditures). Support services (administration and physical plant maintenance and operation) and other miscellaneous expenditures account for the remaining expenditures.

Closure Conditions

Reduced migratory-related enrollment of 71 students will result in reduced general fund revenues of $239,270 by 1995. Revenue limit source revenues ($182,683) would be the principal revenue source affected.

These losses could be offset partially by potential reductions in expenditures of $221,378. The net fiscal effect of closure is a revenue shortfall of $17,892 annually (see Table 3.6-2). Reductions in service levels and/or increases in other revenue sources may be required to maintain a balanced fiscal position.

3.6.7 Merced Union High School District

Recent Trends

Services provided by the Merced Union High School District are funded principally through the district's general fund. In FY 1991, revenues and expenditures of this fund were $33,634,064 and $35,152,343, respectively. Fund balances were $1,179,542 or about 3.4 percent of operating expenditures (Table 3.6-8). This is lower than FY 1989, when fund balances were $2,580,548, or about 8.8 percent of operating expenditures.

Table 3.6-8. Merced Union High School District General Fund Revenues, Expenditures, and Fund Balances, FY 1989-1991 (current dollars)

	1989	1990	1991
Revenues			
Revenue limit sources	22,393,684	24,948,570	26,688,593
Federal revenue	1,451,115	1,465,336	1,648,719
Other state revenue	5,017,838	5,418,278	4,621,009
Other local revenue	340,019	346,290	675,743
Total	29,202,656	32,178,474	33,634,064
Expenditures			
Instruction	25,530,619	28,126,272	30,900,065
Support services	2,093,606	2,328,742	2,573,838
Miscellaneous	1,576,549	1,253,518	1,678,440
Total	29,200,774	31,708,532	35,152,343
Fund Balances [a]	2,580,548	2,806,490	1,179,542

Note: (a) Includes interfund transfers to and from funds other than general fund; thus, fund balances will not total.

Sources: C. Tom Nelson and Associates, 1989, 1990, 1991.

Revenues increased 15.2 percent over the FY 1989 to FY 1991 period with revenue limit source revenue and other local revenue experiencing the greatest percentage increases (19.2 percent and 98.7 percent, respectively).

Expenditures increased 20.4 percent over the same period with instructional outlays and support services experiencing the greatest percentage increases (21.0 percent and 22.9 percent, respectively).

Revenue limit sources (property taxes and noncategorical state aid) account for most general fund revenues (79.3 percent of FY 1991 general fund revenues). Federal revenues included P.L. 81-874 program revenues of $96,543 in FY 1991 and $135,951 in FY 1990. Other federal aid programs, categorical state aid programs, and other local revenue sources account for the remaining revenue sources.

The principal expenditure by the district is for direct instruction ($30,900,065, or about 87.9 percent of total FY 1991 expenditures). Support services (administration and physical plant maintenance and operation) and other miscellaneous expenditures account for the remaining expenditures.

Closure Conditions

Reduced migratory-related enrollment of 425 students will result in reduced general fund revenues of $1,864,001 by 1995. Revenue limit source revenues ($1,403,775) would be the principal revenue source affected. Lost P.L. 81-874 program revenues would amount to approximately $135,951 after 1995.

These losses could be offset partially by potential reductions in expenditures of $1,708,288. The net fiscal effect of closure is a revenue shortfall of $155,713 annually (see Table 3.6-2). Reductions in service levels and/or increases in other revenue sources may be required to maintain a balanced fiscal position.

3.7 TRANSPORTATION

This section addresses preclosure and closure conditions of roadways, air transportation, and railroads. The ROI includes the cities of Atwater and Merced and the unincorporated community of Winton. A more detailed discussion of transportation is presented in Section 3.2.3 of the EIS for Disposal and Reuse of Castle AFB, California.

3.7.1 Roadways

Recent Trends

Regional access to Castle AFB is provided by SH 99, a principal north-south, four-lane freeway through the east side of California's San Joaquin Valley. SH 99 passes through the city of Merced and the southern portion of the city of Atwater.

Other regional access to Castle AFB is provided from Interstate 5, the major corridor serving the west side of the San Joaquin Valley to SH 99, by east-west highways SH 140 and SH 132.

The following local roads (Figure 3.7-1) have been identified as most important in providing access to the base area:

- Santa Fe Drive (County Road J7) approximately parallels SH 99 and extends from the city of Merced, about 7 miles south of the base, to Winton, north of the base. It is a four-lane road with signalized intersections, classified as an arterial in the Atwater General Plan (City of Atwater, 1992a). Santa Fe Drive provides the main access to the base via the Main Gate, Gate 2, and Gate 3 and is used by base personnel traveling from Atwater, Merced, and Winton.

- Buhach Road, a four-lane north-south road, is classified as an arterial in the Atwater General Plan and identified for improvements. Buhach Road intersects Santa Fe Drive at the Main Gate and provides access for base personnel living in Castle Gardens and Castle Vista.

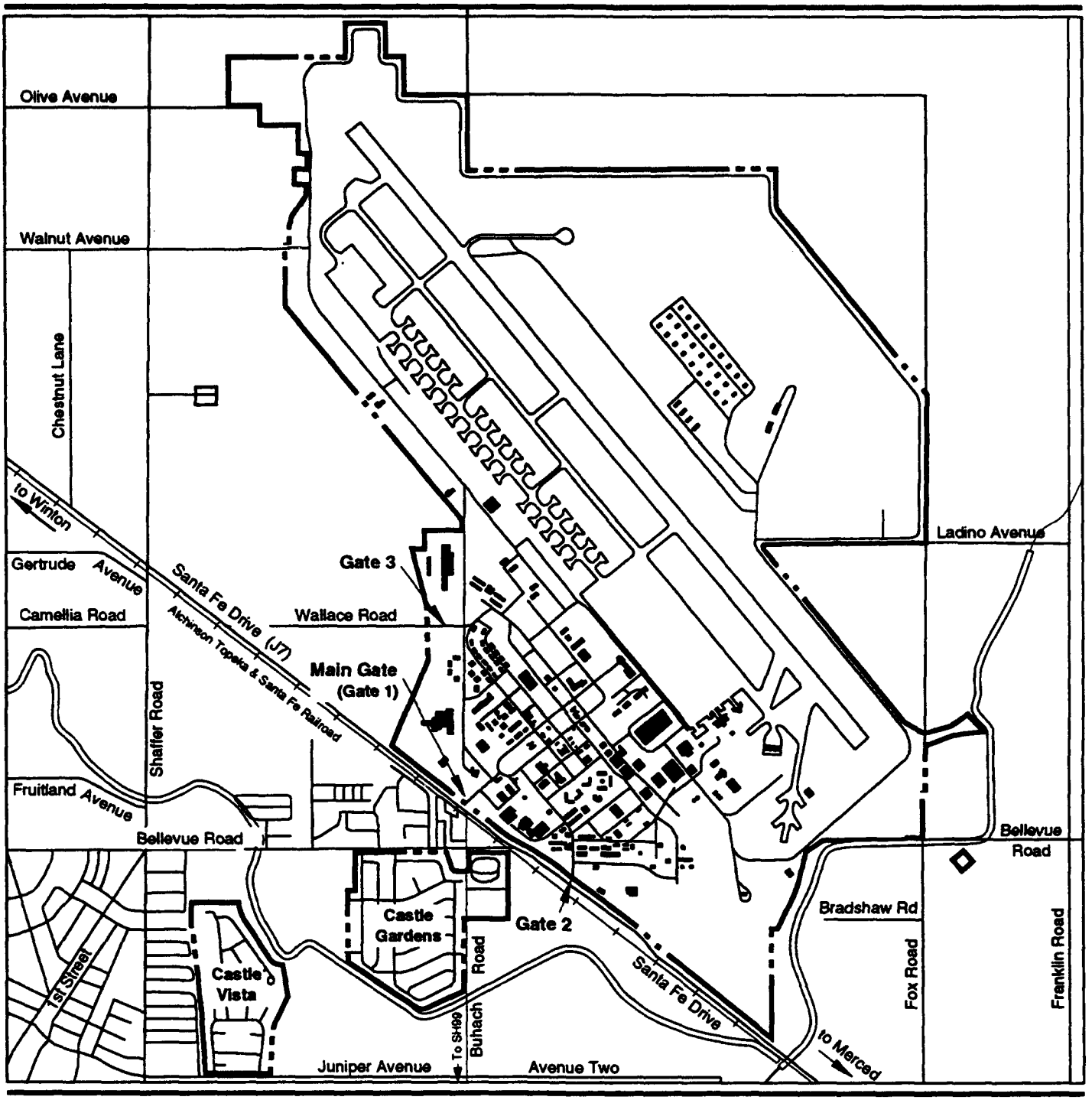
- Bellevue Road is an east-west four-lane arterial that provides local access to base personnel living in Atwater. It intersects Santa Fe Drive about 0.25 mile south of the intersection of Santa Fe Drive and Buhach Road at the Main Gate.

In addition, West Olive Avenue in Merced is a six-lane street beginning at the Santa Fe Drive junction with SH 59, continuing eastward through the north part of Merced.

Castle AFB is accessible through three gates. The Main Gate (Gate 1) is located at the intersection of Santa Fe Drive and Buhach Road. This gate is used by civilian and military personnel and visitors. Contractors and industrial and commercial deliveries are generally routed through Gate 2, located about 0.6 mile southeast of the Main Gate on Santa Fe Drive. Gate 3 is located on Wallace Road about 0.8 mile east of Santa Fe Drive, and about 0.6 mile north of the Main Gate. Gates 2 and 3 are open part-time on weekdays.

On-base roads are two-lane, paved roads, with curbs and gutters, and have a speed limit of 25 miles per hour. Traffic control is achieved by yield and stop signs with priority given to major roads.

Preclosure (1990) and closure (1995) traffic conditions on key roads in the vicinity of the base are summarized in Table 3.7-1. The table shows peak-hour capacity, traffic volumes, and the corresponding Levels of Service (LOS).



EXPLANATION

---- Base Boundary

Local Transportation System

0 650 1300 2600 Feet

Figure 3.7-1

Table 3.7-1. Peak-Hour Traffic Volumes on Key Roads

Road	Capacity (VPH)[a]	Preclosure (1990) Traffic[b]	LOS	Closure (1995) Traffic[c]	LOS
Regional					
SH 99 at Buhach Rd Southeast	7,200	3,850	B	4,570	C
SH 99 at Buhach Rd Northwest	7,200	3,850	B	4,690	C
Local					
Santa Fe Dr, Chestnut Ln-Shaffer Rd	1,800	777	A	620	A
Santa Fe Dr, Shaffer Rd-Wallace Rd	1,800	1,405	C	1,100	B
Santa Fe Dr, Wallace Rd-Buhach Rd	1,800	1,332	C	1,220	B
Santa Fe Dr, Buhach Rd-Bellevue Rd	3,600	2,095	A	1,900	A
Santa Fe Dr, Bellevue Rd-Gate 2	3,600	2,095	A	1,640	A
Santa Fe Dr, Gate 2-Gurr Rd	3,600	1,682	A	1,230	A
Santa Fe Dr, Beachwood Dr-SH 59	3,600	2,129	A	1,790	A
West Olive Av, SH 59-R St (Junction with Santa Fe Dr)	4,500	1,470	A	1,270	A
Buhach Rd, Santa Fe Dr-Bellevue Rd	3,000	1,108	A	660	A
Buhach Rd, Bellevue-Juniper Av	3,000	781	A	490	A
Buhach Rd, Juniper Av-SH 99	3,000	612	A	490	A
Bellevue Rd, Santa Fe Dr-Buhach Rd	2,250	1,040	A	990	A
Bellevue Rd, Buhach Rd-Castle Dr	3,000	1,570	A	1,400	A
Bellevue Rd, Castle Dr-Shaffer Rd	3,000	1,641	A	1,590	A
Juniper Av, Buhach Rd-Shaffer Rd	3,000	591	A	360	A
Wallace Rd, Gate 3-Santa Fe Dr	1,500	228	A	70	A
On-Base					
Heritage Rd at the Main Gate	3,000	666	A	50[d]	A
Castle St, Heritage Rd-E St	1,500	446	A	50[d]	A
G St, Heritage Rd-Hospital Rd	1,500	549	A	50[d]	A
E St, Castle St-9th St	1,500	368	A	50[d]	A

Notes: (a) Capacity figures for local roads are those used by the countywide traffic model, Merced County Association of Governments. Capacity figures for regional and on-base roads were estimated based on Transportation Research Board, 1985.

(b) For SH 99, the source is 1990 Traffic Volumes by Caltrans; for local road segments, the source is the Final Environmental Impact Report for the Atwater General Plan, based on 1990 observed average daily traffic used in the countywide traffic model; for on-base roads, the source is 1992 short period counts performed for this study and assumed to apply to 1990 as well.

(c) For SH 99, an annual traffic growth rate of 4.4 percent is assumed for the period 1990-1995, based on the statewide Caltrans trend for the period 1986 through 1991 and Caltrans traffic volume data from 1988 through 1991, and in line with the projected ROI population trend through 1995. For local roads, an annual growth rate of 2 percent is assumed based on area land use, personnel drawdown, and population out-migration from the Atwater area. A 3-percent growth rate is assumed on West Olive Avenue, based on city of Merced population increases under closure conditions.

(d) The 1995 closure on-base road traffic volumes are estimates, to be interpreted as very low volumes.

LOS = Level of Service.
VPH = Vehicles per hour.

Sources: City of Atwater, 1992a; Caltrans, 1990, 1991a, 1992b; Merced County, 1990; Merced County Association of Governments, 1992a, 1993; Transportation Research Board, 1985; traffic counts performed for this study.

Santa Fe Drive at the intersection of Buhach Road is operating at LOS C. SH 99 at the intersection with Buhach Road operates at LOS B. All other key roads, as well as all on-base roads, operate at LOS A during peak hours.

Closure Conditions

Upon closure in 1995, traffic in the immediate vicinity of the base will decrease. Santa Fe Drive, between Shaffer Road and Buhach Road, will improve to LOS B. SH 99 at Buhach Road, however, will degrade to LOS C by 1995 due to expected growth of traffic serving commercial centers beyond the boundaries of the ROI. All other key roads, as well as all on-base roads, are projected to remain at LOS A. On-base traffic will be limited to the movement of the caretaker team, which, when compared to preclosure (1990) conditions, will be minimal.

3.7.2 Air Transportation

Air transportation includes passenger travel by commercial airline and charter flights; business and recreational travel by private (general) aviation; and priority package and freight delivery by commercial and air carriers. Scheduled passenger service for the region surrounding Castle AFB is available at Merced Municipal Airport, Modesto City-County Airport, and Fresno Air Terminal. Fresno is included in this analysis because it is the closest airport to Castle AFB providing jet service. Merced airport, which is 6 miles from Castle AFB, recorded approximately 6,000 enplanements in 1991. Modesto City-County airport, which is approximately 28 miles north of Castle AFB, recorded 31,230 enplanements in 1991. Fresno Air Terminal, approximately 45 miles south of Castle AFB, recorded 446,743 enplanements in 1991.

Of these three airports, only Fresno Air Terminal has scheduled cargo activity. In 1991, 3,645 tons of cargo were enplaned at Fresno.

Turlock and Atwater municipal airports are both general aviation airports and have no passenger or cargo facilities.

Closure Conditions

Subsequent to 1995, the number of passengers using the Merced Municipal and Modesto City-County airports, and the Fresno Air Terminal will decrease. The reduction in the total number of passengers would be greater at Fresno, but the reduction that would occur at Merced and Modesto would represent a larger percentage of total enplanements at these airports. The Atwater Airport is scheduled for closure in 1994, due to recent decline in airport business and the anticipation of relocating operations to Castle AFB. The volume of cargo processed at the Fresno Air Terminal should remain unchanged because the Air Force processes most of its own cargo.

3.7.3 Railroads

Recent Trends

The Merced-Atwater area is served by two railways: the Southern Pacific railroad adjacent to SH 99, and the AT&SF adjacent to Santa Fe Drive. The AT&SF has served the base in the past, but the spur is abandoned and would require rehabilitation if reused. The nearest Amtrak stations are in Merced and Turlock, with four trains per day (Gonzales, 1992).

Closure Conditions

Upon closure of Castle AFB in 1995, no significant change in local or regional rail service is expected. Amtrak ridership at the Merced station is likely to continue to increase as state and regional population, employment, and travel demand increases.

3.8 UTILITIES

This section summarizes preclosure and closure conditions of utilities on Castle AFB and in the ROI. The ROI for utilities consists of Castle AFB, the cities of Atwater and Merced, and the communities of Winton and Franklin/ Beachwood. Utility demand forecasts in the ROI are shown in Table 3.8-1 for the years 1990 to 1995. A more detailed presentation of these conditions is available in the EIS for Disposal and Reuse of Castle AFB, California.

For utilities, the base closure effects generally would be offset by the natural growth of the ROI population. The exception is electricity where, due to high use by the base, closure effects would outweigh population growth. The Atwater area, consisting of the communities of Atwater, Winton, and Franklin/Beachwood, would experience a decrease in all utility demands due to closure effects. An increase in utility demands would occur in the city of Merced, where population growth exceeds the effects of closure.

3.8.1 Water Supply

Recent Trends

Castle AFB derives its water for domestic use from two on-base wells. About 800 and 900 feet in depth with a total pumping capacity of 7.2 million gallons per day (MGD). The water supply is limited by the total capacity of the pumping and treatment system. The water at each well is chlorinated and fluoridated and pumped directly into the water distribution system. The Castle Gardens housing complex is supplied from the base water supply, but the Castle Vista housing complex receives its water

Table 3.8-1. Estimated Preclosure and Baseline Utility Demand in the ROI, 1990 to Closure

Utility	1990[a]	1991[a]	1992	1993	1994	Closure
Water Consumption (MGD)						
Preclosure Forecast	24.31	21.83	25.18	26.00	26.83	28.63
Closure Baseline	24.31	21.83	25.03	25.86	26.42	24.40
Wastewater Treatment (MGD)						
Preclosure Forecast	10.37	10.41	10.75	11.10	11.46	12.23
Closure Baseline	10.37	10.41	10.69	11.04	11.29	10.41
Solid Waste Disposal (tons/day)						
Preclosure Forecast	190.3	191.5	197.3	203.9	210.4	224.8
Closure Baseline	190.3	191.1	196.2	202.8	207.5	192.9
Electrical Consumption (MWH/day)						
Preclosure Forecast	1234	1262	1276	1315	1354	1439
Closure Baseline	1234	1256	1267	1306	1328	1174
Natural Gas Consumption (thousand therms/day)						
Preclosure Forecast	79.3	82.0	83.2	85.9	88.7	94.6
Closure Baseline	79.3	81.6	82.8	85.6	87.4	80.5

Note: (a) Actual usage, not preclosure forecast.
MGD = million gallons per day.
MWH = megawatt-hours.
ROI = Region of Influence.

Sources: Data compiled from utilities providers or estimated in relation to population changes.

supply from the city of Atwater. Domestic water is stored on base in two elevated tanks with a combined holding capacity of 515,000 gallons.

The city of Atwater obtains domestic water from seven wells located within the city boundaries. The total pumping capacity is 10.8 MGD. Due to contamination, some wells are no longer fully operable, and new wells are being developed in the vicinity of the military housing complexes. All wells are monitored for chemical content. Water is stored in a 1-million-gallon elevated tank.

The city of Merced draws its water from 19 wells. The total pumping capacity is 38 MGD. The Merced water storage system consists of four elevated tanks with a total capacity of 1.5 million gallons.

The community of Winton draws its water from five wells, and has a total pumping capacity of 7.2 MGD. There are no elevated tanks in Winton.

The community of Franklin/Beachwood obtains domestic water from the Meadowbrook Water Company that owns and operates four wells with a total pumping capacity of 3.45 MGD. There are no elevated storage tanks.

In 1990 (preclosure), the water storage and distribution system requirements for domestic and fire demand are met in the ROI. In 1990, the ROI (including the base) had a pumping capacity of 66.7 MGD, and a storage capacity of 3.0 million gallons. Total demand for water was 24.31 MGD. In 1990, Castle AFB used an average of 1.3 MGD of water with a pumping capacity of 7.2 MGD.

Closure Conditions

Upon base closure in 1995, the total water consumption in the ROI would be 24.40 MGD, an increase over the 1990 level of 24.31 MGD (see Table 3.8-1), an increase of about 0.4 percent. Increases in demand related to baseline population growth in the ROI would offset decreases in water consumption due to base closure.

3.8.2 Wastewater

Recent Trends

The ROI for wastewater collection, treatment, and disposal consists of the Castle AFB treatment plant, the Atwater Regional Plant, the city of Merced Wastewater Treatment Plant, and the Franklin/Beachwood Plant.

Domestic sewage at Castle AFB is discharged to the base wastewater treatment plant at an average of 0.5 MGD (U.S. Air Force, 1992a).

The base has both domestic and industrial wastewater treatment plants. The domestic treatment plant was last modified in 1952, and consists of a primary clarifier, a trickling filter, a chlorinator, and a secondary clarifier. The treatment system is designed for flows of 1.0 MGD. Base effluent is chlorinated, pumped to an aeration basin and then discharged under an NPDES permit to Canal Creek downstream of the Livingston Canal diversion. The Castle Gardens housing complex collection system is connected to the base treatment plant, and the Castle Vista system is connected to the city of Atwater's system. Industrial wastewater undergoes primary oil/water separation and is then discharged into the domestic effluent. A study recently recommended that the base wastewater be treated at the Atwater treatment plant due to difficulties with the base plant (Nolte and Associates, 1992). The alternative would be construction of a new plant on base (CH2M Hill, 1991a).

The Atwater plant serves the city of Atwater and the community of Winton. The Atwater plant had a major upgrade in 1991. The plant provides secondary treatment with effluent characteristics that meet California Regional Water Quality Control Board standards. In 1990, Atwater's system treated an average of 3.2 MGD. The Atwater plant design dry weather flow treatment capacity is 6.0 MGD.

The city of Merced has an expanded wastewater treatment plant that can treat up to 10 MGD. The plant provides secondary treatment producing an effluent suitable for discharge under California Regional Water Quality Control Board standards. Treated effluent is used to supplement irrigation water. In 1990, the total sewage treated was 6.40 MGD.

The community of Franklin/Beachwood has an on-site sewage treatment plant that treats an average of 0.25 MGD with a capacity of 0.4 MGD. The Franklin/Beachwood plant provides secondary treatment through aeration/evaporation ponds (Merced County, 1990).

In 1990, the ROI (including Castle AFB) produced an average of 10.37 MGD of sanitary wastewater. The combined capacity of the Castle AFB, city of Atwater, city of Merced, and Franklin/Beachwood plants is 17.4 MGD.

Closure Conditions

In 1995, the average daily flow through the base sewer system from caretaker activities would be so low that the sewage pipes would soon become clogged by accumulation of debris and sediment. Maintenance of the system would not be economical, and it could be more efficient to use a new, small on-site system or establish a connection to the city of Atwater sewer system.

Upon base closure in 1995, wastewater production in the ROI is forecast to average 10.47 MGD, compared with 10.37 MGD in 1990 (see Table 3.8-1). This is an increase of 0.10 MGD, or 1 percent due to the forecast ROI population.

3.8.3 Solid Waste

Recent Trends

Solid waste generated by on-base activities is hauled off base by an independent contractor to the county-operated Highway 59 Landfill. This landfill, jointly owned by Merced County and the cities of Atwater, Merced, Dos Palos, Gustine, Livingston, and Los Banos, is used by these communities and the surrounding unincorporated area. It is located on 73 acres of a 164-acre parcel and, with a fill rate of 435 tons per day, will not reach capacity until 1996. A 200-acre expansion of the site is proposed, adding an additional 19 years to its life (CH2M Hill, 1991b; Merced County, 1990).

The ROI generated an average of 190.3 tons per day of solid waste in 1990. The base contributes approximately 9.5 tons per day or 5 percent of the total waste material entering the Highway 59 Landfill from the ROI.

Solid waste generated in Atwater and the communities of Winton and Franklin/Beachwood is serviced by a private contractor, and the Merced Public Works Department services the refuse produced by Merced.

Closure Conditions

Upon base closure in 1995, Castle AFB will generate minimal amounts of solid waste associated with the maintenance of buildings and grounds as a result of caretaker activities. The amount of solid waste generated off base will increase in proportion to population change.

The amount of solid waste material generated in the ROI in 1995 is estimated at an average of 192.9 tons per day, an increase of 2.6 tons per day above the 1990 average production level of 190.3 tons per day (see Table 3.8-1). This is a 1.4 percent increase, with the effects of ROI population growth offsetting base closure effects.

3.8.4 Energy

Electricity

Recent Trends

Castle AFB purchases its electric power from the WAPA and PG&E. The power is allocated to one substation consisting of a 12/16 megavolt-ampere 115/12 kilovolt (kV) transformer, owned and maintained by PG&E. The primary distribution system is a 50-percent overhead/underground system that delivers 12 kV. The distribution system is operating at 70 percent capacity. In 1990, the average daily usage of electrical power was 185 megawatt-hours (MWH). Records show that in July and August, usage for the base is 25 percent higher than the average of the entire year (U.S. Air Force, 1992a).

Electricity is supplied to the ROI by PG&E through transmission lines above 100 kV, concentrated along the SH 99 corridor with major substations in the cities of Merced and the community of Winton (Merced County, 1990).

At preclosure (1990), Castle AFB consumed an average of 185 MWH per day (U.S. Air Force, 1992a). In the ROI, the estimated daily consumption of electricity was 1,234 MWH.

Closure Conditions

In 1995, the electrical demands for Castle AFB will decrease to a minimal level. In the ROI, the daily consumption would be 1,174 MWH per day, as compared with 1,234 MWH per day in 1990 (see Table 3.8-1). This

represents a 5.0 percent decrease, as base power usage offsets the effects of ROI population growth on electrical demand.

Natural Gas

Recent Trends

Natural gas is also supplied to the ROI by PG&E. Natural gas is used by the base mainly for space heating and hot water. Castle AFB does not have a central heating plant.

Natural gas is provided to the ROI by a main pipeline that runs along the SH 99 corridor through Merced County. Additional supplies are available to meet the future area demand as a result of population growth and new land uses.

In 1990, the base used an average of 5,700 therms per day, compared with approximately 79,300 therms per day in the ROI (see Table 3.8-1). Natural gas usage peaks in the winter months.

Closure Conditions

Based on population changes in the area, natural gas demand within the ROI with base closure was estimated at 80,500 therms per day, compared with 79,300 therms per day in 1990 (see Table 3.8-1). This represents a short-term increase in natural gas demand in the ROI of approximately 1.5 percent as the effects of ROI population growth offset the effects of base closure. However, this increase would be less than 1 percent of PG&E's total natural gas sold to its customers.

4.0 SOCIOECONOMIC EFFECTS OF PROPOSED ACTION AND ALTERNATIVES

4.1 INTRODUCTION

This chapter discusses the potential socioeconomic effects associated with the Proposed Action and four alternatives for reuse of Castle AFB, as well as the No-Action Alternative. The purpose of this study is to identify and analyze the major socioeconomic issues related to each of the six possibilities for future activity at the base.

To help identify potential socioeconomic effects of reuse of Castle AFB, this study addresses a range of reasonable reuse alternatives. For the purpose of this analysis, the Air Force has adopted the redevelopment plans developed by the CJPA as the Proposed Action. In addition, the Air Force has analyzed the effects associated with other reasonable reuse alternatives. These include the Castle Aviation Center Alternative, the Commercial Aviation Alternative, the Aviation with Mixed Use Alternative, the Non-Aviation Alternative, and a No-Action Alternative without reuse. Actual decisions on reuse of the property will be made by its recipients subsequent to conveyance.

Descriptions of the effects of the Proposed Action and alternatives are provided sequentially for each of seven major issue areas: economic activity, population, housing, public services, public finance, transportation, and utilities. The EIS for Disposal and Reuse of Castle AFB, California, provides more detailed descriptions of effects for transportation and utilities. The description of effects of the No-Action Alternative is the same as the closure conditions described in Chapter 3.

Context of Analysis. This analysis addresses the timing of effects associated with each of the various alternative plans for future reuse of the base. The analysis covers a time period extending 20 years beyond the date of closure (September 30, 1995) of Castle AFB, and the results are presented for the Proposed Action and alternatives for the years 2000 (5 years after closure), 2005 (10 years after closure), and 2015 (20 years after closure).

Of particular importance in this analysis are site-related and migratory-related effects. Site-related effects include all activities associated with the base area. These would include all direct and secondary employment and their resultant effects on population as a result of either reuse-related activities or activities associated with caretaker activities.

Migratory-related effects are defined to be all of the effects associated with persons that move into the ROI solely as a result of reuse-related activities. The migratory-related effects are a component of the site-related effects. In addition to these migratory-related effects, the site-related effects include the reuse activities or caretaker activities that are supplied by the resources within the ROI. For example, the Proposed Action would generate a particular number of jobs; some would be filled by the local available labor pool and others would be filled by persons moving into the ROI for the purpose of gaining employment related to the reuse activities.

Many socioeconomic effects are caused primarily by population in-migration. These effects include changes in housing demand, public service requirements, local government expenditures and revenues, traffic volumes, and utility consumption. This analysis addresses the implications of population in-migration for each of these key related indicators.

This analysis recognizes the potential for community reactions stemming from "announcement effects" of information regarding the base's closure or reuse. Such announcements may affect the community's perceptions and, therefore, could have important local economic consequences. An example of an announcement effect would be the in-migration of people anticipating employment under one of the reuse options. If it were announced later that the No-Action Alternative was chosen, many of these newcomers would leave the area seeking employment elsewhere. This announcement effect would, thus, include (1) a temporary increase in population in anticipation of future employment, and (2) a subsequent decline in population as people leave the area after the announcement. Bases with more than one closure announcement may not experience as severe an announcement effect.

Changes associated with announcement effects, while potentially important, are highly unpredictable and difficult to quantify. Such effects were therefore excluded from the quantitative analysis in this study, and are not displayed in any of the tabular or graphic data presented in this document.

The methods used to evaluate the effects of reuse of the site are consistent with those used to assess the effects of closure. These methods are described in Appendix B.

4.2 ECONOMIC ACTIVITY

Under the No-Action Alternative, Castle AFB would not be reused and caretaker activities at the site would contribute little economic stimulus to the ROI. In this situation, employment in the ROI is projected to increase from 287,262 in 1995 (closure) to 485,650 by 2015, which represents an annual average growth rate of 2.7 percent (extrapolated from projections by the Merced County Association of Governments, 1992b, and the Stanislaus Area Association of Governments, 1992).

For each of the reuse alternatives (Proposed Action, Castle Aviation Center Alternative, Commercial Aviation Alternative, Aviation with Mixed Use Alternative, and Non-Aviation Alternative), economic activity is expressed as the number of direct and secondary jobs and earnings over those projected for the No-Action Alternative (caretaker status).

Of the reuse alternatives evaluated for this study, the Castle Aviation Center Alternative would generate the greatest economic effects.

4.2.1 Proposed Action

Direct Jobs. Employment associated with the Proposed Action would begin immediately upon its implementation. The number of direct jobs over the closure baseline would total 2,447 in 2000 and 3,824 in 2015 (Table 4.2-1). Nearly all of these direct jobs would be associated with operations activities on the site, with less than 4 percent of direct jobs attributable to construction by 2000 and 0.3 percent by 2015. The on-site activities creating the largest number of jobs would be commercial office use, industrial development, and aviation support.

Secondary and Total Jobs. The Proposed Action would create additional off-site secondary jobs over the closure baseline in the ROI through the multiplier effects of worker spending and purchases of goods and services by new companies on the site. Secondary jobs are projected to number 1,414 in 2000 and 2,427 in 2015. This secondary employment brings total ROI jobs created to 3,861 in 2000 and 6,251 in 2015 (see Table 4.2-1).

Earnings. Total annual earnings generated by the Proposed Action over the closure baseline are projected to be $91,706,000 in 2000 and $152,345,000 in 2015 (see Table 4.2-1). Most of these earnings would be attributable to direct operations jobs, with earnings from this source estimated at $61,298,000 in 2000 and $100,427,000 in 2015. Secondary earnings would be $51,918,000 by 2015.

ROI Jobs with the Proposed Action. The total number of jobs in the ROI would increase from 287,262 in 1995 to 323,837 in 2000 and 491,901 in 2015 (see Table 4.2-1). The average annual rate of employment growth in the ROI during this 20-year period would be 2.7 percent with the Proposed Action, about the same as under closure baseline conditions. The trend in ROI employment compared with the closure baseline and other reuse alternatives is graphically displayed in Figure 4.2-1.

In-Migrating Workers. About 29 percent of the jobs created by the Proposed Action are expected to be filled by persons moving into the ROI depending on the specific skills required and general economic conditions. Other jobs would be filled by workers residing within the ROI. This labor pool would be unemployed, not actively seeking jobs, working in part-time

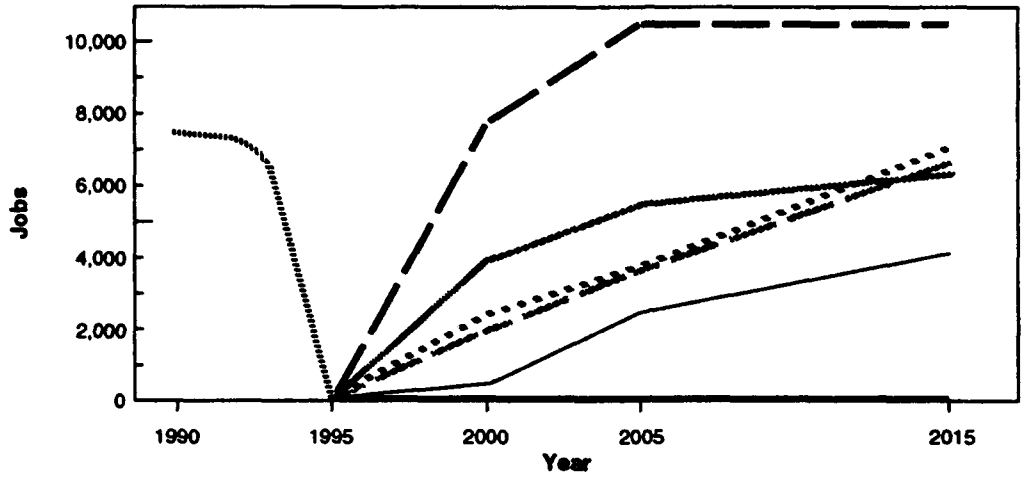
Table 4.2-1. ROI Employment and Earnings Projections: Proposed Action

	2000	2005	2015
Site-Related Employment and Earnings			
Reuse Effects			
Employment			
Direct	2,497	3,372	3,874
Construction	92	13	13
Operations	2,405	3,359	3,861
Secondary	1,426	2,023	2,439
Total	3,923	5,395	6,313
Earnings ($000)[a]			
Direct	62,462	86,768	101,591
Construction	2,786	421	421
Operations	59,676	86,347	101,170
Secondary	30,673	43,366	52,183
Total	93,135	130,134	153,774
No-Action Effects[b]			
Employment			
Direct	50	50	50
Secondary	12	12	12
Total	62	62	62
Earnings ($000)[a]			
Direct	1,164	1,164	1,164
Secondary	265	265	265
Total	1,429	1,429	1,429
Reuse Increase over No-Action Effects			
Employment			
Direct	2,447	3,332	3,824
Construction	92	13	13
Operations	2,355	3,309	3,811
Secondary	1,414	2,011	2,427
Total	3,861	5,333	6,251
Earnings ($000)[a]			
Direct	61,298	85,604	100.427
Construction	2,786	421	421
Operations	58,512	85,183	100,006
Secondary	30,408	43,101	51,918
Total	91,706	128,705	152,345
ROI Employment			
With No-Action Alternative	319,976	365,906	485,650
With Proposed Action	323,837	371,239	491,901
In-Migrating Workers[c]			
Direct	976	1,346	1,546
Construction	14	2	2
Operations	962	1,344	1,544
Secondary	143	202	244
Total	1,119	1,548	1,790

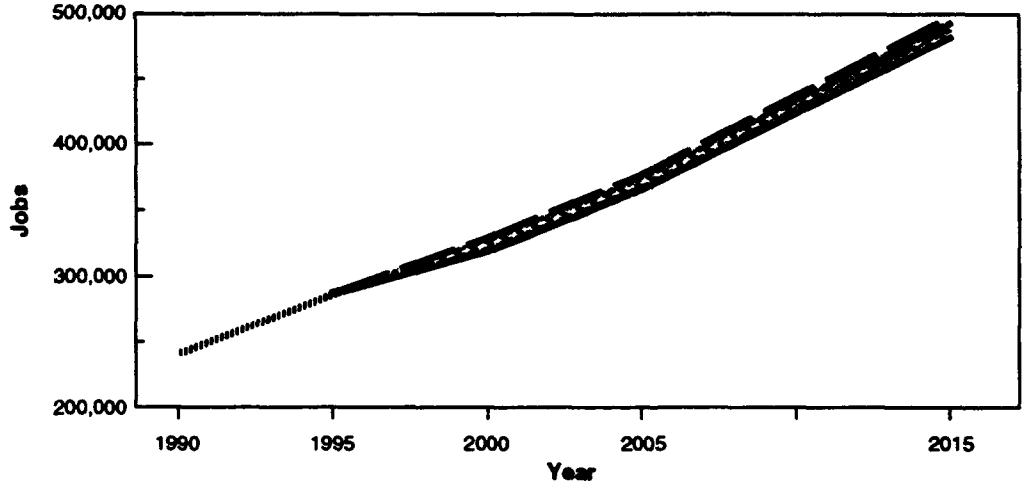
Notes: (a) Constant 1989 dollars.
(b) The No-Action Alternative is the closure baseline projection, extended beyond closure, with the base in caretaker status. Effects include both direct and secondary employment and earnings.
(c) In-migrating workers are holders of site-related jobs expected to live in the ROI with reuse but who would not live in the ROI without reuse. Refer to Appendix B (Methods) for migratory-related employment assumptions.
ROI = Region of Influence.

ALTERNATIVE	1995[a]	2000	2005	2015
Proposed Action	62	3,861	5,333	6,251
Castle Aviation Center	62	7,770	10,554	10,554
Commercial Aviation	62	1,997	3,794	6,698
Aviation with Mixed Use	62	2,411	3,836	7,055
Non-Aviation	62	440	2,528	4,101

Reuse-Related Employment Effects[b]



Reuse-Related Employment Effects[b]



Total ROI Employment Including Reuse-Related Effects

EXPLANATION

- Preclosure
- Proposed Action
- Castle Aviation Center
- Commercial Aviation
- Aviation with Mixed Use
- Non-Aviation
- No-Action/Post-Closure

Reuse-Related Employment Effects

[a] The 1995 values represent total base-related employment under the closure baseline.
[b] Employment effects represent the change in employment relative to the No-Action Alternative.

Figure 4.2-1

or occasional jobs, or commuting to work outside the area during portions of the year. These available workers are likely to have many of the skills needed for the jobs created, especially for secondary and construction jobs. Relocation is expected to start, for some types of jobs, at the earliest stages of reuse. The total number of in-migrating workers is expected to be 1,119 in 2000 and 1,790 in 2015 (see Table 4.2-1).

4.2.2 Castle Aviation Center Alternative

Direct Jobs. Employment associated with the Castle Aviation Center Alternative would begin immediately upon its implementation. The number of direct jobs over the closure baseline would total 4,560 in 2000 and 6,150 in 2015 (Table 4.2-2). Nearly all of these direct jobs would be associated with operations activities on the site, with about 0.7 percent of direct jobs attributable to construction by 2000, declining to zero by 2015. Aviation support and industrial development activities are projected to create the largest number of jobs of any of the on-site activities.

Secondary and Total Jobs. Under the Castle Aviation Center Alternative, the multiplier effects of worker spending and purchases of goods and services by new companies on the site would create additional off-site secondary jobs in the ROI. The number of secondary jobs over the closure baseline is projected to be 3,210 in 2000 and 4,404 in 2015. Adding secondary jobs to direct jobs would increase the total number of jobs to 7,770 in 2000 and 10,554 in 2015 (see Table 4.2-2).

Earnings. Total annual earnings generated by the Castle Aviation Center Alternative over the closure baseline are projected to be $204,357,000 in 2000 and $279,177,000 in 2015 (see Table 4.2-2). Most of these earnings would be attributable to direct operations jobs, with earnings from this source estimated at $133,142,000 in 2000 and $182,625,000 in 2015. Secondary earnings would represent about $96,552,000 by 2015.

ROI Jobs with the Castle Aviation Center Alternative. The total number of jobs in the ROI would increase from 287,262 at closure to 327,746 in 2000 and 496,204 in 2015 (see Table 4.2-2). The average annual employment growth rate in the ROI would be 2.8 percent under the Castle Aviation Center Alternative, compared to 2.7 percent under the closure baseline. The trend in ROI employment compared with the closure baseline and the other reuse alternatives is shown in Figure 4.2-1.

In-Migrating Workers. About 28 percent of the jobs created by the Castle Aviation Center Alternative are expected to be filled by persons who move into the ROI depending on specific skills needed and general economic conditions. Other jobs would be filled by workers residing within the ROI. Relocation is expected to start for some types of jobs at the earliest stages

Table 4.2-2. ROI Employment and Earnings Projections: Castle Aviation Center Alternative

	2000	2005	2015
Site-Related Employment and Earnings			
Reuse Effects			
Employment			
Direct	4,610	6,200	6,200
Construction	30	0	0
Operations	4,580	6,200	6,200
Secondary	3,222	4,416	4,416
Total	7,832	10,616	10,616
Earnings ($000)[a]			
Direct	135,171	183,789	183,789
Construction	865	0	0
Operations	134,306	183,789	183,789
Secondary	70,615	96,817	96,817
Total	205,786	280,606	280,606
No-Action Effects[b]			
Employment			
Direct	50	50	50
Secondary	12	12	12
Total	62	62	62
Earnings ($000)[a]			
Direct	1,164	1,164	1,164
Secondary	265	265	265
Total	1,429	1,429	1,429
Reuse Increase over No-Action Effects			
Employment			
Direct	4,560	6,150	6,150
Construction	30	0	0
Operations	4,530	6,150	6,150
Secondary	3,210	4,404	4,404
Total	7,770	10,554	10,554
Earnings ($000)[a]			
Direct	134,007	182,625	182,625
Construction	865	0	0
Operations	133,142	182,625	182,625
Secondary	70,350	96,552	96,552
Total	204,357	279,177	279,177
ROI Employment			
With No-Action Alternative	319,976	365,906	485,650
With Castle Aviation Center Alternative	327,746	376,460	496,204
In-Migrating Workers[c]			
Direct	1,836	2,480	2,480
Construction	4	0	0
Operations	1,832	2,480	2,480
Secondary	322	442	442
Total	2,158	2,922	2,922

Notes: (a) Constant 1989 dollars.
(b) The No-Action Alternative is the closure baseline projection, extended beyond closure, with the base in caretaker status. Effects include both direct and secondary employment and earnings.
(c) In-migrating workers are holders of site-related jobs expected to live in the ROI with reuse but who would not live in the ROI without reuse. Refer to Appendix B (Methods) for migratory-related employment assumptions.
ROI = Region of Influence.

of reuse. The total number of in-migrating workers is expected to reach 2,158 in 2000 and 2,922 in 2015 (see Table 4.2-2).

4.2.3 Commercial Aviation Alternative

Direct Jobs. Employment associated with the Commercial Aviation Alternative would begin immediately upon its implementation. The number of direct jobs over the closure baseline would increase to 1,232 in 2000 and 4,001 in 2015 (Table 4.2-3). Nearly all of these direct jobs would be associated with operations activities on the site, with about 10.6 percent of direct jobs attributable to construction by 2000, declining to about 2.5 percent by 2015. Industrial development, aviation support, commercial activities, and medical uses are projected to create the largest number of jobs of any of the on-site activities.

Secondary and Total Jobs. Under the Commercial Aviation Alternative, the multiplier effects of worker spending and purchases of goods and services by new companies on the site would create additional off-site secondary jobs in the ROI. The number of secondary jobs over the closure baseline is projected to be 765 in 2000 and 2,697 in 2015. Combining direct and secondary jobs would increase the total number of jobs created by the Commercial Aviation Alternative to 1,997 in 2000 and 6,698 in 2015 (see Table 4.2-3).

Earnings. Total annual earnings generated by the Commercial Aviation Alternative over the closure baseline are projected to be $47,640,000 in 2000 and $166,698,000 in 2015 (see Table 4.2-3). Most of these earnings would be attributable to direct operations jobs, with earnings from this source estimated at $30,976,000 in 2000 and $107,853,000 in 2015. Secondary earnings would represent about $58,845,000 by 2015.

ROI Jobs with the Commercial Aviation Alternative. The total number of jobs in the ROI would increase from 287,262 at closure to 321,973 in 2000 and 492,348 in 2015 (see Table 4.2-3). The average annual employment growth rate in the ROI would be 2.7 percent under the Commercial Aviation Alternative, about the same as under the closure baseline. The trend in ROI employment with the Commercial Aviation Alternative compared with the closure baseline and the other reuse alternatives is shown in Figure 4.2-1.

In-Migrating Workers. About 28 percent of the jobs created by the Commercial Aviation Alternative are expected to be filled by persons who move into the ROI, depending on specific skills needed and general economic conditions. Other jobs would be filled by workers residing within the ROI. Relocation is expected to start for some types of jobs at the earliest stages of reuse. The total number of in-migrating workers is expected to reach 558 in 2000 and 1,866 in 2015 (see Table 4.2-3).

Table 4.2-3. ROI Employment and Earnings Projections: Commercial Aviation Alternative

	2000	2005	2015
Site-Related Employment and Earnings			
Reuse Effects			
Employment			
Direct	1,282	2,400	4,051
Construction	131	102	102
Operations	1,151	2,298	3,949
Secondary	777	1,456	2,709
Total	2,059	3,856	6,760
Earnings ($000)[a]			
Direct	32,140	60,433	109,017
Construction	4,384	3,397	3,397
Operations	27,756	57,036	105,620
Secondary	16,929	31,693	59,110
Total	49,069	92,126	168,127
No-Action Effects[b]			
Employment	62	62	62
Direct	50	50	50
Secondary	12	12	12
Earnings ($000)[a]	1,429	1,429	1,429
Direct	1,164	1,164	1,164
Secondary	265	265	265
Reuse Increase over No-Action Effects			
Employment			
Direct	1,232	2,350	4,001
Construction	131	102	102
Operations	1,101	2,248	3,899
Secondary	765	1,444	2,697
Total	1,997	3,794	6,698
Earnings ($000)[a]			
Direct	30,976	59,269	107,853
Construction	4,384	3,397	3,397
Operations	26,592	55,872	104,456
Secondary	16,664	31,428	58,845
Total	47,640	90,697	166,698
ROI Employment			
With No-Action Alternative	319,976	365,906	485,650
With Commercial Aviation Alternative	321,973	369,700	492,348
In-Migrating Workers[c]			
Direct	480	934	1,595
Construction	20	15	15
Operations	460	919	1,580
Secondary	78	146	271
Total	558	1,080	1,866

Notes: (a) Constant 1989 dollars.
(b) The No-Action Alternative is the closure baseline projection, extended beyond closure, with the base in caretaker status. Effects include both direct and secondary employment and earnings.
(c) In-migrating workers are holders of site-related jobs expected to live in the ROI with reuse but who would not live in the ROI without reuse. Refer to Appendix B (Methods) for migratory-related employment assumptions.
ROI = Region of Influence.

4.2.4 Aviation with Mixed Use Alternative

Direct Jobs. Employment associated with the Aviation with Mixed Use Alternative over the closure baseline would begin immediately upon its implementation. The number of direct jobs would total 1,516 in 2000 and 4,175 in 2015 (Table 4.2-4). Nearly all of these direct jobs would be associated with operations activities on the site, with about 5.3 percent of direct jobs attributable to construction by 2000, declining to less than 1.5 percent by 2015. Industrial development, aviation support, and commercial activities are projected to create the largest number of jobs of any of the on-site activities.

Secondary and Total Jobs. Under the Aviation with Mixed Use Alternative, the multiplier effects of worker spending and purchases of goods and services by new companies on the site would create additional off-site secondary jobs in the ROI. The number of secondary jobs over the closure baseline is projected to be 895 in 2000 and 2,880 in 2015. Combining direct and secondary jobs would increase the total number of jobs created to 2,411 in 2000 and 7,055 in 2015 (see Table 4.2-4).

Earnings. Total annual earnings generated by the Aviation with Mixed Use Alternative over the closure baseline are projected to be $58,987,000 in 2000 and $178,048,000 in 2015 (see Table 4.2-4). Most of these earnings would be attributable to direct operations jobs, with earnings from this source estimated at $36,835,000 in 2000 and $112,842,000 in 2015. Secondary earnings would represent about $63,159,000 by 2015.

ROI Jobs with the Aviation with Mixed Use Alternative. The total number of jobs in the ROI would increase from 287,262 at closure to 322,387 in 2000 and 492,705 in 2015 (see Table 4.2-4). The average annual employment growth rate in the ROI would be 2.7 percent under the Aviation with Mixed Use Alternative, about the same as under the closure baseline. The trend in ROI employment compared with the closure baseline and the other reuse alternatives is shown in Figure 4.2-1.

In-Migrating Workers. About 28 percent of the jobs created by the Aviation with Mixed Use Alternative are expected to be filled by persons moving into the ROI depending on specific skills needed and general economic conditions. Other jobs would be filled by workers residing within the ROI. Relocation is expected to start for some types of jobs at the earliest stages of reuse. The total number of in-migrating workers is expected to reach 696 in 2000 and 1,963 in 2015 (see Table 4.2-4).

4.2.5 Non-Aviation Alternative

Direct Jobs. Employment associated with the Non-Aviation Alternative over the closure baseline would begin immediately upon its implementation. The

Table 4.2-4. ROI Employment and Earnings Projections: Aviation with Mixed Use Alternative

	2000	2005	2015
Site-Related Employment and Earnings			
Reuse Effects			
Employment			
Direct	1,566	2,406	4,225
Construction	83	62	62
Operations	1,483	2,344	4,163
Secondary	907	1,492	2,892
Total	2,473	3,898	7,117
Earnings ($000)[a]			
Direct	40,630	63,457	116,053
Construction	2,631	2,047	2,047
Operations	37,999	61,410	114,006
Secondary	19,786	32,673	63,424
Total	60,416	96,130	179,477
No-Action Effects[b]			
Employment			
Direct	50	50	50
Secondary	12	12	12
Total	62	62	62
Earnings ($000)[a]			
Direct	1,164	1,164	1,164
Secondary	265	265	265
Total	1,429	1,429	1,429
Reuse Increase over No-Action Effects			
Employment			
Direct	1,516	2,356	4,175
Construction	83	62	62
Operations	1,433	2,294	4,113
Secondary	895	1,480	2,880
Total	2,411	3,836	7,055
Earnings ($000)[a]			
Direct	39,466	62,293	114,889
Construction	2,631	2,047	2,047
Operations	36,835	60,246	112,842
Secondary	19,521	32,408	63,159
Total	58,987	94,701	178,048
ROI Employment			
With No-Action Alternative	319,976	365,906	485,650
Aviation With Mixed Use Alternative	322,387	369,742	492,705
In-Migrating Workers[c]			
Direct	605	947	1,674
Construction	12	9	9
Operations	593	938	1,665
Secondary	91	149	289
Total	696	1,096	1,963

Notes: (a) Constant 1989 dollars.
(b) The No-Action Alternative is the closure baseline projection, extended beyond closure, with the base in caretaker status. Effects include both direct and secondary employment and earnings.
(c) In-migrating workers are holders of site-related jobs expected to live in the ROI with reuse but who would not live in the ROI without reuse. Refer to Appendix B (Methods) for migratory-related employment assumptions.
ROI = Region of Influence.

number of direct jobs would total 241 in 2000 and 2,650 in 2015 (Table 4.2-5). By 2015, nearly all of these direct jobs would be associated with operations activities on the site; about 72 percent would be attributable to construction in 2000, decreasing to less than 4 percent by 2015. The on-site activity creating the greatest number of jobs would be research and development.

Secondary and Total Jobs. The multiplier effects of worker spending and purchases of goods and services by new companies on the site would create additional off-site secondary jobs in the ROI. The number of secondary jobs over the closure baseline created under the Non-Aviation Alternative is projected to be about 199 in 2000 and 1,451 in 2015. These secondary jobs would increase the total number of jobs to 440 in 2000 and 4,101 in 2015 (see Table 4.2-5).

Earnings. Total annual earnings generated by the Non-Aviation Alternative over the closure baseline are projected to be $11,405,000 in 2000 and $91,515,000 in 2015 (see Table 4.2-5). By 2015, most of these earnings would be attributable to direct operations jobs, with earnings from this source estimated at $944,000 in 2000 and $54,766,000 in 2015. Secondary earnings would represent about $33,482,000 by 2015.

ROI Jobs with the Non-Aviation Alternative. The total number of jobs in the ROI would increase from 287,262 at closure to 320,416 in 2000 and 489,751 in 2015 (see Table 4.2-5). The average annual employment growth rate in the ROI would be 2.7 percent with the Non-Aviation Alternative, about the same as for the closure baseline. The trend in ROI employment compared to the closure baseline and other reuse alternatives is shown in Figure 4.2-1.

In-Migrating Workers. About 29 percent of the jobs created by the Non-Aviation Alternative are expected to be filled by persons moving into the ROI, depending on the specific skills required and general economic conditions. Other jobs would be filled by workers residing within the ROI. Relocation is expected to start for some types of jobs at the earliest stages of reuse. The total number of in-migrating workers is expected to be 94 in 2000 and 1,202 in 2015 (see Table 4.2-5).

4.2.6 No-Action Alternative

Employment and earnings effects under the No-Action Alternative would be the same as those described in Section 3.2 as closure conditions.

4.3 POPULATION

If no reuse of Castle AFB occurs, total population in the ROI is anticipated to increase from 635,326 in 1995 to 1,112,133 in 2015. These figures are

Table 4.2-5. ROI Employment and Earnings Projections: Non-Aviation Alternative

	2000	2005	2015
Site-Related Employment and Earnings			
Reuse Effects			
Employment			
Direct	291	1,739	2,700
Construction	173	96	96
Operations	118	1,643	2,604
Secondary	211	851	1,463
Total	502	2,590	4,163
Earnings ($000)[a]			
Direct	8,040	36,063	59,197
Construction	5,932	3,267	3,267
Operations	2,108	32,796	55,930
Secondary	4,794	19,341	33,747
Total	12,834	55,404	92,944
No-Action Effects[b]			
Employment			
Direct	50	50	50
Secondary	12	12	12
Total	62	62	62
Earnings ($000)[a]			
Direct	1,164	1,164	1,164
Secondary	265	265	265
Total	1,429	1,429	1,429
Reuse Increase over No-Action Effects			
Employment			
Direct	241	1,689	2,650
Construction	173	96	96
Operations	68	1,593	2,554
Secondary	199	839	1,451
Total	440	2,528	4,101
Earnings ($000)[a]			
Direct	6,876	34,899	58,033
Construction	5,932	3,267	3,267
Operations	944	31,632	54,766
Secondary	4,529	19,076	33,482
Total	11,405	53,975	91,515
ROI Employment			
With No-Action Alternative	319,976	365,906	485,650
With Non-Aviation Alternative	320,416	368,434	489,751
In-Migrating Workers[c]			
Direct	73	671	1,056
Construction	26	14	14
Operations	47	657	1,042
Secondary	21	85	146
Total	94	756	1,202

Notes: (a) Constant 1989 dollars.
(b) The No-Action Alternative is the closure baseline projection, extended beyond closure, with the base in caretaker status. Effects include both direct and secondary employment and earnings.
(c) In-migrating workers are holders of site-related jobs expected to live in the ROI with reuse but who would not live in the ROI without reuse. Refer to Appendix B (Methods) for migratory-related employment assumptions.
ROI = Region of Influence.

preclosure population projections made by the state of California, the Merced County Association of Governments, and the Stanislaus Area Association of Governments with the base-related population factored out. This represents an average annual growth of 2.8 percent. The Castle Aviation Center Alternative would result in the greatest population effects of any of the reuse alternatives evaluated in this study.

Population In-Migration Assumptions. As described in Appendix B, workers are projected to relocate to the region, depending on the number and types of jobs created. Many of the employment opportunities created by the reuse alternatives would be filled by individuals residing in the ROI. The balance of workers would relocate from outside the ROI, bringing with them their dependents and creating ROI population in-migration. This in-migrating population also is expected to experience natural increase (births minus deaths) at regional average rates.

Residential Distribution Assumptions. In-migrating workers to the job market are expected to locate in the ROI based on 1992 population and commuting patterns. Direct workers are expected to choose places of residence similar to those of the civilian workers at the base prior to closure. Secondary workers would likely have similar residential preferences.

4.3.1 Proposed Action

Site-Related Population. Total site-related population includes both (1) those households where at least one member has a site-related job and would live in the ROI without the Proposed Action, and (2) those who would reside in the ROI because of the Proposed Action (the migratory-related population). The total site-related population is projected to increase to 11,915 in 2000 and 21,930 in 2015 (Table 4.3-1). The largest share (18,678) would reside in Merced County by 2015, with 7,508 residing in Atwater, 6,409 in Merced, and 814 in Winton. Site-related population in Stanislaus County is projected to be 2,960 in 2015.

Migratory-Related Population Change. The migratory-related population changes expected to occur in the ROI due to the Proposed Action are shown in Table 4.3-2. These figures represent persons who would not be living in the ROI without reuse of the base. Migratory-related population changes are projected to be 3,338 in 2000 and 6,114 in 2015. In 2015, 5,703 persons (more than 93 percent in the ROI) are expected to live in Merced County. It is further estimated that 2,361 residents (nearly 39 percent) would live in Atwater, 1,962 (more than 32 percent) in Merced, and 249 (about 4 percent) in Winton. Another 411 in-migrating workers (less than 7 percent of the ROI total) would move into Stanislaus County by 2015.

ROI Population with the Proposed Action. Population in the ROI would increase from 635,326 in 1995 to 716,583 in 2000 and 1,118,247 in 2015

Table 4.3-1 Site-Related Population: Proposed Action

	2000	2005	2015
Persons by Labor Category of Employee			
Direct	7,558	10,695	13,415
Construction	280	41	44
Operations	7,278	10,654	13,371
Secondary	4,357	6,476	8,515
Total	11,915	17,171	21,930
Persons by Location			
Merced County	10,221	14,676	18,678
Atwater	4,121	5,907	7,508
Merced	3,508	5,037	6,409
Winton	445	640	814
Rest of County	2,147	3,092	3,947
Stanislaus County	1,534	2,265	2,960
ROI Total	11,755	16,941	21,638
Outside ROI	160	230	292
Total	11,915	17,171	21,930

Notes: Site-related employees and dependents represent all direct and secondary workers and their dependents residing in the region.
ROI = Region of Influence.

(see Table 4.3-2). The average annual rate of population growth in the ROI during this 20-year period would be 2.9 percent, compared with 2.8 percent for the closure baseline conditions. The projected ROI population trend, compared with closure baseline conditions and the reuse alternatives, is presented in Figure 4.3-1.

4.3.2 Castle Aviation Center Alternative

Site-Related Population. The total site-related population is projected to increase to 23,797 in 2000 and 36,889 in 2015 (Table 4.3-3). Nearly all of these persons would be associated with direct operations jobs and secondary employment. By 2015, 31,127 of these persons would reside in Merced County, with 12,464 residing in Atwater, 10,677 in Merced, and 1,357 in Winton. Stanislaus County would have 5,278 site-related residents.

Migratory-Related Population Change. The migratory-related population changes expected to occur in the ROI are shown in Table 4.3-4. These numbers represent persons who would not be living in the ROI without reuse of the base. Population changes projected to occur as a result of the Castle

Table 4.3-2. Total Regional Population Effects, Counties and Selected Communities: Proposed Action

	2000	2005	2015
With No-Action Alternative			
Merced County	225,077	276,457	405,180
Atwater	19,384	23,981	34,643
Merced	72,324	91,070	137,612
Winton	9,847	11,971	17,093
Rest of County	123,522	149,435	215,832
Stanislaus County	488,168	547,647	706,953
ROI Total	713,245	824,104	1,112,133
Migratory-Related Population Changes[a]			
Merced County	3,121	4,523	5,703
Atwater	1,293	1,874	2,361
Merced	1,074	1,556	1,962
Winton	136	197	249
Rest of County	618	896	1,131
Stanislaus County	217	318	411
ROI Total	3,338	4,841	6,114
ROI Population Projections			
With Proposed Action			
Merced County	288,198	280,980	410,883
Atwater	20,677	25,855	37,004
Merced	73,398	92,626	139,574
Winton	9,983	12,168	17,342
Rest of County	124,140	150,331	216,963
Stanislaus County	488,385	547,965	707,364
ROI Total	716,583	828,945	1,118,247

Note: (a) Migratory-related population change represents those site-related employees and dependents living in the region who would not live in the region without reuse. All other site-related employees and dependents would live in the region without reuse of the base.
ROI = Region of Influence.

Aviation Center Alternative are 6,445 in 2000 and 9,979 in 2015. It is projected that almost 93 percent (9,266) of the ROI would live in Merced County in 2015, of which 3,830 would live in Atwater, 3,187 in Merced, and 404 in Winton. About 713 persons would live in Stanislaus County.

ROI Population with the Castle Aviation Center Alternative. Population in the ROI would increase from 635,326 in 1995 to 719,690 in 2000 and 1,122,112 in 2015 (see Table 4.3-4). The average annual growth rate for population in the ROI during this 20-year period would be 2.9 percent compared with 2.8 percent under closure baseline conditions. The trend in ROI population with the Castle Aviation Center Alternative compared with the closure baseline and other reuse alternatives is presented in Figure 4.3-1.

Table 4.3-3. Site-Related Population: Castle Aviation Center Alternative

	2000	2005	2015
Persons by Labor Category of Employee			
Direct	13,952	19,666	21,470
Construction	91	0	0
Operations	13,861	19,666	21,470
Secondary	9,845	14,134	15,419
Total	23,797	33,800	36,889
Persons by Location			
Merced County	20,107	28,519	31,127
Atwater	8,056	11,419	12,464
Merced	6,898	9,783	10,677
Winton	876	1,243	1,357
Rest of County	4,277	6,074	6,629
Stanislaus County	3,377	4,838	5,278
ROI Total	23,484	33,357	36,405
Outside ROI	313	443	484
Total	23,797	33,800	36,889

Note: Site-related employees and dependents represent all direct and secondary workers and their dependents residing in the region.
ROI = Region of Influence.

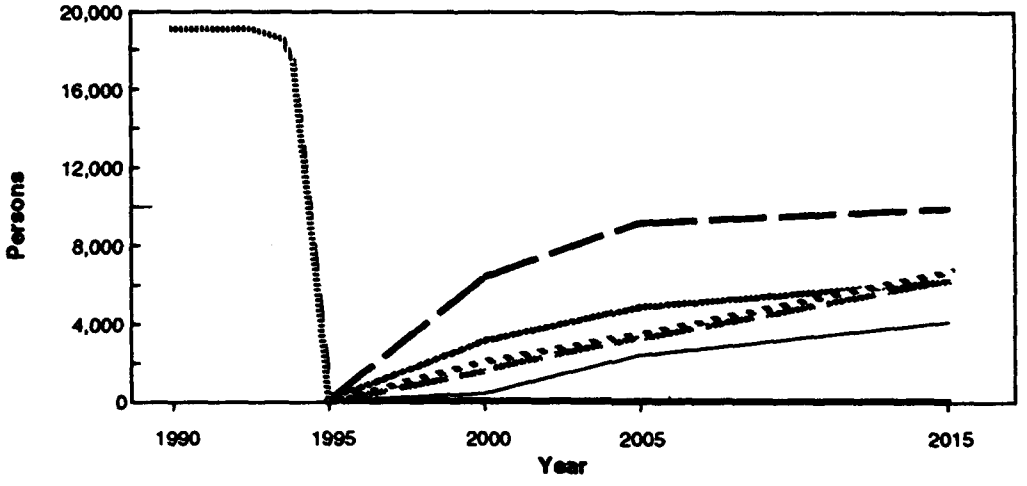
4.3.3 Commercial Aviation Alternative

Site-Related Population. The total site-related population is projected to increase to 6,257 in 2000 and 23,493 in 2015 (Table 4.3-5). Nearly all of these persons would be associated with direct operations jobs and secondary employment. By 20 years after closure, 19,920 of these persons would reside in Merced County, with 7,992 residing in Atwater, 6,834 in Merced, and 868 in Winton. Stanislaus County would have 3,264 site-related residents.

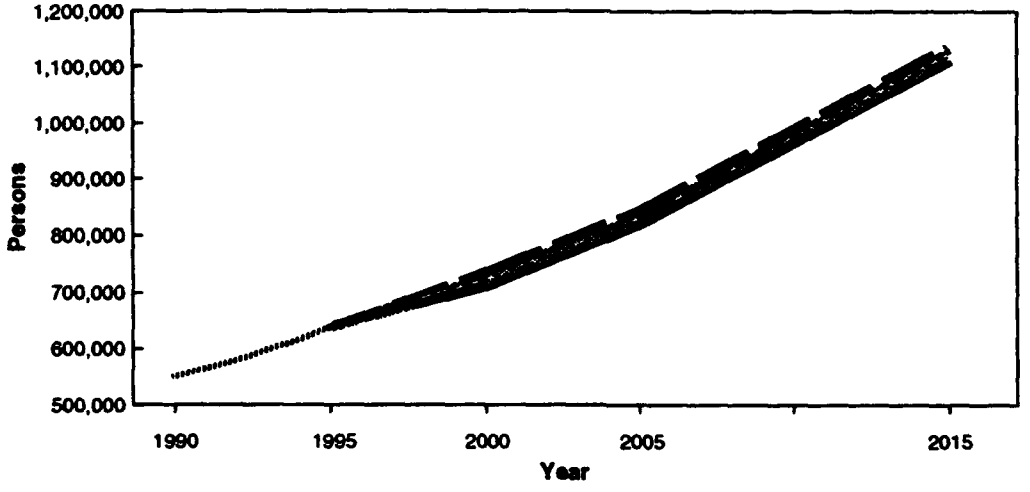
Migratory-Related Population Change. The migratory-related population changes expected to occur in the ROI are shown in Table 4.3-6. These numbers represent persons who would not be living in the ROI without reuse of the base. Migratory-related population changes projected to occur as a result of the Commercial Aviation Alternative are 1,666 in 2000 and 6,373 in 2015. It is projected that about 93 percent (5,929) of the ROI total population would live in Merced County in 2015. Of these, it is estimated that 2,452 (38 percent) would live in Atwater, 2,040 (32 percent) would live in Merced, and 258 (4 percent) would live in Winton. Stanislaus County would experience in-migration of 444 persons.

ALTERNATIVE	1995[a]	2000	2005	2015
Proposed Action	0	3,338	4,841	6,114
Castle Aviation Center	0	6,445	9,142	9,979
Commercial Aviation	0	1,666	3,379	6,373
Aviation with Mixed Use	0	2,078	3,430	6,708
Non-Aviation	0	282	2,366	4,105

Migratory-Related Population Effects[b]



Migratory-Related Population Effects[b]



Total ROI Population Including Migratory-Related Effects

EXPLANATION

- Preclosure
- Proposed Action
- Castle Aviation Center
- Commercial Aviation
- Aviation with Mixed Use
- Non-Aviation
- No-Action/Post-Closure

(a) 1995 represents closure conditions

(b) Migratory-related population effects are the persons that move into the ROI solely as a result of reuse.

Migratory-Related Population Effects

Figure 4.3-1

Table 4.3-4. Total Regional Population Effects, Counties and Selected Communities: Castle Aviation Center Alternative

	2000	2005	2015
With No-Action Alternative			
Merced County	225,077	276,457	405,180
Atwater	19,384	23,981	34,643
Merced	72,324	91,070	137,612
Winton	9,847	11,971	17,093
Rest of County	123,522	149,435	215,832
Stanislaus County	488,168	547,647	706,953
ROI Total	713,245	824,104	1,112,133
Migratory-Related Population Changes[a]			
Merced County	5,988	8,489	9,266
Atwater	2,475	3,508	3,830
Merced	2,060	2,920	3,187
Winton	261	370	404
Rest of County	1,192	1,691	1,845
Stanislaus County	457	653	713
ROI Total	6,445	9,142	9,979
ROI Population Projections With Castle Aviation Center Alternative			
Merced County	231,065	284,946	414,446
Atwater	21,859	27,489	38,473
Merced	74,384	93,990	140,799
Winton	10,108	12,341	17,497
Rest of County	124,714	151,126	217,677
Stanislaus County	488,625	548,300	707,666
ROI Total	719,690	833,246	1,122,112

Note: (a) Migratory-related population change represents those site-related employees and dependents living in the region who would not live in the region without reuse.
ROI = Region of Influence.

ROI Population with the Commercial Aviation Alternative. Population in the ROI would increase from 635,326 in 1995 to 714,911 in 2000 and 1,118,506 in 2015 (see Table 4.3-6). The average annual growth rate for population in the ROI during this 20-year period would be 2.9 percent compared with 2.8 percent under closure baseline conditions. The trend in ROI population with the Commercial Aviation Alternative compared with the closure baseline and other reuse alternatives is presented in Figure 4.3-1.

Population effects under the No-Action Alternative would be similar to those described in Section 3.3 as closure conditions and briefly highlighted in the introductory paragraph of this section.

Table 4.3-5 Site-Related Population: Commercial Aviation Alternative

	2000	2005	2015
Persons by Labor Category of Employee			
Direct	3,883	7,616	14,032
Construction	400	327	357
Operations	3,483	7,289	13,675
Secondary	2,374	4,660	9,461
Total	6,257	12,276	23,493
Persons by Location			
Merced County	5,345	10,484	19,920
Atwater	2,151	4,219	7,992
Merced	1,834	3,598	6,834
Winton	233	457	868
Rest of County	1,127	2,210	4,226
Stanislaus County	829	1,628	3,264
ROI Total	6,174	12,112	23,184
Outside ROI	83	164	309
Total	6,257	12,276	23,493

Notes: Site-related employees and dependents represent all direct and secondary workers and their dependents residing in the region. These include persons who are projected to live in the ROI without reuse and consequently are a combination of migratory-related population change and baseline population.
ROI = Region of Influence.

4.3.4 Aviation with Mixed Use Alternative

Site-Related Population. The total site-related population is projected to increase to 7,513 in 2000 and 24,730 in 2015 (Table 4.3-7). Nearly all of these persons would be associated with direct operations jobs and secondary employment. By 20 years after closure, 20,931 of these persons would reside in Merced County, with 8,392 residing in Atwater, 7,181 in Merced, and 912 in Winton. Stanislaus County would have 3,473 site-related residents.

Migratory-Related Population Change. The migratory-related population changes expected to occur in the ROI are shown in Table 4.3-8. These numbers represent persons who would not be living in the ROI without reuse of the base. Migratory-related population changes projected to occur as a result of the Aviation with Mixed Use Alternative are 2,078 in 2000 and 6,708 in 2015. It is projected that about 93 percent (6,236) of the ROI total would live in Merced County in 2015. Of these, it is estimated that 2,578 (38 percent) would live in Atwater, 2,145 (32 percent) would live in

Table 4.3-6. Total Regional Population Effects, Counties and Selected Communities: Commercial Aviation Alternative

	2000	2005	2015
With No-Action Alternative			
Merced County	225,077	276,457	405,180
Atwater	19,384	23,981	34,643
Merced	72,324	91,070	137,612
Winton	9,847	11,971	17,093
Rest of County	123,522	149,435	215,832
Stanislaus County	488,168	547,647	706,953
ROI Total	713,245	824,104	1,112,133
Migratory-Related Population Changes[a]			
Merced County	1,552	3,153	5,929
Atwater	642	1,306	2,452
Merced	534	1,085	2,040
Winton	68	137	258
Rest of County	308	625	1,179
Stanislaus County	114	226	444
ROI Total	1,666	3,379	6,373
ROI Population Projections With Commercial Aviation Alternative			
Merced County	226,629	279,610	411,109
Atwater	20,026	25,287	37,095
Merced	72,858	92,155	139,652
Winton	9,915	12,108	17,351
Rest of County	123,830	150,060	217,011
Stanislaus County	488,282	547,873	707,397
ROI Total	714,911	827,483	1,118,506

Note: (a) Migratory-related population change represents those site-related employees and dependents living in the region who would not live in the region without reuse. All other site-related employees and dependents would live in the region without reuse of the base.
ROI = Region of Influence.

Merced, and 272 (4 percent) would live in Winton. Stanislaus County would experience in-migration of 472 persons.

ROI Population with the Aviation with Mixed Use Alternative. Population in the ROI would increase from 635,326 in 1995 to 715,323 in 2000 and 1,118,841 in 2015 (see Table 4.3-8). The average annual growth rate for population in the ROI during this 20-year period would be 2.9 percent compared with 2.8 percent under closure baseline conditions. The trend in ROI population with the Aviation with Mixed Use Alternative compared with the closure baseline and other reuse alternatives is presented in Figure 4.3-1.

Table 4.3-7. Site-Related Population: Aviation with Mixed Use Alternative

	2000	2005	2015
Persons by Labor Category of Employee			
Direct	4,742	7,633	14,632
Construction	254	198	216
Operations	4,488	7,435	14,416
Secondary	2,771	4,774	10,098
Total	7,513	12,407	24,730
Persons by Location			
Merced County	6,438	10,579	20,931
Atwater	2,594	4,254	8,392
Merced	2,210	3,630	7,181
Winton	281	461	912
Rest of County	1,353	2,234	4,446
Stanislaus County	974	1,663	3,473
ROI Total	7,412	12,242	24,404
Outside ROI	101	165	326
Total	7,513	12,407	24,730

Note: Site-related employees and dependents represent all direct and secondary workers and their dependents residing in the region.
ROI = Region of Influence.

4.3.5 Non-Aviation Alternative

Site-Related Population. Total site-related population is projected to increase to 1,531 in 2000 and 14,461 in 2015 (Table 4.3-9). Nearly all of these persons would be attributable to direct operations jobs and secondary employment. In 2015, Merced County would have 12,452 site-related residents with 5,027 residing in Atwater, 4,274 in Merced, and 543 in Winton. Stanislaus County would have 1,813 site-related residents.

Migratory-Related Population Change. The migratory-related population changes expected to occur in the ROI are shown in Table 4.3-10. These figures represent persons who would not be living in the ROI without reuse of the base. Migratory-related population changes caused by the Non-Aviation Alternative are projected to be 282 in 2000 and 4,105 in 2015. Of the population in-migrating to the ROI by 2015, it is projected that 3,845, or almost 94 percent, would live in Merced County, of which 1,594 would live in Atwater, 1,323 in Merced, and 168 in Winton. About 260 people would move into Stanislaus County.

Table 4.3-8. Total Regional Population Effects, Counties and Selected Communities: Aviation with Mixed Use Alternative

	2000	2005	2015
With No-Action Alternative			
Merced County	225,077	276,457	405,180
Atwater	19,384	23,981	34,643
Merced	72,324	91,070	137,612
Winton	9,847	11,971	17,093
Rest of County	123,522	149,435	215,832
Stanislaus County	488,168	547,647	706,953
ROI Total	713,245	824,104	1,112,133
Migratory-Related Population Changes[a]			
Merced County	1,942	3,199	6,236
Atwater	805	1,324	2,578
Merced	668	1,101	2,145
Winton	85	139	272
Rest of County	384	635	1,241
Stanislaus County	136	231	472
ROI Total	2,078	3,430	6,708
ROI Population Projections With Aviation with Mixed Use Alternative			
Merced County	227,019	279,656	411,416
Atwater	20,189	25,305	37,221
Merced	72,992	92,171	139,757
Winton	9,932	12,110	17,365
Rest of County	123,906	150,070	217,073
Stanislaus County	488,304	547,878	707,425
ROI Total	715,323	827,534	1,118,841

Note: (a) Migratory-related population change represents those site-related employees and dependents living in the region who would not live in the region without reuse.
ROI = Region of Influence.

ROI Population with the Non-Aviation Alternative. As a result of the Non-Aviation Alternative, the ROI population would increase from 635,326 in 1995 to 713,527 in 2000 and 1,116,238 in 2015 (see Table 4.3-10). The average annual growth rate for population in the ROI during this 20-year period would be about 2.9 percent, compared with 2.8 percent under closure baseline conditions. The trend in ROI population, compared with the closure baseline and other reuse alternatives, is shown in Figure 4.3-1.

4.3.6 No-Action Alternative

Population effects under the No-Action Alternative would be similar to those described in Section 3.3 as closure conditions.

Table 4.3-9. Site-Related Population: Non-Aviation Alternative

	2000	2005	2015
Persons by Labor Category of Employee			
Direct	886	5,519	9,353
Construction	529	308	336
Operations	357	5,211	9,017
Secondary	645	2,724	5,108
Total	1,531	8,243	14,461
Persons by Location			
Merced County	1,290	7,148	12,452
Atwater	516	2,894	5,027
Merced	443	2,454	4,274
Winton	56	312	543
Rest of County	275	1,488	2,608
Stanislaus County	221	982	1,813
ROI Total	1,511	8,130	14,265
Outside ROI	20	113	196
Total	1,531	8,243	14,461

Note: Site-related employees and dependents represent all direct and secondary workers and their dependents residing in the region.
ROI = Region of Influence.

4.4 HOUSING

Total nonseasonal housing demand in the ROI is estimated to be 204,064 units in 1995. Due to population growth, housing demand is projected to increase to 229,294 units in 2000 and 357,524 in 2015. This represents an average annual growth rate of 2.8 percent for this 20-year period, comparable to the projected growth in population. The greatest demand for housing in the ROI is expected to occur for the Castle Aviation Center Alternative.

4.4.1 *Proposed Action*

Migratory-Related Housing Demand. Demand caused by population in-migration associated with the Proposed Action is projected to be 1,148 units in the ROI in 2000 and 2,101 units in 2015 (Table 4.4-1). Over 93 percent of this demand is projected to occur in Merced County, including 39 percent in Atwater, 32 percent in Merced, and 4 percent in Winton. Less than 7 percent of the housing demand effects would occur in Stanislaus County.

ROI Housing Demand with the Proposed Action. Total nonseasonal housing demand with the Proposed Action is projected to increase from 204.064

Table 4.3-10. Total Regional Population Effects, Counties and Selected Communities: Non-Aviation Alternative

	2000	2005	2015
With No-Action Alternative			
Merced County	225,077	276,457	405,180
Atwater	19,384	23,981	34,643
Merced	72,324	91,070	137,612
Winton	9,847	11,971	17,093
Rest of County	123,522	149,435	215,832
Stanislaus County	488,168	547,647	706,953
ROI Total	713,245	824,104	1,112,133
Migratory-Related Population Changes[a]			
Merced County	256	2,223	3,845
Atwater	105	923	1,594
Merced	88	765	1,323
Winton	11	97	168
Rest of County	52	438	760
Stanislaus County	26	143	260
ROI Total	282	2,366	4,105
ROI Population Projections			
With Non-Aviation Alternative			
Merced County	225,333	278,680	409,025
Atwater	19,489	24,904	36,237
Merced	72,412	91,835	138,935
Winton	9,858	12,068	17,261
Rest of County	123,574	149,873	216,592
Stanislaus County	488,194	547,790	707,213
ROI Total	713,527	826,470	1,116,238

Note: (a) Migratory-related population change represents those site-related employees and dependents living in the region who would not live in the region without reuse.
ROI = Region of Influence.

units in 1995, to 230,442 units in 2000 and 359,625 units in 2015 (see Table 4.4-1). The growth rate in housing demand averages 2.9 percent per year for this 20-year period, compared with 2.8 percent annually under closure baseline conditions.

4.4.2 Castle Aviation Center Alternative

Migratory-Related Housing Demand. Demand attributable to the Castle Aviation Center Alternative is projected to be 2,215 units in the ROI in 2000 and 3,429 units in 2015 (Table 4.4-2). Almost 93 percent of this demand is projected to occur in Merced County, including 38 percent in Atwater, 32 percent in Merced, and 4 percent in Winton. About 7 percent would occur in Stanislaus County.

Table 4.4-1. Total Regional Housing Effects, Counties and Selected Communities (number of housing units): Proposed Action

	2000	2005	2015
With No-Action Alternative			
Merced County	64,210	79,672	118,409
Atwater	5,957	7,721	11,812
Merced	22,190	28,287	43,423
Winton	2,684	3,291	4,754
Rest of County	33,379	40,373	58,420
Stanislaus County	165,084	185,210	239,115
ROI Total	229,294	264,882	357,524
Migratory-Related Housing Demand[a]			
Merced County	1,073	1,555	1,960
Atwater	444	644	811
Merced	369	535	674
Winton	47	68	86
Rest of County	213	308	389
Stanislaus County	75	109	141
ROI Total	1,148	1,664	2,101
ROI Housing Demand With Reuse			
Merced County	65,283	81,227	120,369
Atwater	6,401	8,365	12,623
Merced	22,559	28,822	44,097
Winton	2,731	3,359	4,840
Rest of County	33,592	40,681	58,809
Stanislaus County	165,159	185,319	239,256
ROI Total	230,442	266,546	359,625

Note: (a) Migratory-related housing demand is attributable to migratory-related ROI population changes. It reflects the change in housing demand, compared with baseline conditions, required to house the increase in ROI population caused by reuse.
ROI = Region of Influence.

ROI Housing Demand with the Castle Aviation Center Alternative. Demand is projected to rise from 204,064 units in 1995 to 231,509 units in 2000 and 360,953 units in 2015 (see Table 4.4-2). This projected increase in demand averages 2.9 percent annually, compared with the closure baseline projection of 2.8 percent.

4.4.3 Commercial Aviation Alternative

Migratory-Related Housing Demand. Demand attributable to the Commercial Aviation Alternative is projected to be 572 units in the ROI in 2000 and 2,190 units in 2015 (Table 4.4-3). About 93 percent of this demand is projected to occur in Merced County, including 38 percent in Atwater,

Table 4.4-2. Total Regional Housing Effects, Counties and Selected Communities (number of housing units): Castle Aviation Center Alternative

	2000	2005	2015
With No-Action Alternative			
Merced County	64,210	79,672	118,409
Atwater	5,957	7,721	11,812
Merced	22,190	28,287	43,423
Winton	2,684	3,291	4,754
Rest of County	33,379	40,373	58,420
Stanislaus County	165,084	185,210	239,115
ROI Total	229,294	264,882	357,524
Migratory-Related Housing Demand[a]			
Merced County	2,058	2,917	3,184
Atwater	851	1,205	1,316
Merced	708	1,003	1,095
Winton	90	127	139
Rest of County	409	582	634
Stanislaus County	157	224	245
ROI Total	2,215	3,141	3,429
ROI Housing Demand			
With Reuse			
Merced County	66,268	82,589	121,593
Atwater	6,808	8,926	13,128
Merced	22,898	29,290	44,518
Winton	2,774	3,418	4,893
Rest of County	33,788	40,955	59,054
Stanislaus County	165,241	185,434	239,360
ROI Total	231,509	268,023	360,953

Note: (a) Migratory-related housing demand is attributable to migratory-related ROI population changes. It reflects the change in housing demand, compared with baseline conditions, required to house the increase in ROI population caused by reuse.
ROI = Region of Influence.

32 percent in Merced, and 4 percent in Winton. About 7 percent would occur in Stanislaus County.

ROI Housing Demand with the Commercial Aviation Alternative. Total nonseasonal demand is projected to increase from 204,064 units in 1995 to 229,866 units in 2000 and 359,714 units in 2015 (see Table 4.4-3), a 2.9 percent annual increase compared with a 2.8 percent increase under closure baseline conditions.

Table 4.4-3. Total Regional Housing Effects, Counties and Selected Communities (number of housing units): Commercial Aviation Alternative

	2000	2005	2015
With No-Action Alternative			
Merced County	64,210	79,672	118,409
Atwater	5,957	7,721	11,812
Merced	22,190	28,287	43,423
Winton	2,684	3,291	4,754
Rest of County	33,379	40,373	58,420
Stanislaus County	165,084	185,210	239,115
ROI Total	229,294	264,882	357,524
Migratory-Related Housing Demand[a]			
Merced County	533	1,084	2,037
Atwater	221	449	843
Merced	184	373	701
Winton	23	47	89
Rest of County	105	215	404
Stanislaus County	39	78	153
ROI Total	572	1,162	2,190
ROI Housing Demand			
With Reuse			
Merced County	64,743	80,756	120,446
Atwater	6,178	8,170	12,655
Merced	22,374	28,660	44,124
Winton	2,707	3,338	4,843
Rest of County	33,484	40,588	58,824
Stanislaus County	165,123	185,288	239,268
ROI Total	229,866	266,044	359,714

Notes: (a) Migratory-related housing demand is attributable to migratory-related ROI population changes. It reflects the change in housing demand, compared with baseline conditions, required to house the change in ROI population caused by reuse.
ROI = Region of Influence.

4.4.4 Aviation with Mixed Use Alternative

Migratory-Related Housing Demand. Demand attributable to the Aviation with Mixed Use Alternative is projected to be 714 units in the ROI in 2000 and 2,305 units in 2015 (Table 4.4-4). In 2013, almost 93 percent of this demand is projected to occur in Merced County, including 38 percent in Atwater, 32 percent in Merced, and 4 percent in Winton. About 7 percent would occur in Stanislaus County.

Table 4.4-4. Total Regional Housing Effects, Counties and Selected Communities (number of housing units): Aviation with Mixed Use Alternative

	2000	2005	2015
With No-Action Alternative			
Merced County	64,210	79,672	118,409
Atwater	5,957	7,721	11,812
Merced	22,190	28,287	43,423
Winton	2,684	3,291	4,754
Rest of County	33,379	40,373	58,420
Stanislaus County	165,084	185,210	239,115
ROI Total	229,294	264,882	357,524
Migratory-Related Housing Demand[a]			
Merced County	667	1,099	2,143
Atwater	277	455	886
Merced	230	378	737
Winton	29	48	93
Rest of County	131	218	427
Stanislaus County	47	79	162
ROI Total	714	1,178	2,305
ROI Housing Demand			
With Reuse			
Merced County	64,877	80,771	120,552
Atwater	6,234	8,176	12,698
Merced	22,420	28,665	44,160
Winton	2,713	3,339	4,847
Rest of County	33,510	40,591	58,847
Stanislaus County	165,131	185,289	239,277
ROI Total	230,008	266,060	359,829

Note: (a) Migratory-related housing demand is attributable to migratory-related ROI population changes. It reflects the change in housing demand, compared with baseline conditions, required to house the increase in ROI population caused by reuse.
ROI = Region of Influence.

ROI Housing Demand with the Aviation with Mixed Use Alternative. Total nonseasonal demand is projected to rise from 204,064 units in 1995 to 230,008 units in 2000 and 359,829 units in 2015 (see Table 4.4-4). This projected increase in demand averages 2.9 percent annually, compared with 2.8 percent annually under closure baseline conditions.

4.4.5 Non-Aviation Alternative

Migratory-Related Housing Demand. Demand caused by the Non-Aviation Alternative is projected at 97 units in the ROI in 2000 and 1,410 units in 2015 (Table 4.4-5). By 2013, almost 94 percent of this demand is projected to occur in Merced County, including 39 percent in Atwater, 32 percent in Merced, and 4 percent in Winton. Approximately 6 percent would occur in Stanislaus County.

ROI Housing Demand with the Non-Aviation Alternative. Demand is projected to increase from 204,064 in 1995 to 229,391 in 2000 and 358,934 in 2015 (see Table 4.4-5). This change averages 2.9 percent per year, slightly greater than the closure baseline projection of 2.8 percent.

4.4.6 No-Action Alternative

Housing effects under the No-Action Alternative would be similar to those described in Section 3.4 as closure conditions.

4.5 PUBLIC SERVICES

Effects to key local public services are determined by the change in demand for service personnel and facilities arising from reuse. The ability to accommodate increased demand or to respond to decreases in demand while maintaining accustomed levels of local public service is examined based on potential changes in demand for services.

Public services would be affected by ROI population in-migration and consequent changes in public service demand. The number of in-migrating workers at the site, their accompanying dependents, and their settlement patterns would affect public service demand and corresponding service provision throughout the ROI. Preclosure per capita-generated demand for public services (student-teacher ratios and governmental/health care employee per 1,000 population ratios) were used as standards of service. Potential reuse effects are determined by the necessary addition of public service employees (e.g., municipal employees, school staff, police officers, fire fighters, health care providers) needed to serve the in-migrating population. These staffing-to-population service ratios are used to compare effects among the alternatives only and are not intended to suggest future staffing requirements.

Based on the expected growth pattern associated with reuse, public service effects were projected for those jurisdictions that would be most affected by changes in service demand. These jurisdictions include Merced County; the cities of Atwater and Merced; and the Atwater Elementary, Merced City, Winton, and Merced Union High school districts.

Table 4.4-5. Total Regional Housing Effects, Counties and Selected Communities (number of housing units): Non-Aviation Alternative

	2000	2005	2015
With No-Action Alternative			
Merced County	64,210	79,672	118,409
Atwater	5,957	7,721	11,812
Merced	22,190	28,287	43,423
Winton	2,684	3,291	4,754
Rest of County	33,379	40,373	58,420
Stanislaus County	165,084	185,210	239,115
ROI Total	229,294	264,882	357,524
Migratory-Related Housing Demand[a]			
Merced County	88	764	1,321
Atwater	36	317	548
Merced	30	263	455
Winton	4	33	58
Rest of County	18	151	260
Stanislaus County	9	49	89
ROI Total	97	813	1,410
ROI Housing Demand			
With Reuse			
Merced County	64,298	80,436	119,730
Atwater	5,993	8,038	12,360
Merced	22,220	28,550	43,878
Winton	2,688	3,324	4,812
Rest of County	33,397	40,524	58,680
Stanislaus County	165,093	185,259	239,204
ROI Total	229,391	265,695	358,934

Note: (a) Migratory-related housing demand is attributable to migratory-related ROI population changes. It reflects the change in housing demand, compared with baseline conditions, required to house the increase in ROI population caused by reuse.
ROI = Region of Influence.

Other direct effects would include increased service demand on local governments from the additional area and infrastructure being shifted from federal administration of Castle AFB to public administration (area-generated levels of public service). Following disposition of any parcel to the private sector, Merced County and the city of Atwater would become responsible for serving the demand for municipal services, police protection, fire protection, and health care. Also, local service providers would lose Air Force support in the form of informal aid agreements (e.g., for public education, fire protection). Of the reuse alternatives evaluated in this study,

the Castle Aviation Center Alternative would have the greatest effect on local government services.

4.5.1 Local Government

Potential effects to local government structure and employment are examined for each alternative. The analysis considers project-related population in-migration and changes in service area infrastructure responsibility under each alternative. Because of the magnitude of some effects of closure and reuse, level-of-service ratios may not adequately meet new service requirements. Changes in types of services to be provided were considered.

Area-Generated Demand. The site is located primarily within the unincorporated area of Merced County, with portions in the city of Atwater (including the two off-base family housing areas, Castle Park, the Air Museum, and the hospital). Administration of the site would become the responsibility of both the county and the city during reuse. Infrastructure requirements and services, such as public works, utilities, building code inspection and enforcement, and recreation, may need to be expanded for the additional area. Regardless of migratory-related population, increases in employment and facilities infrastructure for the local jurisdictions may be required to serve this area, in addition to the calculated per capita increases. Therefore, the total local government employee demands would be the summation of per capita demands and area-generated demands.

With Castle AFB closed and in caretaker status (the No-Action Alternative), activities at the site would not generate demand for local government services. As a result, municipal staffing levels would not have to be increased for any of the local jurisdictions. Effects of each of the reuse alternatives are compared to these closure baseline conditions.

4.5.1.1 Proposed Action

Merced County. Based on per capita calculations, Merced County would experience the greatest increase in demand for government service in the region. Under the Proposed Action, Merced County would experience a population increase of 3,121 persons by 2000 and 5,703 persons by 2015. To maintain 1990 service levels of 12.7 county FTEs per 1,000 persons, per capita increases in employment by the county would be 40 FTEs by 2000 and 72 FTEs by 2015 (Table 4.5-1). This increase in county employees represents a 4 percent increase in staffing by 2015 over 1995 (closure baseline) levels of 2,024 FTEs.

Based on the 1990 area-generated level-of-service ratio of 546 developed acres per employee, Merced County could require an increase of up to two employees, in addition to the calculated per capita increases. These

Table 4.5-1. Government Employment Effects: Proposed Action

	2000	2005	2015
Merced County	40	57	72
City of Atwater	7	10	12
City of Merced	7	9	12
Total	54	76	96

Notes: Effects of migratory-related population changes on local government employment requirements, excluding teachers, police officers, and fire fighters, which are analyzed seperately. Area-generated employee demand is not included in this table.

employees would be required to serve the additional service area created by the development of 998 acres for which the county would be responsible. The airfield and aviation support areas are assumed to be the responsibility of a separate airport authority.

City of Atwater. Atwater would experience a population increase of 1,293 persons by 2000 and 2,361 persons by 2015. This would generate a per capita increase in public service employment of 7 FTEs by 2000, and 12 by 2015 in order to maintain the 1990 level of service of 5.2 city FTEs per 1,000 persons (see Table 4.5-1). These additional employees could represent an 18 percent increase in staffing by 2015 over closure baseline levels of 67 FTEs. In addition, based on the 1990 area-generated service ratio of 36 acres per city employee, up to seven city employees could be required to serve the 268 acres of new area added to the city service area. This staffing-to-population service ratio is used to compare effects between alternatives only and does not suggest future staffing levels for Atwater.

City of Merced. In order to maintain the 1990 level of service of 6.1 employees per 1,000 persons, municipal staffing would need to increase in Merced to accommodate an in-migrating population of 1,074 by 2000, and 1,962 by 2015. By 2000, the city would require 7 additional FTEs, increasing to a total of 12 by 2015 (see Table 4.5-1). These additional employees would increase staffing by almost 4 percent over the closure level of 311 employees.

4.5.1.2 Castle Aviation Center Alternative

Merced County. Under this alternative, Merced County would experience greater increases in the service population than under other reuse alternatives. By 2000, in-migration would total 5,988 persons and 9,266 persons in 2015. Based on the 1990 staffing level of 12.7 county FTEs per 1,000 persons, 76 employees would be required by 2000 and 118 employees by 2015 to maintain service levels (Table 4.5-2). These increases in county staffing levels would represent a 6 percent increase over baseline closure levels by 2015.

Table 4.5-2. Government Employment Effects: Castle Aviation Center Alternative

	2000	2005	2015
Merced County	76	108	118
City of Atwater	13	18	20
City of Merced	13	18	19
Total	102	144	157

Notes: Effects of migratory-related population changes on local government employment requirements, excluding teachers, police officers, and fire fighters, which are analyzed separately. Area-generated employee demand is not included in this table.

Reuse of the base under the Castle Aviation Center Alternative would create 2,509 acres of new service area in the county. In order to provide infrastructure and service requirements to this area, Merced County may have to add as many as five employees in addition to those necessary to meet per capita-generated service demands.

City of Atwater. By 2000, in-migration into Atwater would total 2,475 persons and 3,830 persons by 2015. The resulting increases in service demand would require the city to increase government staffing by 13 personnel by 2000 and 20 by 2015. These increases would be necessary to maintain the 1990 level of service at 5.2 FTE employees per 1,000 persons. The 20 additional personnel by 2015 would increase total staff levels by 30 percent over the 67 employees remaining after closure.

Area-generated service demands for this alternative would be the same as the other alternatives in order to serve the 268 acres of additional service area. By 2015, the city could require up to seven employees in addition to those necessary to meet per capita service demands.

City of Merced. In-migrating population to Merced would be 2,060 persons by 2000 and 3,187 persons in 2015. However, city staffing levels would have to increase in order to maintain the 1990 level of service of 6.1 employees per 1,000 persons. By 2000, city employees could increase by 13, and reach 19 by 2015 to meet the higher service demands (see Table 4.5-2). The higher staff levels would represent a 6 percent increase over the closure levels of 311 employees.

4.5.1.3 Commercial Aviation Alternative

Merced County. Under the Commercial Aviation Alternative, Merced County would experience an increase in population due to in-migration of 1,552 persons by 2000 and 5,929 by 2015. With approximately 93 percent of the total population increase in-migrating to the ROI, Merced County would

have the greatest increase in demand for government services. County employment related to activities at the project site would need to increase by 20 employees in 2000 and 75 in 2015 in order to maintain 1990 service levels of 12.7 FTE county employees per 1,000 persons (Table 4.5-3). Increases in staffing levels over closure baseline conditions (2,024 FTE employees) under this alternative would be about the same as the Proposed Action (4 percent) by 2015.

Table 4.5-3. Government Employment Effects: Commercial Aviation Alternative

	2000	2005	2015
Merced County	20	40	75
City of Atwater	3	7	13
City of Merced	3	7	12
Total	26	54	100

Notes: Effects of migratory-related population changes on local government employment requirements, excluding teachers, police officers, and fire fighters, which are analyzed separately. Area-generated employee demand is not included in this table.

Based on the 1990 service area per government employee level (546 acres per employee), the county could require up to two additional employees by 2015 to serve the additional 1,258 serviceable acres of this site created by reuse under this alternative.

City of Atwater. The Commercial Aviation Alternative would increase public service demand in Atwater, based on population in-migration of 642 persons in 2000 and 2,452 persons in 2015. This would require an increase in city staffing levels of 3 personnel by 2000 and 13 personnel by 2015 to maintain the 1990 level of municipal services of 5.2 FTE employees per 1,000 persons (see Table 4.5-3). By 2015, potential increases in city staff levels would represent a 19 percent increase over closure baseline staff levels of 67 FTE employees.

As with the Proposed Action, the additional 268 acres of service area created in Atwater could require as many as seven employees, in addition to the calculated per capita increases, to serve this area.

City of Merced. Municipal staffing for Merced would increase under this alternative to maintain its level of service of 6.1 FTE employees per 1,000 persons, and accommodate increased service demands from in-migration of 534 persons by 2000 and 2,040 persons by 2015. By 2000, the city would require 3 additional employees, increasing to a total of 12 by 2015

(see Table 4.5-3). These additional city employees would increase closure baseline staff levels of 311 employees by 4 percent by 2015.

4.5.1.4 Aviation with Mixed Use Alternative

Merced County. Under the Aviation with Mixed Use Alternative, Merced County would experience an increase in population due to in-migration of 1,942 persons by 2000 and 6,236 by 2015. With approximately 93 percent of the total population increase in-migrating to the ROI, Merced County would have the greatest increase in demand for government services. County employment related to activities at the project site would need to increase by 25 employees in 2000 and 79 in 2015 in order to maintain 1990 service levels of 12.7 county FTEs per 1,000 persons (Table 4.5-4). Increases in staffing levels over closure baseline conditions (2,024 FTEs) under this alternative would be about the same as the Proposed Action (4 percent) by 2015.

Table 4.5-4. Government Employment Effects: Aviation with Mixed Use Alternative

	2000	2005	2015
Merced County	25	41	79
City of Atwater	4	7	13
City of Merced	4	7	13
Total	33	55	105

Notes: Effects of migratory-related population changes on local government employment requirements, excluding teachers, police officers, and fire fighters, which are analyzed separately. Area-generated employee demand is not included in this table.

Based on the 1990 service area of 546 acres per government employee, the county could require up to two additional employees by 2015 to serve the additional 1,084 serviceable acres created by reuse under this alternative.

City of Atwater. The Aviation with Mixed Use Alternative would also increase public service demand in Atwater, based on population in-migration of 805 persons in 2000 and 2,578 persons in 2015. This would require an increase in city staffing levels of 4 personnel by 2000 and 13 personnel by 2015 to maintain the 1990 level of service of 5.2 FTEs per 1,000 persons (see Table 4.5-4). By 2015, potential increases in city staff levels would represent a 19 percent increase over closure baseline staff levels of 67 FTEs.

As with the Proposed Action, the additional 268 acres of service area in Atwater could require as many as seven employees, in addition to the calculated per capita increases, to serve this area.

City of Merced. Municipal staffing for Merced also would increase under this alternative to maintain its level of service of 6.1 FTEs per 1,000 persons, and accommodate increased service demands from in-migration of 688 persons by 2000 and 2,145 persons by 2015. By 2000, the city would require 4 additional employees, increasing to 13 by 2015 (see Table 4.5-4). These additional city employees would increase closure baseline staff levels of 311 employees by 4 percent by 2015.

4.5.1.5 Non-Aviation Alternative

Merced County. In-migration into Merced County would total 256 persons by 2000 and 3,845 persons by 2015. Using a 1990 staffing level of 12.7 county FTE employees per 1,000 persons, 3 employees would have to be added under the Non-Aviation Alternative in 2000 and 49 in 2015 to maintain the same service levels (Table 4.5-5). By 2015, this alternative would increase county staff levels by 2 percent over the 2,024 employees remaining at closure.

Table 4.5-5. Government Employment Effects: Non-Aviation Alternative

	2000	2005	2015
Merced County	3	28	49
City of Atwater	1	5	8
City of Merced	1	5	8
Total	5	38	65

Notes: Effects of migratory-related population changes on local government employment requirements, excluding teachers, police officers, and fire fighters, which are analyzed separately. Area-generated employee demand is not included in this table.

Under this alternative the majority of the base (2,509 acres, excluding the portions located in the city of Atwater) would become the responsibility of Merced County. Based on the 1990 service area ratio of 546 acres per employee, the county could require up to five additional employees to serve the area.

City of Atwater. To maintain the level of service at 5.2 FTE employees per 1,000 persons, one additional employee would be required in Atwater by 2000, and eight additional personnel would be needed by 2015 to meet increased service demands generated by 105 persons by 2000 and 1,594 persons by 2015 migrating into the city during this period (see Table 4.5-5).

Compared with a closure level of 67 employees, the Non-Aviation Alternative would generate a 12 percent increase in city staff levels by 2015.

As with the other alternatives, area-generated service demands could require as many as seven additional employees to serve the 268 serviceable acres to be developed under the Non-Aviation Alternative by 2015.

City of Merced. Merced would have to increase municipal staff by the same number of employees as Atwater in order to maintain the 1990 level of service of 6.1 FTE employees per 1,000 persons. To accommodate increased service demands created by in-migration of 88 persons by 2000 and 1,323 persons by 2015, the city would need to increase its staff by one employee in 2000 and by eight in 2015 (see Table 4.5-5). This would represent a 3 percent increase over the closure level of 311 employees by 2015.

4.5.1.6 No-Action Alternative. Local government effects for the No-Action Alternative would be those described in Section 3.5.1 as closure conditions.

4.5.2 Public Education

Potential effects to education services and facilities are examined for each alternative. The analysis considers the project-related population change and its effect on local enrollments and teaching staff strengths.

All of the school districts in the ROI are operating at or above design capacity. Portable classrooms have very little room for additional students and some elementary schools have converted to a year-round schedule. Enrollments are projected to continue increasing as population grows. A need for new school facilities to accommodate future enrollment growth has been identified by the local school districts (Merced Union High School District, 1991c).

Following closure of the base, growth pressures affecting the school districts would be partially eased due to closure-related enrollment decreases described in Section 3.5.2. After closure in 1995, school districts would have adequate capacity districtwide in the short term; however, there may be inadequate capacity at individual schools for the in-migrating students projected under the Proposed Action and for each alternative. However, there would be a long-term need for new school facilities to accommodate anticipated future enrollment increases.

The 1990 student-teacher ratios of 22.5 for Atwater Elementary School District, 25.7 for Merced City School District, 25.1 for the Winton School District, and 19.6 for Merced Union High School District, were maintained in the projections for the Proposed Action and each alternative.

4.5.2.1 Proposed Action

Atwater Elementary School District. With implementation of the Proposed Action, student enrollments in the Atwater Elementary School District are projected to increase by 96 in 2000 and 176 in 2015 (Table 4.5-6). Over the long term, the enrollment increase of 176 students would replace 12 percent of the enrollment decrease of 1,423 students that would be experienced in the district at base closure.

Table 4.5-6. Enrollment and Teaching Staff Effects: Proposed Action

School District	2000	2005	2015
Student Enrollment Effects			
Atwater Elementary	96	139	176
Merced City	79	115	146
Winton	18	27	34
Merced Union High	100	146	184
Total	293	427	540
Teaching Staff Effects			
Atwater Elementary	4	6	8
Merced City	3	4	6
Winton	1	1	1
Merced Union High	5	7	9
Total	13	18	24

Note: Effects of migratory-related population changes on student enrollment and teaching staff requirements.

The number of teachers needed to serve the additional enrollments projected under the Proposed Action would be four by 2000 and eight by 2015, assuming the 1990 student-teacher ratio is maintained. The addition of 8 teachers by 2015 represents approximately a 6 percent increase over the estimated staffing level (137 teachers) at closure.

Merced City School District. Student enrollments in the Merced City School District are projected to increase by 79 in 2000 and 146 in 2015 (see Table 4.5-6). By 2015, enrollments would increase to replace 49 percent of the 298 enrollments reduced due to base closure.

With the additional enrollments, teaching staff would increase in the Merced City School District by three in 2000 and six in 2015 in order to maintain the 1990 student-teacher ratio. The six teachers needed in the long term would increase the total number of teachers in the district by 1 percent over the closure level of 417 teachers.

Winton School District. Student enrollments in the Winton School District are projected to increase by 18 in 2000 and 34 in 2015 (see Table 4.5-6). Over the long term, the enrollment increase of 34 students would replace approximately 48 percent of the enrollment decrease of 71 students at base closure.

The number of teachers required to serve the increased enrollments would be one by 2000 and one by 2015 in order to maintain the 1990 student-teacher ratio. The addition of one teacher represents approximately a 2 percent increase over the closure level of 56 teachers.

Merced Union High School District. Student enrollments in the Merced Union High School District are projected to increase by 100 in 2000 and 184 in 2015 (see Table 4.5-6). By 2015, approximately 43 percent of the enrollments reduced by base closure would be replaced by the Proposed Action (184 of 425).

Related teaching staff requirements in the Merced Union High School District would be five by 2000 and nine by 2015 in order to maintain the 1990 student-teacher ratio. Nine additional teachers represent a 3 percent increase over the closure staffing level of 352 teachers.

Colleges and Universities. Merced College and Chapman University maintain offices and offer courses at Castle AFB. Following closure it is assumed that these programs would be discontinued.

Under the Proposed Action, existing classrooms and other facilities on site would be reused for a community education center or vocational school. It is likely that such a center would provide substitute educational programs or would continue the education services being provided on base.

4.5.2.2 Castle Aviation Center Alternative

Atwater Elementary School District. Student enrollment is projected to increase in the Atwater Elementary School District by 187 in 2000 and 290 in 2015 (Table 4.5-7). By 2015, 20 percent of the enrollment reduction experienced at closure would be replaced as a result of the Castle Aviation Center Alternative.

The number of teachers needed to serve the additional enrollments projected under the Castle Aviation Center Alternative would be 8 by 2000 and 13 by 2015, assuming the 1990 student-teacher ratio is maintained. The need in the long term for 13 teachers represents a 9 percent increase over the estimated staffing level at closure.

Merced City School District. Student enrollments in the Merced City School District are projected to increase by 155 in 2000 and 241 in 2015 (see

Table 4.5-7. Enrollment and Teaching Staff Effects: Castle Aviation Center Alternative

School District	2000	2005	2015
Student Enrollment Effects			
Atwater Elementary	187	265	290
Merced City	155	221	241
Winton	36	51	56
Merced Union High	195	276	302
Total	573	813	889
Teaching Staff Effects			
Atwater Elementary	8	12	13
Merced City	6	9	9
Winton	1	2	2
Merced Union High	10	14	15
Total	25	37	39

Note: Effects of migratory-related population changes on student enrollment and teaching staff requirements.

Table 4.5-7). By 2015, these new enrollments would replace approximately 81 percent of the enrollments reduced due to base closure.

Associated increases in teaching staff in the Merced City School District would be six by 2000 and nine by 2015 in order to maintain the 1990 student-teacher ratio. Nine additional teachers represent a 2 percent increase over the estimated 1995 staffing level.

Winton School District. Student enrollment under the Castle Aviation Center Alternative is projected to increase in the Winton School District by 36 in 2000 and 56 in 2015 (see Table 4.5-7). The long-term enrollment increase would replace about 79 percent of the enrollment reduction that would be experienced in the district in 1995.

The number of teachers associated with the increased enrollments would be one by 2000 and two by 2015 in order to maintain the 1990 student-teacher ratio. The addition of two teachers represents approximately a 4 percent increase in teaching staff over the closure level.

Merced Union High School District. Student enrollments in the Merced Union High School District are projected at 195 in 2000 and 302 in 2015 (see Table 4.5-7). By 2015, enrollments would increase due to the Castle Aviation Center Alternative to replace approximately 71 percent of the enrollments reduced by base closure.

Teaching staff requirements in the Merced Union High School District would be 10 by 2000 and 15 by 2015 in order to maintain the 1990 student-

teacher ratio. An additional 15 teachers represent an increase of 4 percent over the estimated staffing level in 1995.

Colleges and Universities. The educational component of the Castle Aviation Center Alternative would be a community outreach school facility that would be used for retraining the disadvantaged, homeless, or unemployed. The students would live at the school and receive vocational training. At the conclusion of their program, students would receive assistance in finding employment, and would possibly be employed at the site. The vocational education program, would provide similar educational services to those described in the Proposed Action, although students would be drawn from a target population under this alternative, rather than from the general public.

4.5.2.3 Commercial Aviation Alternative

Atwater Elementary School District. Student enrollments under the Commercial Aviation Alternative are projected to increase in the Atwater Elementary School District by 48 in 2000 and 184 in 2015 (see Table 4.5-8). The 184 students that could be added to district enrollment by 2015 would replace about 13 percent of the decrease in enrollments that are projected to result from base closure.

Associated increases in teaching staff would be two by 2000 and eight by 2015 in order to maintain the 1990 student-teacher ratio. The long-term need for teachers represents approximately a 6 percent increase over the estimated staffing level at closure.

Merced City School District. Student enrollments in the Merced City School District are projected to increase by 40 in 2000 and 153 in 2015 (see Table 4.5-8). Over the long term, the enrollment increase would offset approximately 51 percent of the decrease projected to be experienced in the district at base closure.

Associated increases in teaching staff in the Merced City School District would be two by 2000 and six by 2015 in order to maintain the 1990 student-teacher ratio. The addition to the teaching staff represents approximately a 1 percent increase over the 1995 staffing level.

Winton School District. Student enrollments in the Winton School District are projected to increase by 9 in 2000 and 36 in 2015 (see Table 4.5-8). The long-term enrollment increase would replace about 51 percent of the enrollment reduction that would be experienced in the district in 1995.

Associated increases in teaching staff would be one between 2005 and 2015 in order to maintain the 1990 student-teacher ratio, an increase in the long term of about 2 percent compared with the 1995 staffing level.

Table 4.5-8. Enrollment and Teaching Staff Effects: Commercial Aviation Alternative

School District	2000	2005	2015
Student Enrollment Effects			
Atwater Elementary	48	97	184
Merced City	40	81	153
Winton	9	19	36
Merced Union High	50	102	192
Total	147	299	565
Teaching Staff Effects			
Atwater Elementary	2	4	8
Merced City	2	3	6
Winton	0	1	1
Merced Union High	3	5	10
Total	7	13	25

Note: Effects of migratory-related population changes on student enrollment and teaching staff requirements.

Merced Union High School District. Student enrollments in the Merced Union High School District are projected to increase by 50 in 2000 and 192 in 2015 (see Table 4.5-8). The long-term enrollment increase would replace about 45 percent of the enrollment reduction anticipated in the district in 1995.

Associated increases in teaching staff in the Merced Union High School District would be three by 2000 and ten by 2015 in order to maintain the 1990 student-teacher ratio. Adding ten teachers would increase teaching staff by about 3 percent over the 1995 level.

Colleges and Universities. The programs currently offered by Merced College and Chapman University at Castle AFB would be discontinued or relocated in 1995. Under the Commercial Aviation Alternative, no additional educational uses are proposed.

4.5.2.4 Aviation with Mixed Use Alternative

Atwater Elementary School District. Student enrollments under the Aviation with Mixed Use Alternative are projected to increase in the Atwater Elementary School District by 60 in 2000 and 194 in 2015 (Table 4.5-9). The 194 students that could be added to district enrollment by 2015 would replace about 14 percent of the decrease in enrollment projected to result from base closure.

Table 4.5-9. Enrollment and Teaching Staff Effects: Aviation with Mixed Use Alternative

School District	2000	2005	2015
Student Enrollment Effects			
Atwater Elementary	60	99	194
Merced City	50	82	161
Winton	12	19	37
Merced Union High	63	103	203
Total	185	303	595
Teaching Staff Effects			
Atwater Elementary	3	4	9
Merced City	2	3	6
Winton	0	1	1
Merced Union High	3	5	10
Total	8	13	26

Note: Effects of migratory-related population changes on student enrollment and teaching staff requirements.

Associated increases in teaching staff would be three by 2000 and nine by 2015 in order to maintain the 1990 student-teacher ratio. The long-term need for nine teachers represents approximately a 7 percent increase over the estimated staffing level in 1995.

Merced City School District. Student enrollments in the Merced City School District are projected to increase by 50 in 2000 and 161 in 2015 (see Table 4.5-9). Over the long term, the enrollment increase would replace approximately 54 percent of the enrollment decrease projected to be experienced in the district in 1995.

Associated increases in teaching staff in the Merced City School District would be two by 2000 and six by 2015 in order to maintain the current 1990 student-teacher ratio. The addition of six teachers represents approximately a 1 percent increase over the 1995 staffing level.

Winton School District. Student enrollments in the Winton School District are projected to increase by 12 in 2000 and 37 in 2015 (see Table 4.5-9). The long-term enrollment increase would replace about 52 percent of the enrollment reduction that would be experienced in the district in 1995.

Associated increases in teaching staff would be one by 2015 in order to maintain the 1990 student-teacher ratio, an increase in the long term of about 2 percent compared to the 1995 staffing level.

Merced Union High School District. Student enrollments in the Merced Union High School District are projected to increase by 63 in 2000 and 203

in 2015 (see Table 4.5-9). The long-term enrollment increase would replace about 48 percent of the enrollment reduction anticipated in the district in 1995.

Associated increases in teaching staff in the Merced Union High School District would be three by 2000 and ten by 2015 in order to maintain the 1990 student-teacher ratio. Adding ten teachers would increase teaching staff by about 3 percent over the 1995 level.

Colleges and Universities. The reuse effects to post-secondary education would be the same as those described for the Proposed Action.

4.5.2.5 Non-Aviation Alternative

Atwater Elementary School District. Student enrollments in the Atwater Elementary School District are projected to be 8 in 2000 and 118 in 2015 (Table 4.5-10). By 2015, 8 percent of the enrollment decline experienced in 1995 would be replaced as a result of the Non-Aviation Alternative.

Table 4.5-10. Enrollment and Teaching Staff Effects: Non-Aviation Alternative

School District	2000	2005	2015
Student Enrollment Effects			
Atwater Elementary	8	68	118
Merced	7	56	97
Winton	2	13	23
Merced Union High	9	71	123
Total	26	208	361
Teaching Staff Effects			
Atwater Elementary	0	3	5
Merced City	0	2	4
Winton	0	1	1
Merced Union High	0	4	6
Total	0	10	16

Note: Effects of migratory-related population changes on student enrollment and teaching staff requirements.

Associated increases in teaching staff would be five by 2015 in order to maintain the 1990 student-teacher ratio. Adding five teachers would increase the teaching staff by about 4 percent over the 1995 level.

Merced City School District. Student enrollments in the Merced City School District are projected to be 7 in 2000 and 97 in 2015 (see Table 4.5-10).

By 2015, 33 percent of the enrollment decline experienced at closure would be replaced due to this alternative.

Associated increases in teaching staff in the Merced City School District would be four by 2015 in order to maintain the 1990 student-teacher ratio, an increase in the long term of 1 percent compared with the 1995 staffing level.

Winton School District. Student enrollments in the Winton School District are projected to be 2 in 2000 and 23 in 2015 (see Table 4.5-10). The long-term enrollment increase would replace about 32 percent of the enrollment reduction experienced in the district in 1995.

Associated increases in teaching staff would be one by 2015 in order to maintain the 1990 student-teacher ratio, an increase in the long term of about 2 percent compared with the 1995 staffing level.

Merced Union High School District. Student enrollments in the Merced Union High School District are projected to increase by 9 in 2000 and 123 in 2015 (see Table 4.5-10). The long-term enrollment increase would replace about 29 percent of the enrollment reduction anticipated in 1995.

Associated increases in teaching staff in the Merced Union High School District would be six by 2015 in order to maintain the 1990 student-teacher ratio, an increase in the long term of about 2 percent compared to the 1995 staffing level.

Colleges and Universities. A major higher educational campus is proposed for the Non-Aviation Alternative. A campus similar to one in the University of California system or a consortium of educational institutions would benefit local educational resources by significantly increasing the number of college-level and continuing education programs available in the community.

4.5.2.6 No-Action Alternative. Public education effects of the No-Action Alternative are the same as those described in Section 3.5.2 as closure conditions.

4.5.3 Police Protection

Under each alternative, potential effects to police protection services are examined based on reuse-related population and responsibility changes resulting from increased service areas, type of services provided, and infrastructure. Because of the magnitude of some effects of closure and reuse, level-of-service ratios may not adequately meet new service requirements.

Area-Generated Police Demands. The site is primarily in Merced County, with portions located in the city of Atwater. Police protection of the site, therefore, would become the responsibility of the Merced County Sheriff's Department and the Atwater Police Department upon reuse. With this increased area of responsibility, further officer staffing by the department may be required in addition to those needed to meet increases in per capita demand. Based on the 1990 level-of-service ratio of 25 square miles per sworn officer, the Merced County Sheriff's Department would not require any additional officers to serve the 2,509-acre (about 4-square mile) site under each reuse alternative. In order to maintain a 1990 service ratio of 184 acres per officer, Atwater Police Department could require one additional sworn officer to serve an additional 268 acres under the Proposed Action and other reuse alternatives.

Under closure baseline conditions with the base in caretaker status (No-Action Alternative), the fenced site would be patrolled by a caretaker team. Law enforcement support would be provided by the Merced County Sheriff's Department and Atwater Police Department. No additional officers would be required.

4.5.3.1 Proposed Action

Merced County Sheriff's Department. The Merced County Sheriff's Department is projected to require one additional sworn officer by 2000 and two sworn officers by 2015 to meet the additional service demand created by the Proposed Action (Table 4.5-11). This increase would maintain the 1990 level of service of 0.4 officer per 1,000 persons. By 2015, the total increased demand of two officers would increase staff levels by 3 percent over the 1995 level of 70 officers. No additional officers are projected to be needed to cover the increased service area created by the Proposed Action. Mutual aid agreements would have to be reviewed by the county with regard to the site.

Table 4.5-11. Police Protection Effects: Proposed Action

	2000	2005	2015
Merced County Sheriff's Department	1	2	2
Atwater Police Department	1	2	2
Merced Police Department	1	2	3
Total	3	6	7

Note: Effects of migratory-related population changes on number of sworn officers required. Does not include area-generated demand.

Atwater Police Department. The Atwater Police Department would experience the greatest percentage increase in demand for staffing under the

Proposed Action. The projected in-migrating population would require staffing levels to increase by one sworn officers by 2000 and two sworn officers by 2015 (see Table 4.5-11). This would retain the 1990 service level of 1.0 sworn officer per 1,000 persons. This increase in police officers would represent a 15 percent increase by 2015 over the 1995 level of 13 officers.

Based on the 1990 area-generated level-of-service ratio, the Atwater Police Department could require one officer, in addition to the per capita increases. New mutual aid agreements between federal, state, and county law enforcement agencies and the Atwater Police Department may be required. No other mutual aid agreements would be affected by reuse of the site.

Merced Police Department. The city of Merced is projected to experience population in-migration associated with the development of the Proposed Action. Resulting increases in demand for police protection services would require the Merced Police Department to increase staffing by a total of 3 officers by 2015, or 5 percent over the 66 sworn officers remaining after 1995. This increase would maintain the 1990 level of service of 1.3 sworn officers per 1,000 persons.

4.5.3.2 Castle Aviation Center Alternative

Merced County Sheriff's Department. The Castle Aviation Center Alternative is projected to have the largest population in-migration of any of the reuse alternatives. As a result, the Merced County Sheriff's Department is projected to require two additional sworn officers by 2000 and four sworn officers by 2015 to meet the additional service demand (Table 4.5-12). This increase would maintain the 1990 level of service of 0.4 officer per 1,000 persons. The total demand of four officers by 2015 would increase staff levels by 6 percent over the 1995 level of 70 officers. No additional officers are projected to be needed to cover the increased service area created by this alternative. Mutual aid agreements would, however, have to be reviewed with regard to the site.

Table 4.5-12. Police Protection Effects: Castle Aviation Center Alternative

	2000	2005	2015
Merced County Sheriff's Department	2	3	4
Atwater Police Department	2	4	4
Merced Police Department	3	4	4
Total	7	11	12

Note: Effects of migratory-related population changes on number of sworn officers required. Does not include area-generated demand.

Atwater Police Department. Projected in-migrating population increases in Atwater would require the police department to increase staffing levels by two sworn officers by 2000 and four sworn officers by 2015 (see Table 4.5-12). This increase in police officers would retain the 1990 service level of 1.0 sworn officer per 1,000 persons and would represent a 31 percent increase by 2015 over the 1995 level of 13 officers.

Based on the 1990 area-generated level-of-service ratio, the Atwater Police Department could require one officer, in addition to the per capita increases. Mutual aid agreements between federal, state, and county law enforcement agencies and the Atwater Police Department with regard to the site would have to be reviewed in accordance with their preclosure agreements. No other mutual aid agreements would be affected by reuse of the site.

Merced Police Department. Merced is projected to experience population in-migration associated with the development of the Castle Aviation Center Alternative. Resulting increases in demand for police protection services would require the Merced Police Department to increase staffing by a total of 4 officers by 2015, or 6 percent over the 66 sworn officers remaining after 1995. This increase would maintain the 1990 level of service of 1.3 sworn officers per 1,000 persons.

4.5.3.3 Commercial Aviation Alternative

Merced County Sheriff's Department. Under the Commercial Aviation Alternative, the Merced County Sheriff's Department is projected to require one additional sworn officer by 2000 and two sworn officers by 2015 to meet the additional service demand created by the Commercial Aviation Alternative (Table 4.5-13). This increase would maintain the 1990 level of service of 0.4 officer per 1,000 persons. By 2015, the total demand of two officers would increase staff levels by 3 percent over 1995 levels of 70 officers. No additional officers are projected to be needed to cover the increased service area created by this alternative. Mutual aid agreements would, however, have to be renegotiated with regard to the site.

Table 4.5-13. Police Protection Effects: Commercial Aviation Alternative

	2000	2005	2015
Merced County Sheriff's Department	1	1	2
Atwater Police Department	1	1	2
Merced Police Department	1	1	3
Total	3	3	7

Note: Effects of migratory-related population changes on number of sworn officers required.

Atwater Police Department. Based on projected in-migrating population increases in Atwater, the police department would require staffing levels to increase by one sworn officer by 2000 and two sworn officers by 2015 (see Table 4.5-13). This would retain the 1990 service level of 1.0 sworn officer per 1,000 persons. This increase in police officers would represent a 15 percent increase by 2015 over the 1995 level of 13 officers. The Atwater Police Department could require one officer, in addition to the per capita-related increases of two officers, to cover the increase in service area. Mutual aid agreements with regard to the site would have to be reviewed in accordance with preclosure agreements. No other mutual aid agreements would be affected by reuse of the site.

Merced Police Department. Merced is projected to experience population in-migration associated with the development of the Commercial Aviation Alternative. Resulting increases in demand for police protection services would require the Merced Police Department to increase staffing by a total of 3 officers by 2015, or 5 percent over the 66 sworn officers remaining after 1995. This increase would maintain the 1990 level of service of 1.3 sworn officers per 1,000 persons.

4.5.3.4 Aviation with Mixed Use Alternative

Merced County Sheriff's Department. Under the Aviation with Mixed Use Alternative, the Merced County Sheriff's Department is projected to require one additional sworn officer by 2000 and two sworn officers by 2015 to meet the additional service demand created by population in-migration created by this alternative (see Table 4.5-14). This increase would maintain the 1990 level of service of 0.4 officer per 1,000 persons. The total demand of two officers would increase staff levels by 3 percent over 1995 levels of 70 officers by 2015. No additional officers are projected to be needed to cover the increased service area created by this alternative. Mutual aid agreements would, however, have to be reviewed with regard to the site.

Table 4.5-14. Police Protection Effects: Aviation with Mixed Use Alternative

	2000	2005	2015
Merced County Sheriff's Department	1	1	2
Atwater Police Department	1	1	3
Merced Police Department	1	1	3
Total	3	3	8

Note: Effects of migratory-related population changes on number of sworn officers required. Does not include area-generated demand.

Atwater Police Department. Based on projected in-migrating population increases in Atwater, the police department would require staffing levels to increase by one sworn officer by 2000 and three sworn officers by 2015 (see Table 4.5-14). This would retain the 1990 service level of 1.0 sworn officer per 1,000 persons. This increase in police officers would represent a 23 percent increase by 2015 over 1995 levels of 13 officers. The Atwater Police Department could require one officer, in addition to the per capita-related increases of three officers, to cover the increase in service area. New mutual aid agreements with regard to the site would have to be reviewed in accordance with preclosure agreements. No other mutual aid agreements would be affected by reuse of the site.

Merced Police Department. Merced is projected to experience population in-migration associated with the development of the Aviation with Mixed Use Alternative. Resulting increases in demand for police protection services would require the Merced Police Department to increase staffing by a total of 3 officers by 2015, or 5 percent over the 66 sworn officers remaining after closure. This increase would maintain the 1990 level of service of 1.3 sworn officers per 1,000 persons.

4.5.3.5 Non-Aviation Alternative

Merced County Sheriff's Department. Based on projected population in-migration associated with the Non-Aviation Alternative, the Merced County Sheriff's Department would require only two additional sworn officers by 2015 to meet the additional service demand associated with the Non-Aviation Alternative (Table 4.5-15). This increase would maintain the 1990 level of service of 0.4 officer per 1,000 persons. The total demand of two officers would increase staff levels by 3 percent over closure levels of 70 officers by 2015. No additional officers are projected to be needed to cover the increased service area created. Mutual aid agreements would, however, have to be reviewed with regard to the site.

Table 4.5-15. Police Protection Effects: Non-Aviation Alternative

	2000	2005	2015
Merced County Sheriff's Department	0	1	2
Atwater Police Department	0	1	2
Merced Police Department	0	1	2
Total	0	3	6

Note: Effects of migratory-related population changes on number of sworn officers required. Does not include area-generated demand.

Atwater Police Department. The Atwater Police Department is projected to require two sworn officers by 2015 to meet the additional service demand

created by the Non-Aviation Alternative (see Table 4.5-15). This increase in police officers would retain the 1990 service levels of 1.0 sworn officer per 1,000 persons and would represent a 15 percent increase by 2015 over the 1995 level of 13 officers.

The Atwater Police Department also could require one officer, in addition to the per capita-related increases of two officers, to cover the increased service area. New mutual aid agreements with regard to the site would have to be reviewed. No other mutual aid agreements would be affected by reuse of the site.

Merced Police Department. Under the Non-Aviation Alternative, Merced is projected to experience population in-migration that could require the Merced Police Department to increase staffing by 2 officers by 2015, or 3 percent over the 66 sworn officers remaining after 1995. This increase would maintain the 1990 level of service of 1.3 sworn officers per 1,000 persons.

4.5.3.6 No-Action Alternative. Police protection effects of the No-Action Alternative are the same as those described in Section 3.5 as closure conditions.

4.5.4 Fire Protection

Under each alternative, potential effects to fire protection services are examined. The analysis considers reuse-related population, service areas, and responsibility changes.

With Castle AFB closed and in caretaker status (No-Action Alternative), a contracted fire protection team would operate at the site using some of the base fire fighting equipment. It is assumed that mutual aid supplemental fire protection support would be provided by the Merced County Fire Department and Atwater Fire Department, which would not require any additional fire fighters in either department.

Area-Generated Fire Fighters. If Castle AFB property is conveyed under the Proposed Action or one of the reuse alternatives, responsibility for fire protection of the site would be assumed primarily by the Merced County Fire Department, with portions within the city of Atwater assumed by the Atwater Fire Department. In order to serve the land area consisting of 2,509 acres (about 4 square miles) and associated infrastructure, the Merced County Fire Department would require one additional fire fighter, in addition to those required for increases in per capita demand for each of the reuse alternatives, based on the 1990 level-of-service ratio of 4.7 square miles per fire fighter.

The Atwater Fire Department would assume responsibility for 268 acres of the base within the city of Atwater and, based on a 1990 level-of-service ratio of 95 acres per fire fighter, the department could require up to three additional fire fighters to serve the new service area.

It is assumed that mutual aid agreements for both departments may have to be reviewed with regard to the site itself; these agreements would not be affected by reuse of the site.

4.5.4.1 Proposed Action

Merced County Fire Department. On a per capita basis, the Merced County Fire Department is projected to require 7 additional fire fighters by 2000 and 13 fire fighters by 2015 to meet the additional demand created by the Proposed Action. This retains the 1990 level of service of 2.3 fire fighters per 1,000 persons (Table 4.5-16). These 13 additional fire fighters would increase the number of fire fighters by 4 percent over 1995 levels of 362 by 2015. In addition, the aviation uses included under the Proposed Action may require special fire-fighting equipment, additional training, and/or a new fire station at the site to provide fire protection services.

Table 4.5-16. Fire Protection Effects: Proposed Action

	2000	2005	2015
Merced County Fire Department	7	10	13
Atwater Fire Department	3	4	5
Merced Fire Department	1	1	2
Total	11	15	20

Note: Effects of migratory-related population changes on number of fire fighters required. Does not include area-generated demand.

Atwater Fire Department. Under the Proposed Action, the Atwater Fire Department is projected to require three additional fire fighters by 2000 and five by 2015 to meet increased demand in Atwater while maintaining the department's 1990 level of service of 2.0 fire fighters per 1,000 persons. These additional fire fighters would represent an increase of 20 percent over 1995 levels of 25 fire fighters.

Merced Fire Department. The Merced Fire Department would require one fire fighter by 2000, increasing to two fire fighters by 2015 in order to meet increased demand for fire protection services under the Proposed Action. This increase would maintain the 1990 level of service of 0.9 fire fighters per 1,000 persons. The two additional fire fighters by 2015 would increase staff levels by 4 percent over the 47 fire fighters in 1995.

4.5.4.2 Castle Aviation Center Alternative

Merced County Fire Department. On a per capita basis, the Merced County Fire Department is projected to require 14 additional fire fighters by 2000 and 21 fire fighters by 2015 to meet the additional demand created by the Castle Aviation Center Alternative. This retains the 1990 level of service of 2.3 fire fighters per 1,000 persons (Table 4.5-17). The additional 21 fire fighters by 2015 would represent an increase of 6 percent over 1995 levels of 362 fire fighters. In addition, the aviation uses proposed may require special fire-fighting equipment, additional training, and/or a new fire station at the site to provide fire protection services.

Table 4.5-17. Fire Protection Effects: Castle Aviation Center Alternative

	2000	2005	2015
Merced County Fire Department	14	20	21
Atwater Fire Department	5	7	8
Merced Fire Department	2	3	3
Total	21	30	32

Notes: Effects of migratory-related population changes on number of fire fighters required. Does not include area-generated effects.

Atwater Fire Department. Under the Castle Aviation Center Alternative the Atwater Fire Department is projected to require five additional fire fighters by 2000 and eight by 2015 to meet increased demand in Atwater while maintaining the department's 1990 level of service of 2.0 fire fighters per 1,000 persons. These additional fire fighters would represent an increase of 32 percent over 1995 levels of 25 fire fighters.

Merced Fire Department. The Merced Fire Department would require two additional fire fighters by 2000 and three additional fire fighters by 2015 in order to meet increased demand under the Castle Aviation Center Alternative. This increase would maintain the 1990 level of service of 0.9 fire fighters per 1,000 persons. The 3 additional fire fighters by 2015 would increase staff levels by 6 percent over the 47 fire fighters in 1995.

4.5.4.3 Commercial Aviation Alternative

Merced County Fire Department. Under the Commercial Aviation Alternative, the Merced County Fire Department is projected to require 4 additional fire fighters by 2000 and 14 by 2015 (Table 4.5-18) to maintain the 1990 level of service of 2.3 fire fighters per 1,000 persons. In comparison with 1995 levels of 362 fire fighters, this alternative would increase the number of fire fighters by 4 percent by 2015. In addition, the aviation uses proposed under the Commercial Aviation Alternative may

Table 4.5-18. Fire Protection Effects: Commercial Aviation Alternative

	2000	2005	2015
Merced County Fire Department	4	7	14
Atwater Fire Department	1	3	5
Merced Fire Department	0	1	2
Total	5	11	21

Notes: Effects of migratory-related population changes on number of fire fighters required. Does not include area-generated effects.

require special fire-fighting equipment, additional training, and/or a new fire station at the site to provide fire protection services to the site.

Atwater Fire Department. Under the Commercial Aviation Alternative, the Atwater Fire Department is projected to need 1 additional fire fighter by 2000 and 5 by 2015 to serve the increased demand created by this alternative, while maintaining the department's 1990 level of service of 2.0 fire fighters per 1,000 persons. These additional fire fighters would represent an increase of 20 percent over 1995 levels of 25 fire fighters.

Merced Fire Department. The city of Merced Fire Department would require one fire fighter by 2005, increasing to two fire fighters by 2015 in order to meet increased demand for fire protection services under the Commercial Aviation Alternative. This increase would maintain the 1990 level of service of 0.9 fire fighter per 1,000 persons. The 2 additional fire fighters by 2015 would increase staff levels by 4 percent over the 47 fire fighters in 1995.

4.5.4.4 Aviation with Mixed Use Alternative

Merced County Fire Department. Under the Aviation with Mixed Use Alternative, the Merced County Fire Department is projected to require 4 additional fire fighters by 2000 and 14 by 2015 (Table 4.5-19) to maintain the 1990 level of service of 2.3 fire fighters per 1,000 persons. In comparison with 1995 levels of 362 fire fighters, this alternative would increase the number of fire fighters by 4 percent by 2015. In addition, the aviation uses proposed under the Aviation with Mixed Use Alternative may require special fire-fighting equipment, additional training, and/or a new fire station at the site to provide fire protection services.

Atwater Fire Department. Under the Aviation with Mixed Use Alternative, the Atwater Fire Department is projected to need 2 additional fire fighters by 2000 and 5 by 2015 to serve the increased demand created by this alternative, while maintaining the department's 1990 level of service of 2.0 fire fighters per 1,000 persons. These additional fire fighters would represent an increase of 20 percent over 1995 levels of 25 fire fighters.

Table 4.5-19. Fire Protection Effects: Aviation with Mixed Use Alternative

	2000	2005	2015
Merced County Fire Department	4	7	14
Atwater Fire Department	2	3	5
Merced Fire Department	1	1	2
Total	7	11	21

Notes: Effects of migratory-related population changes on number of fire fighters required. Does not include area-generated demand.

Merced Fire Department. The city of Merced Fire Department would require one fire fighter by 2000, increasing to two fire fighters by 2015 in order to meet increased demand for fire protection services under the Aviation with Mixed Use Alternative. This increase would maintain the 1990 level of service of 0.9 fire fighter per 1,000 persons. The 2 additional fire fighters by 2015 would increase staff levels by 4 percent over the 47 fire fighters in 1995.

4.5.4.5 Non-Aviation Alternative

Merced County Fire Department. Under the Non-Aviation Alternative, the Merced County Fire Department would need one additional fire fighter by 2000 and nine by 2015 (Table 4.5-20) to meet the related increases in demand for fire protection, while maintaining the department's 1990 level of service of 2.3 fire fighters per 1,000 persons. This would represent a 2 percent increase over 1995 levels by 2015.

Table 4.5-20. Fire Protection Effects: Non-Aviation Alternative

	2000	2005	2015
Merced County Fire Department	1	5	9
Atwater Fire Department	0	2	3
Merced Fire Department	0	1	1
Total	1	8	13

Notes: Effects of migratory-related population changes on number of fire fighters required. Does not include area-generated effects.

Atwater Fire Department. Under the Non-Aviation Alternative, the Atwater Fire Department would need three additional fire fighters by 2015 to meet increased demand for fire protection and retain the 1990 level of service of 2.0 fire fighters per 1,000 persons. The additional three fire fighters by 2015 would increase staffing levels by 12 percent over 1995 levels.

Merced Fire Department. The Merced Fire Department would require one fire fighter by 2005 through 2015, in order to meet increased demand for fire protection services under the Non-Aviation Alternative. This increase would maintain the 1990 level of service of 0.9 fire fighter per 1,000 persons. The one additional fire fighter by 2015 would increase staff levels by 2 percent over the 47 fire fighters in 1995.

4.5.4.6 No-Action Alternative. Fire protection effects of the No-Action Alternative are the same as those described in Section 3.5.4 for closure conditions.

4.5.5 Health Care

The Castle AFB hospital would be closed in 1995, and the Air Force would no longer provide medical services at this site to retired military personnel and their dependents or to dependents of deceased military personnel. Because the nearest Air Force installations with a medical facility are more than 100 miles away (Mather AFB and Travis AFB), the region's 4,611 military retirees and their dependents would likely rely on the 14 acute care hospitals and the various medical personnel in Merced and Stanislaus counties for health care services. Veterans residing in the ROI would have access to the VA hospital in Fresno (60 miles to the south) for benefit services. These are the closure conditions to which each of the reuse alternatives is compared.

4.5.5.1 Proposed Action. Under the Proposed Action, the Castle AFB hospital would be reused as a community medical facility. For the purposes of this analysis, it is assumed that the base facility would be used as a primary care center, governed by either the county of Merced or a private, non-profit organization.

Rural areas of the county have a shortage of dentists and primary care physicians, which is compounded by a lack of medical office space. Reuse of the base facility as a primary care center could benefit regional health care resources by contributing to the supply of primary care and dental care providers. Reuse of the base facility as a hospital is less likely, due to a surplus of acute care beds in the area.

Through the CHAMPUS program, military retirees and their dependents would have convenient access to the health care services and medical facilities available in the community. The community health care services at closure plus potential new services at the site would sufficiently meet the health care needs of retirees and dependents as well as the in-migrating population associated with the Proposed Action.

4.5.5.2 Castle Aviation Center Alternative. Health care effects from implementation of the Castle Aviation Center Alternative would be the same as the effects of the Proposed Action.

4.5.5.3 Commercial Aviation Alternative. A major medical rehabilitation institution is planned as part of the Commercial Aviation Alternative. This institution would comprise 113 acres and would include the dormitories, medical offices, hospital, and outpatient residential facilities on base. Health care effects from implementation of the Commercial Aviation Alternative would be similar to the effects of the Non-Aviation Alternative.

4.5.5.4 Aviation with Mixed Use Alternative. Health care effects from implementation of the Aviation with Mixed Use Alternative would be the same as the effects of the Proposed Action.

4.5.5.5 Non-Aviation Alternative. The base hospital would be reused for teaching purposes by a major educational institution under the Non-Aviation Alternative. Whether or not the new medical facility would serve the community or be limited to internal use by the educational institution, it is not likely to meet the health care needs of the region to the extent that a primary care center would (as assumed under the Proposed Action). The urban health care system has the ability to meet the additional demand for health services generated by the in-migrating population associated with this alternative.

4.5.5.6 No-Action Alternative. Health care effects of the No-Action Alternative would be those described in Section 3.5.5 as closure conditions.

4.6 PUBLIC FINANCE

Fiscal effects to potentially affected jurisdictions are presented in this section. The results represent the net effects of reuse after accounting for the out-migration of the direct and indirect military and civilian jobs associated with phasing out the Castle AFB military mission.

Assumptions. Conversion of portions of the base to private ownership would directly affect property tax revenues in the jurisdictions where the portions to be converted are located (i.e., Merced County, city of Atwater, Merced Union High School District, and Atwater Elementary School District). Indirect property tax effects may be experienced in other jurisdictions due to the effects on the local tax base of population in-migration over and above the expected population out-migration due to closure.

The disposal and reuse process is explained in Chapter 1 of the EIS for Disposal and Reuse of Castle A alifornia. Key assumptions regarding jurisdictional control of base pr under each reuse alternative (the portions of the base proposed for private ownership and those proposed for

public ownership) are presented at the beginning of each section. For publicly owned property not proposed to be transferred as a public conveyance, several methods for financing the purchase (as well as the financing of any infrastructure improvements that may be necessary for property transferred as a public conveyance or purchased outright by a public agency) are available. One method could be the declaration of the base as a redevelopment area. Purchase and development of improvements could be financed by the issuance of bonds. These bonds would be repaid by the expected incremental increase in taxes on privately owned property due to the expected rise in valuations resulting from improvements made by the redevelopment agency in the area.

For purposes of this analysis, financing for the purchase of property and for the development of improvements, as required, is assumed to be direct grants-in-aid from state and federal grant programs, revenue bonds, reserves, and/or other in-place aid programs.

Base property within the city limits of Atwater (the Castle Gardens and Castle Vista family housing areas, Castle Park, the Castle Air Museum, and the base hospital) would remain within Atwater's boundaries. For purposes of this analysis over the time period analyzed, it is assumed that the rest of the base area will remain a part of the unincorporated area of Merced County.

4.6.1 Proposed Action

Key assumptions regarding future jurisdictional control of base property under this alternative, which influence the fiscal assessments, are presented below:

- e 1,033 acres designated for the airfield and the 472 acres designated for aviation support uses would be conveyed to an airport authority or another public agency and would not be subject to local property taxes.

- One-half of the 571 acres designated for commercial and industrial use would be conveyed to an airport authority or other public agencies and would not be subject to local property taxes. The remaining one-half of the acreage would be sold to private interests and would be subject to local property taxes.

- The 23 acres designated for institutional medical use and the 51 acres designated for institutional educational use would remain in public ownership and would not be subject to local property taxes.

- The Castle Gardens family housing area would be conveyed to a public housing authority or some other non-profit housing agency and would not be subject to local property taxes. The Castle Vista family housing area is assumed to be sold in the private housing market and subject to local property taxes.

- All 433 acres designated for public facilities/recreation uses would remain in public ownership and would not be subject to local property taxes.

- The 6 acres designated for agricultural use are assumed to be sold in the private market and to be subject to local property taxes.

4.6.1.1 Merced County. Fiscal effects of the Proposed Action on Merced County indicate an improvement over the No-Action Alternative through FY 2015.

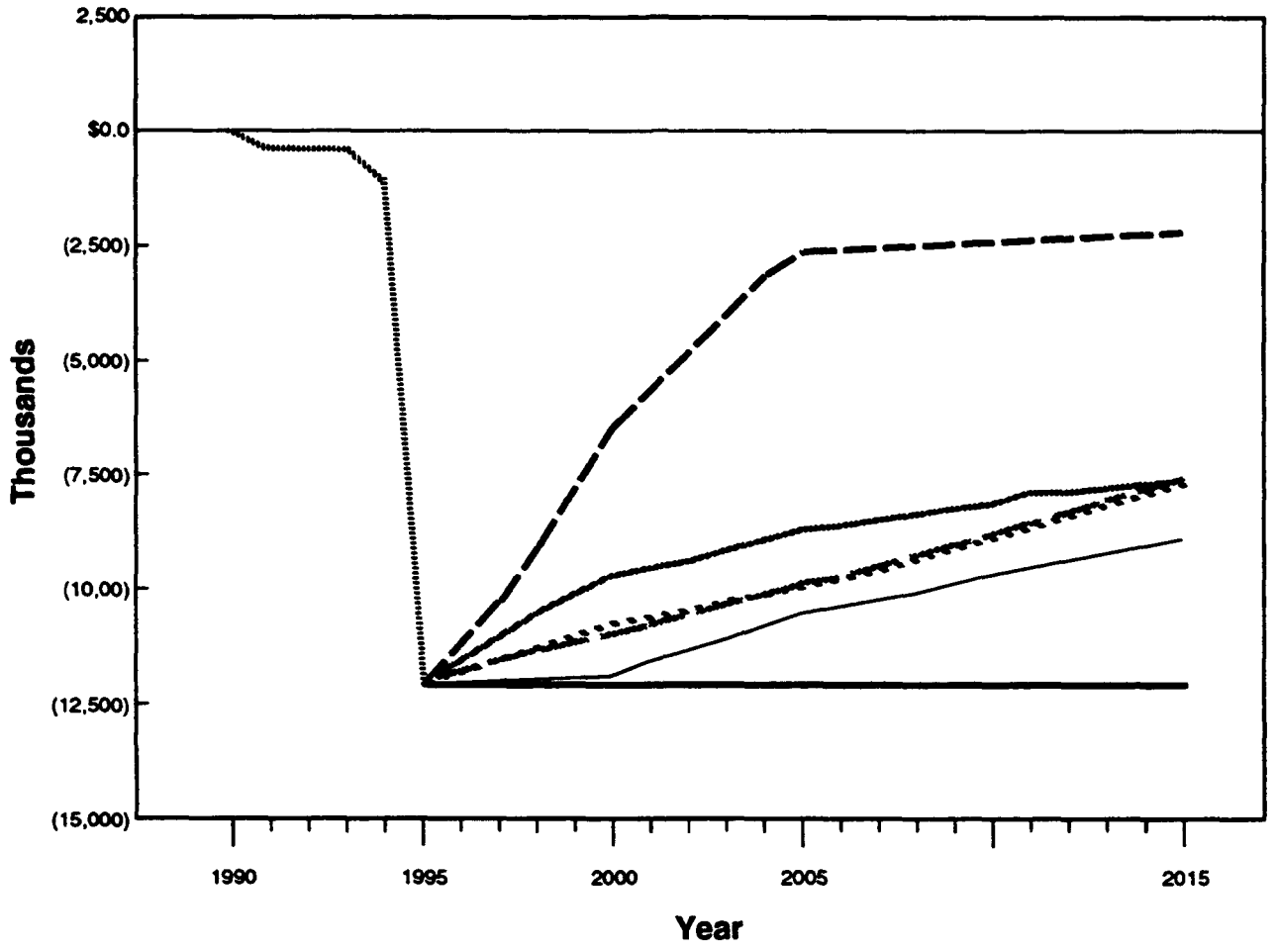
Revenues. Increased revenues to the general and special revenue funds would come from several sources. Property taxes would increase from conversion of a portion of the base to private use. Charges for services and intergovernmental revenue would increase as direct and secondary jobs attract in-migrating workers to the area. Sales taxes would increase as the project-related residents spend their earnings in the local economy. Increased general and special revenue funds are projected to be $2,594,816 in FY 2000 and $5,195,525 by FY 2015.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in county residents are estimated to require $476,417 in additional expenditures in FY 2000 and $870,278 by FY 2015. Projected positive net fiscal effects would be $2,118,399 by FY 2000 and $4,325,247 by FY 2015.

Comparison with Closure Conditions. Figure 4.6-1 shows the net fiscal effects of the Proposed Action and other reuse alternatives, the net revenue increases would not be sufficient to offset projected closure deficits of $12,015,897 (see Section 3.6). From 1995 through FY 2015, the county would be faced with gradually declining deficits ($9,897,498 by FY 2000 and $7,690,650 by FY 2015). These deficits would require some response by the county through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources.

4.6.1.2 City of Atwater. Fiscal effects of the Proposed Action on Atwater indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Increased general and special revenue fund revenues, principally from increased intergovernmental revenue, sales taxes, and property taxes due to the conversion of the Castle Vista housing area to private ownership, are projected to be $211,077 by FY 2000 and $412,759 by FY 2015.



EXPLANATION

- Preclosure
- Proposed Action
- Castle Aviation Center
- Commercial Aviation
- Aviation with Mixed Use
- Non-Aviation
- No-Action/Post-Closure

Merced County Net Fiscal Projections, Proposed Action and Alternatives (1989$)

Figure 4.6-1

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in city residents are estimated to require $150,247 in additional expenditures by FY 2000 and $274,348 by FY 2015. Projected net positive fiscal effects would be $60,830 in FY 2000 and $138,411 by FY 2015.

Comparison with Closure Conditions. Figure 4.6-2 shows the net fiscal effects of the Proposed Action and other reuse alternatives. The net revenue increases would not be sufficient to offset projected closure deficits of $252,189 (see Section 3.6). From 1995 through FY 2015, the city would be faced with gradually declining deficits ($191,359 in FY 2000 and $113,778 in FY 2015). These shortfalls would require some response by the city through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources.

4.6.1.3 City of Merced. Fiscal effects of the Proposed Action on Merced indicate an improvement over the post-closure scenario through FY 2015.

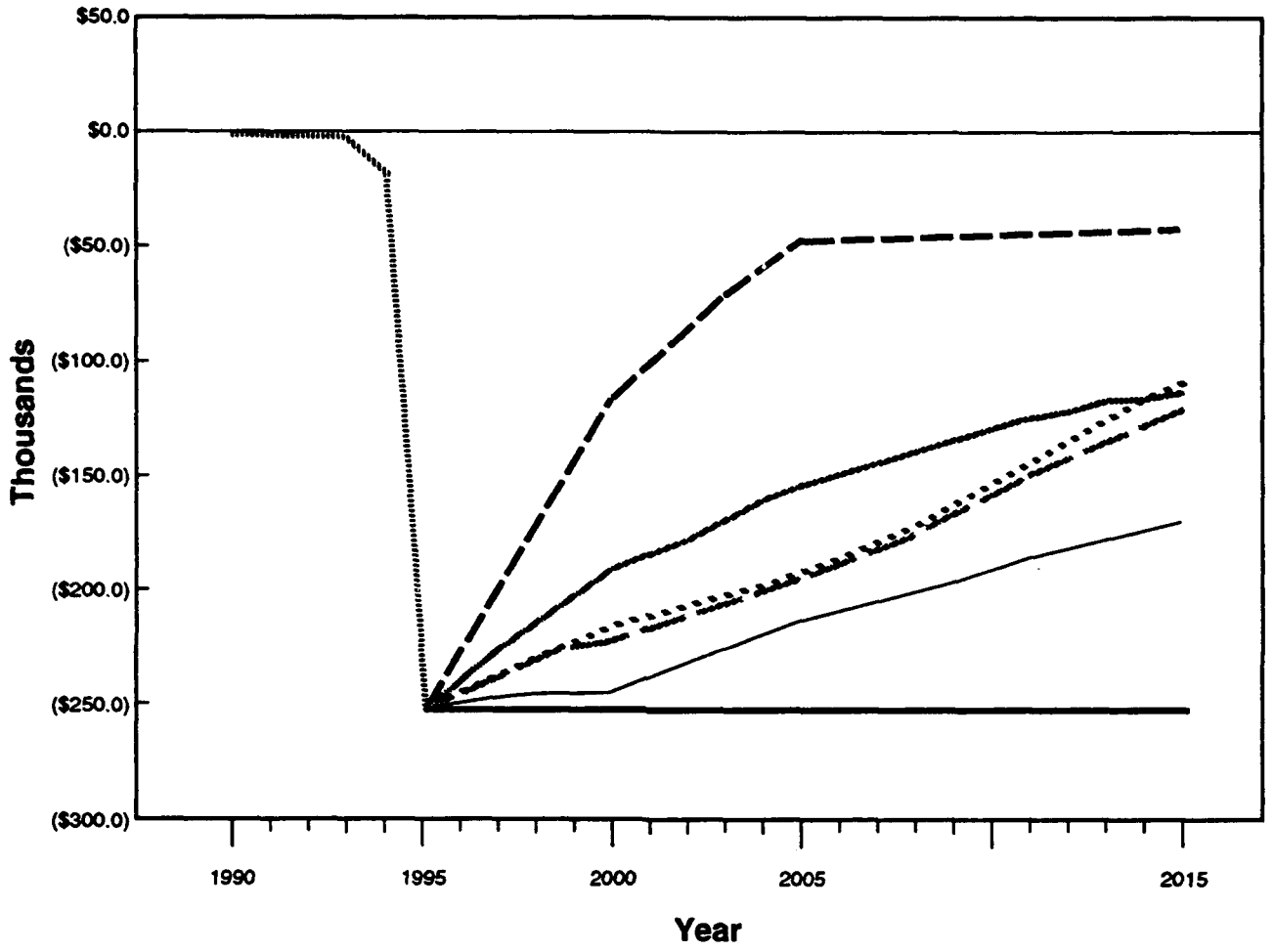
Revenues. Increased general and special revenue fund revenues, principally from increased sales taxes and intergovernmental revenue, are projected to be $491,090 by FY 2000 and $849,772 by FY 2015. None of the base property is within the city boundaries; therefore, no direct property tax effects are projected.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in city residents are estimated to require $244,120 in additional expenditures in FY 2000 and $445,963 by FY 2015. Projected positive net fiscal effects would be $246,970 in FY 2000 and $403,809 by FY 2015.

Comparison with Closure Conditions. Figure 4.6-3 shows the net fiscal effects of the Proposed Action and other reuse alternatives. The net revenue increases would not be sufficient to offset projected closure deficits of $709,797 (see Section 3.6). From 1995 to FY 2015, the city would be faced with gradually declining deficits over this period ($462,827 by FY 2000 and $305,988 by FY 2015). These shortfalls would require some response by the city through service cutbacks, increases in tax and non-tax revenue schedules, or development of new revenue sources.

4.6.1.4 Atwater Elementary School District. Fiscal effects of the Proposed Action on the Atwater Elementary School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under the Proposed Action are projected to be $335,040 in FY 2000 and $614,240 by FY 2015. District funding is principally from property taxes and noncategorical state aid revenues. Funding from both of these sources is limited to approximately $2,630 per student (in constant 1989 dollars) and would amount to $252,480 in FY 2000 and $462,880 in FY 2015.

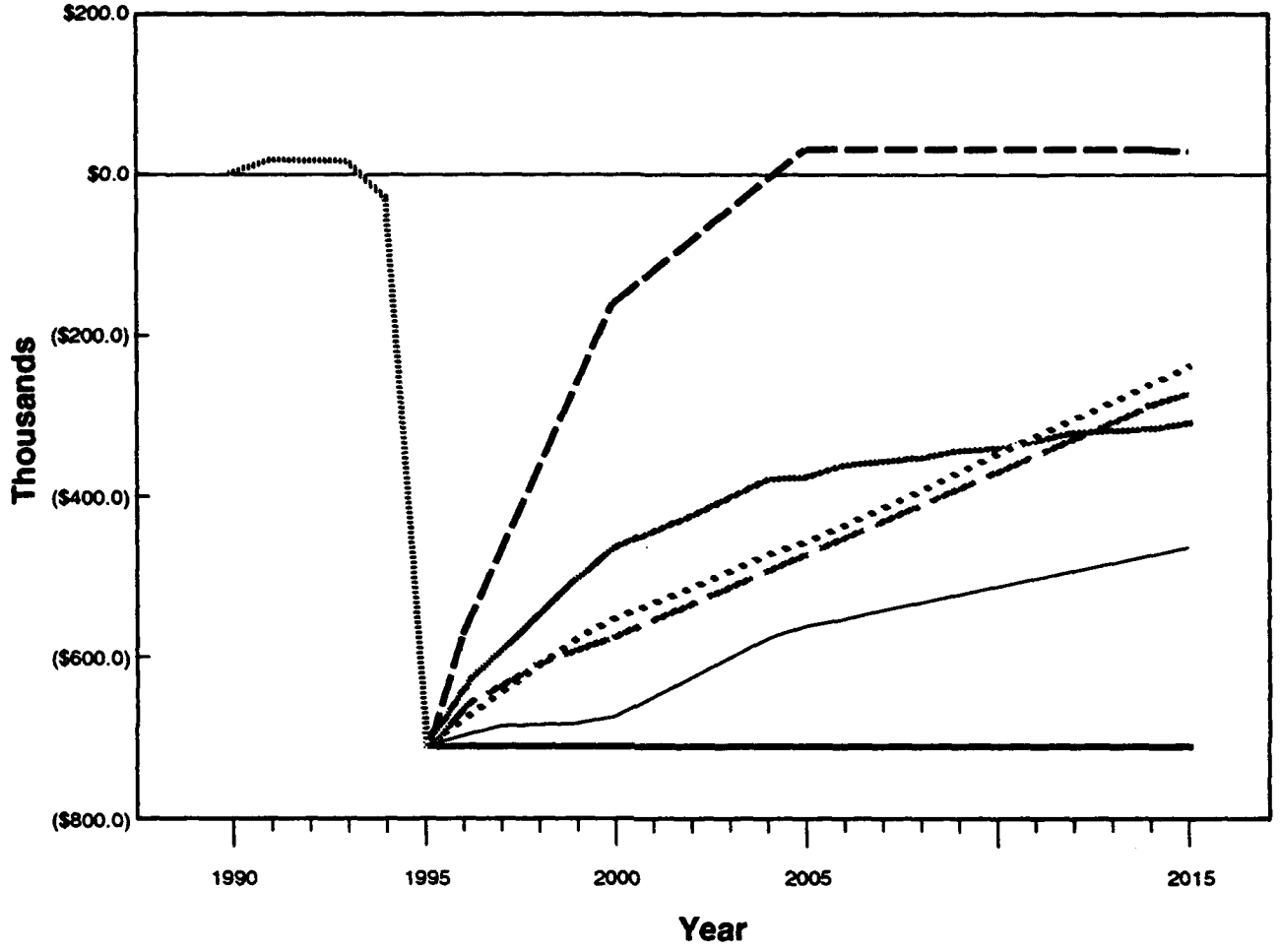


EXPLANATION

- Preclosure
- Proposed Action
- Castle Aviation Center
- Commercial Aviation
- Aviation with Mixed Use
- Non-Aviation
- No-Action/Post-Closure

City of Atwater Net Fiscal Projections, Proposed Action and Alternatives (1989$)

Figure 4.6-2



EXPLANATION

- Preclosure
- Proposed Action
- Castle Aviation Center
- Commercial Aviation
- Aviation with Mixed Use
- Non-Aviation
- No-Action/Post-Closure

City of Merced
Net Fiscal Projections
Proposed Action and Alternatives (1989$)

Figure 4.6-3

The property tax component of these revenue increases would amount to $261,712 in FY 2015. The remainder of the general fund revenue increases would be principally from other state aid programs (categorical state aid programs) and other miscellaneous local and federal sources.

Expenditures and Net Fiscal Effects. Expenditure increases, principally from increased direct instruction costs, would increase $334,176 by FY 2000 and $612,656 by FY 2015 for net revenue increases of $864 in FY 2000 and $1,584 in FY 2015.

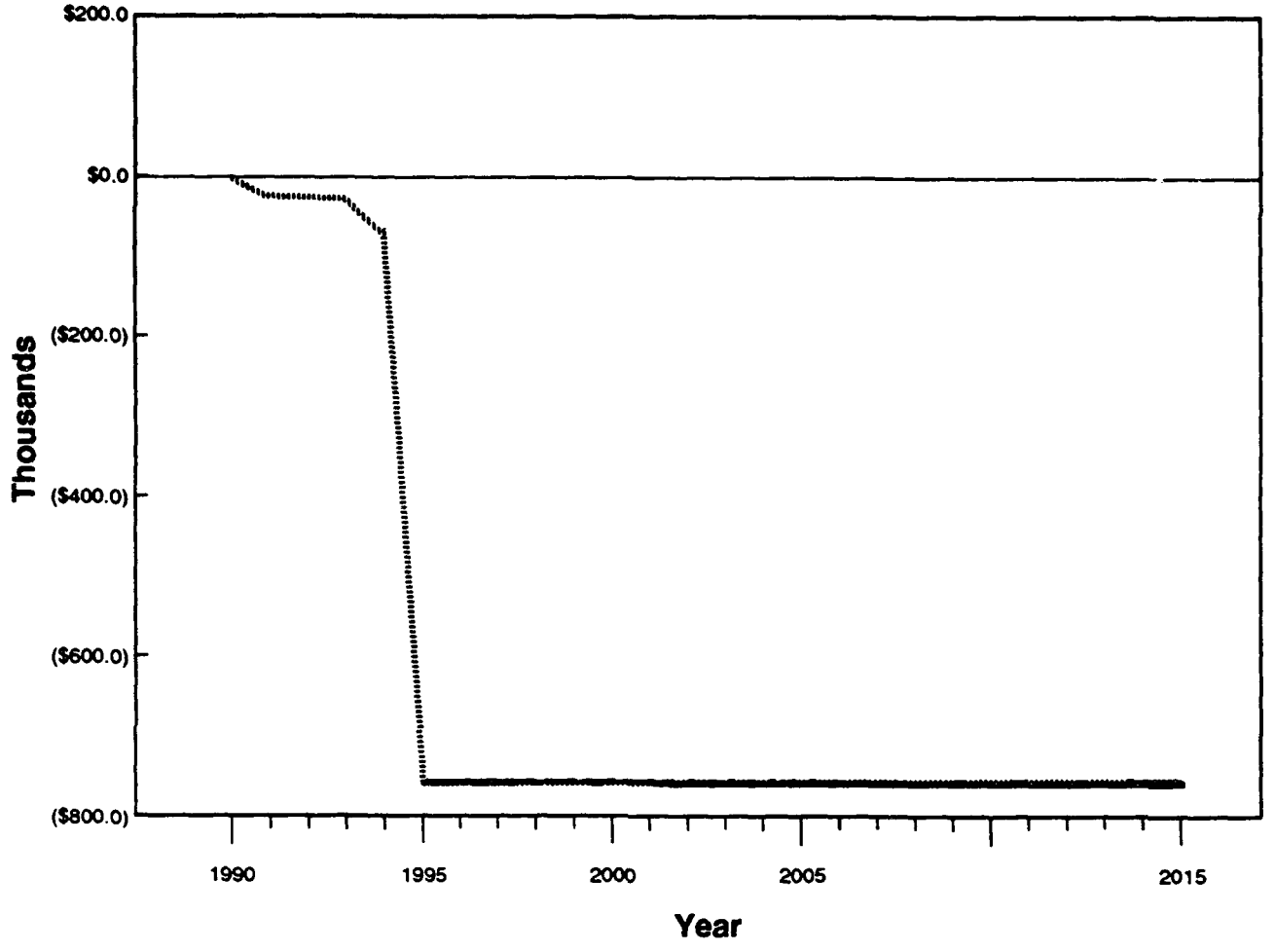
Comparison with Closure Conditions. Figure 4.6-4 shows the net fiscal effects of the Proposed Action and other reuse alternatives. The net revenue increases would not be sufficient to offset projected closure deficits of $754,403 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($753,539 in FY 2000 and $752,819 in FY 2015). This is due to the loss of P.L. 81-874 funds, which are not replaced with state source revenue, and the inability of other revenue sources to keep up with increased costs. If Section 3 transition entitlements are fully funded, these effects would be less and would be apportioned in reducing amounts over a 3-year period starting in FY 1996. Cutbacks in service levels and/or additional revenue from new sources may be required to maintain a balanced fiscal position in the district.

4.6.1.5 Merced City School District. Fiscal effects of the Proposed Action on the Merced City School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under the Proposed Action are projected to be $268,284 in FY 2000 and $495,816 by FY 2015. District funding is principally from property taxes and noncategorical state aid revenues. Funding from both these sources is limited to approximately $2,608 per student (in constant 1989 dollars) and would amount to $206,032 in FY 2000 and $380,768 in FY 2015. None of the base property is within district boundaries; therefore, these revenue increases would come principally from increased noncategorical state aid revenues. The remainder of the general fund revenue increases would be principally from other state aid programs (categorical state aid programs) and other miscellaneous local sources.

Expenditures and Net Fiscal Effects. Expenditure increases, principally from direct instruction costs, would increase by $267,356 by FY 2000 and $494,101 by FY 2015 for net revenue increases of $928 in FY 2000 and $1,715 by FY 2015.

Comparison with Closure Conditions. Figure 4.6-5 shows the net fiscal effects of the Proposed Action and other reuse alternatives. The net revenue increases would not be sufficient to offset projected closure deficits

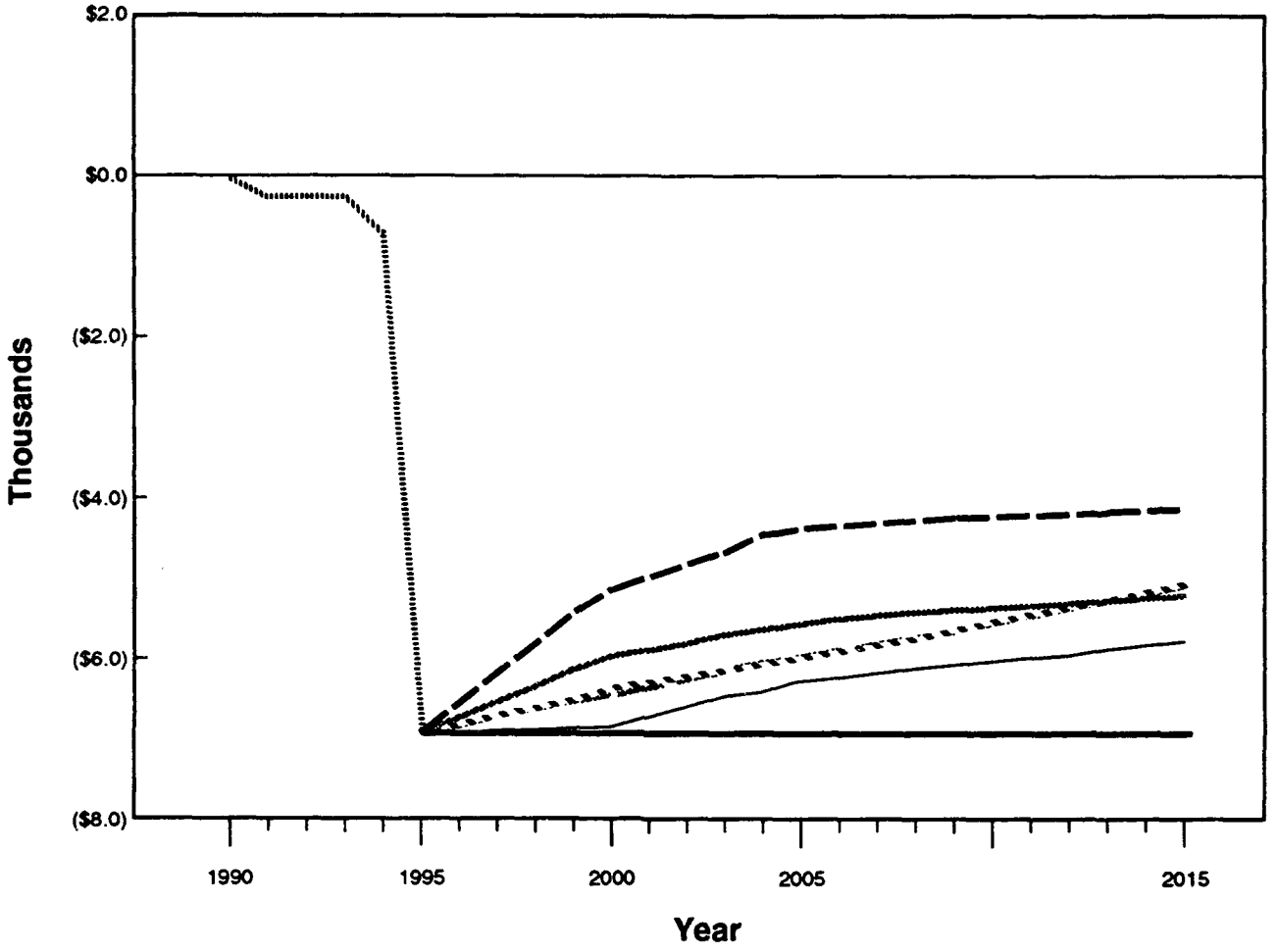


EXPLANATION

- Preclosure
- Proposed Action
- Castle Aviation Center
- Commercial Aviation
- Aviation with Mixed Use
- Non-Aviation
- No-Action/Post-Closure

Atwater Elementary School District Net Fiscal Projections, Proposed Action and Alternatives (1989$)

Figure 4.6-4



EXPLANATION

- Preclosure
- Proposed Action
- Castle Aviation Center
- Commercial Aviation
- Aviation with Mixed Use
- Non-Aviation
- No-Action/Post-Closure

Merced City School District Net Fiscal Projections, Proposed Action and Alternatives (1989$)

Figure 4.6-5

of $6,927 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($5,999 in FY 2000 and $5,212 in FY 2015). This is due to the loss of P.L. 81-874 funds, which are not replaced with state source revenue, and the inability of other revenue sources to keep up with increased costs. If Section 3 transition entitlements are fully funded, these effects would be less severe and would be apportioned in reducing amounts over a 3-year period starting in FY 1996. Cutbacks in service levels and/or additional revenue from new sources may be required to maintain a balanced fiscal position in the district.

4.6.1.6 Winton School District. Fiscal effects of the Proposed Action on the Winton School District indicate an improvement over the No-Action Alternative through FY 2015.

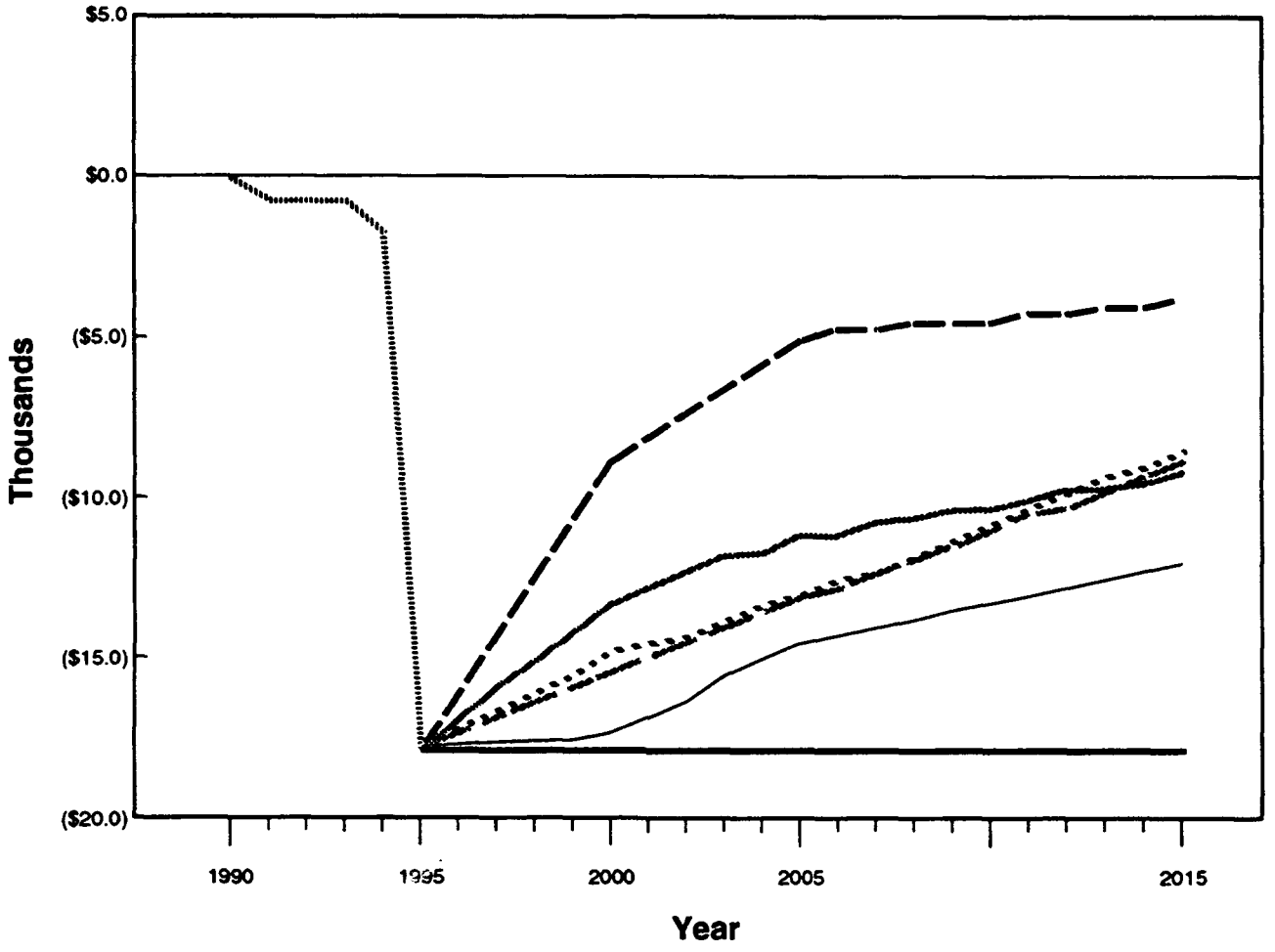
Revenues. Total general fund increases due to the additional students under the Proposed Action are projected to be $60,660 in FY 2000 and $114,580 by FY 2015. District funding is principally from property taxes and noncategorical state aid revenues. Funding from both these sources is limited to approximately $2,573 per student (in constant 1989 dollars) and would amount to $46,314 in FY 2000 and $87,482 in FY 2015. None of the base property is within district boundaries; therefore, these revenue increases would come principally from increased noncategorical state aid revenues. The remainder of the general fund revenue increases would be principally from other state aid programs (categorical state aid programs) and other miscellaneous local sources.

Expenditures and Net Fiscal Effects. Expenditure increases, principally from direct instruction costs, would increase by $56,124 by FY 2000 and $106,012 by FY 2015 for net revenue increases of $4,536 in FY 2000 and $8,568 in FY 2015.

Comparison with Closure Conditions. Figure 4.6-6 shows the net fiscal effects of the Proposed Action and other reuse alternatives. The net revenue increases would not be sufficient to offset projected closure deficits of $17,892 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($13,356 in FY 2000 and $9,324 in FY 2015). Cutbacks in service levels and/or additional revenue from new revenue sources may be required to maintain a balanced fiscal position in the district.

4.6.1.7 Merced Union High School District. Fiscal effects of the Proposed Action on Merced Union High School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under the Proposed Action are projected to be $406,600 in FY 2000 and $748,144 by FY 2015. District funding is principally from property taxes



EXPLANATION

- Preclosure
- Proposed Action
- Castle Aviation Center
- Commercial Aviation
- Aviation with Mixed Use
- Non-Aviation
- No-Action/Post-Closure

Winton School District Net Fiscal Projections, Proposed Action and Alternatives (1989$)

Figure 4.6-6

and noncategorical state aid revenues. Funding from both these sources is limited to approximately $3,303 per student (in constant 1989 dollars) and would amount to $330,300 in FY 2000 and $607,752 by FY 2015. The property tax component of these revenue increases would amount to $228,936 by FY 2015. The remainder of the general fund revenue increases would be principally from other state aid programs (categorical state aid programs) and other miscellaneous local sources.

Expenditures and Net Fiscal Effects. Expenditure increases, principally from direct instruction costs, would increase by $401,950 by FY 2000 and $739,588 by FY 2015 for net revenue increases of $4,650 in FY 2000 and $8,556 in FY 2015.

Comparison with Closure Conditions. Figure 4.6-7 shows the net fiscal effects of the Proposed Action and other reuse alternatives. The net revenue increases would not be sufficient to offset projected closure deficits of $155,713 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($151,063 in FY 2000 and $147,157 in FY 2015). This is due to the loss of P.L. 81-874 funds, which are not replaced with state source revenue, and the inability of other revenue sources to keep up with increased costs. If Section 3 transition entitlements are fully funded, these effects would be less severe and would be apportioned in reducing amounts over a 3-year period starting in FY 1996. Cutbacks in service levels and/or additional revenue from new revenue sources may be required to maintain a balanced fiscal position in the district.

4.6.2 Castle Aviation Center Alternative

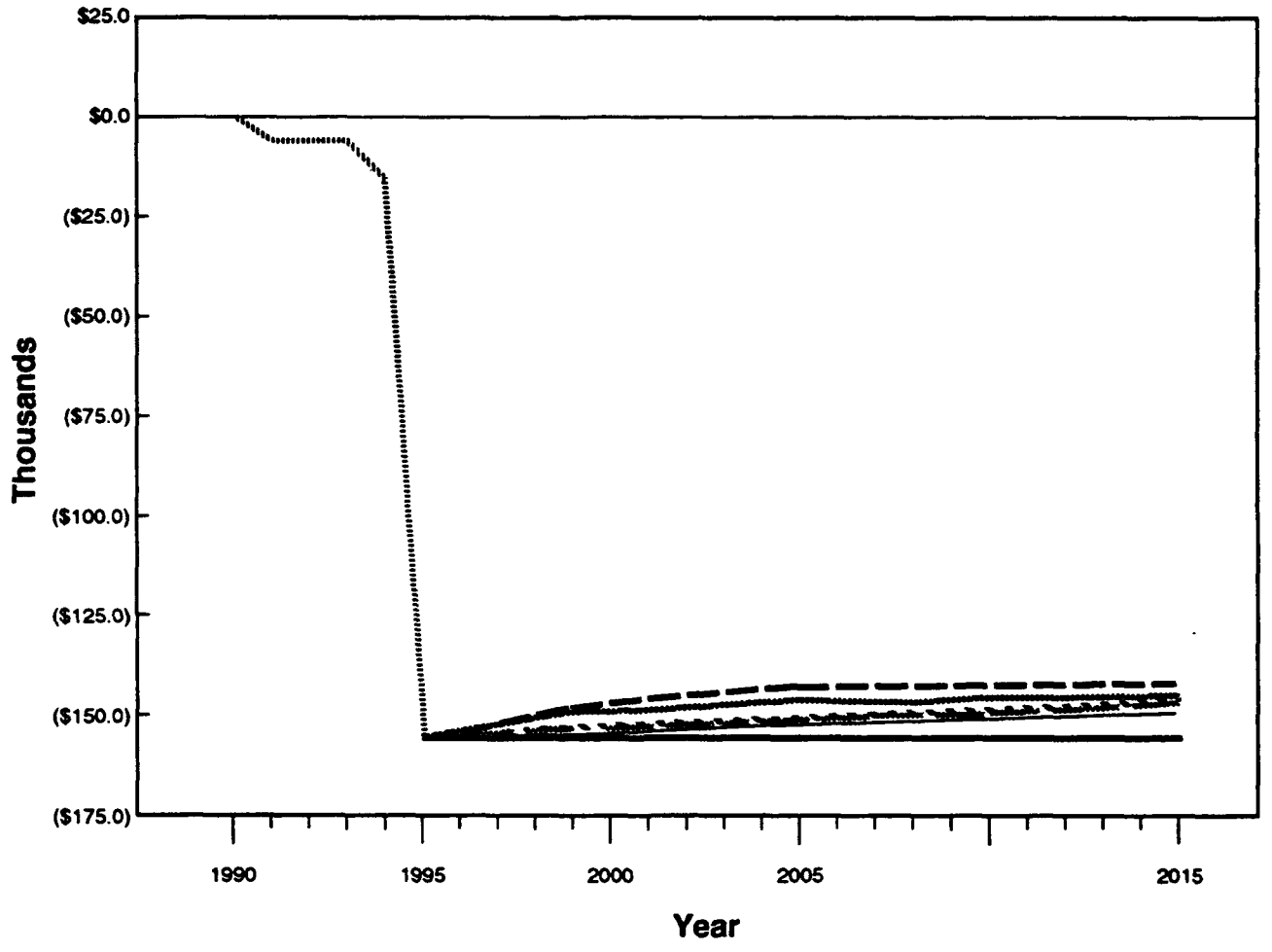
Key assumptions regarding future jurisdictional control of base property under this alternative, which influence the fiscal assessments, are presented below:

- The 1,197 acres designated for the airfield and aviation-related land use would be sold to a private interest and be subject to local property taxes.

- All of the 686 acres designated for commercial and industrial use would be sold to private interests and be subject to local property taxes.

- The 20 acres designated for institutional medical use and the 70 acres designated for institutional educational use would remain in public ownership and would not be subject to local property taxes.

- The Castle Gardens family housing area would be conveyed to a public housing authority or some other non-profit housing agency



EXPLANATION

- Preclosure
- Proposed Action
- Castle Aviation Center
- Commercial Aviation
- Aviation with Mixed Use
- Non-Aviation
- No-Action/Post-Closure

Merced Union High School District Net Fiscal Projections, Proposed Action and Alternatives (1989$)

Figure 4.6-7

and would not be subject to local property taxes. The Castle Vista family housing area and an additional 52 acres of base property designated for residential use would be sold in the private housing market and be subject to local property taxes.

- All 564 acres designated for public facilities/recreation uses would remain in public ownership and would not be subject to local property taxes.

4.6.2.1 Merced County. Fiscal effects of this alternative on Merced County indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Increased revenues to the general and special revenue funds would come from several sources. Property taxes would increase from conversion of a portion of the base to private use. Charges for services and intergovernmental revenue would increase as direct and secondary jobs attract in-migrating workers to the area. Sales taxes would increase as the project-related residents spend their earnings in the local economy. Increased general and special revenue fund revenues are projected to be $6,500,906 in FY 2000 and $11,274,157 by FY 2015.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in county residents are estimated to require $913,769 in additional expenditures in FY 2000 and $1,413,992 by FY 2015. Projected positive net fiscal effects would be $5,587,137 by FY 2000 and $9,860,165 by FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $12,015,897 (see Section 3.6). From 1995 through FY 2015, the county would be faced with gradually declining deficits ($6,428,760 by FY 2000 and $2,155,732 by FY 2015). These deficits would require some response by the county through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources.

4.6.2.2 City of Atwater. Fiscal effects of this alternative on Atwater indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Increased general and special revenue fund revenues, principally from increased intergovernmental revenue, sales taxes, and property taxes (due to the conversion of the Castle Vista housing area to private ownership), are projected to be $424,149 by FY 2000 and $655,311 by FY 2015.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in city residents are estimated to require $287,595 in additional expenditures by FY 2000 and $445,046 by FY 2015. Projected net positive fiscal effects would be $136,554 in FY 2000 and $210,265 by FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $252,189 (see Section 3.6). From 1995 through FY 2015, the city would be faced with gradually declining deficits ($115,635 in FY 2000 and $41,924 in FY 2015). These shortfalls would require some response by the city through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources.

4.6.2.3 City of Merced. Fiscal effects of this alternative on Merced indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Increased general and special revenue fund revenues, principally from increased sales taxes and intergovernmental revenue, are projected to be $1,014,713 by FY 2000 and $1,463,517 by FY 2015. Because no base property proposed to be converted to private use would be within the city boundaries, no direct property tax effects are projected.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in city residents are estimated to require $468,238 in additional expenditures in FY 2000 and $724,405 by FY 2015. Projected positive net fiscal effects would be $546,475 in FY 2000 and $739,112 by FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $709,797 (see Section 3.6) in the early years of reuse. The city would be faced with deficits from 1995 through FY 2004. These shortfalls would require some response by the city through service cutbacks, increases in tax and non-tax revenue schedules, or development of new revenue sources. By FY 2005, the positive fiscal effects of this alternative would offset projected deficits due to base closure.

4.6.2.4 Atwater Elementary School District. Fiscal effects of this alternative on Atwater Elementary School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under this alternative are projected to be $652,630 in FY 2000 and $1,012,100 by FY 2015. District funding is principally from property taxes and noncategorical state aid revenues. Funding from both these sources is limited to approximately $2,630 per student (in constant 1989 dollars) and would amount to $491,810 in FY 2000 and $762,700 in FY 2015. These increases would be attributable entirely to increased property tax collections. The remainder of the general fund revenue increases would be principally from other state aid programs (categorical state aid programs) and other miscellaneous local and federal sources.

Expenditures and Net Fiscal Effects. Expenditures, principally from direct instruction costs, would increase by $650,947 by FY 2000 and $1,009,490 by FY 2015 for net revenue increases of $1,693 in FY 2000 and $2,610 in FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $754,403 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($752,720 in FY 2000 and $751,793 in FY 2015). This is due to the loss of P.L. 81-874 funds, which are not replaced with state source revenue, and the inability of other revenue sources to keep up with increased costs. If Section 3 transition entitlements are fully funded, these effects would be less severe and would be apportioned in reducing amounts over a 3-year period starting in FY 1996. Cutbacks in service levels and/or additional revenue from new sources may be required to maintain a balanced fiscal position in the district.

4.6.2.5 Merced City School District. Fiscal effects of this alternative on Merced City School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under this alternative are projected to be approximately $526,380 in FY 2000 and $818,436 by FY 2015. District funding is principally from property taxes and noncategorical state aid revenues. Funding from both these sources is limited to approximately $2,608 per student (in constant 1989 dollars) and would amount to $404,240 in FY 2000 and $628,528 in FY 2015. None of the base property proposed for private use would be within district boundaries; therefore, these revenue increases come principally from increased noncategorical state aid revenues. The remainder of the general fund revenue increases would be from other state aid programs (categorical state aid programs) and other miscellaneous local sources.

Expenditures and Net Fiscal Effects. Expenditures principally from direct instruction costs, would increase by $524,559 by FY 2000 and $815,604 by FY 2015 for net revenue increases of $1,821 in FY 2000 and $2,832 by FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $6,927 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($5,106 in FY 2000 and $4,095 in FY 2015). This is due to the loss of P.L. 81-874 funds, which are not replaced with state source revenue, and the inability of other revenue sources to keep up with increased costs. If Section 3 transition entitlements are fully funded, these effects would be less severe and would be apportioned in reducing amounts over a 3-year period starting in FY 1996. Cutbacks in service levels and/or

additional revenue from new sources may be required to maintain a balanced fiscal position in the district.

4.6.2.6 Winton School District. Fiscal effects of this alternative on Winton School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under this alternative are projected to be $121,320 in FY 2000 and $188,720 by FY 2015. District funding is principally from property taxes and noncategorical state aid revenues. Funding from both these sources is limited to approximately $2,573 per student (in constant 1989 dollars) and would amount to $92,628 in FY 2000 and $144,088 in FY 2015. None of the base property proposed for private use would be within district boundaries; therefore, these revenue increases would come principally from increased noncategorical state aid revenues. The remainder of the general fund revenue increases would be principally from other state aid programs (categorical state aid programs) and other miscellaneous local sources.

Expenditures and Net Fiscal Effects. Expenditures, principally from direct instruction costs, would increase by $112,248 by FY 2000 and $174,608 by FY 2015 for net revenue increases of $9,072 in FY 2000 and $14,112 in FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $17,892 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($8,820 in FY 2000 and $3,780 in FY 2015). Cutbacks in service levels and/or additional revenue from new sources may be required to maintain a balanced fiscal position in the district.

4.6.2.7 Merced Union High School District. Fiscal effects of this alternative on Merced Union High School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under this alternative are projected to be $792,870 in FY 2000 and $1,227,932 by FY 2015. District funding is principally from property taxes and noncategorical state aid revenues. Funding from both these sources is limited to approximately $3,303 per student (in constant 1989 dollars) and would amount to $644,085 in FY 2000 and $997,506 by FY 2015. These increases would be attributable entirely to increased property tax collections. The remainder of the general fund revenue increases would be principally from other state aid programs (categorical state aid programs) and other miscellaneous local sources.

Expenditures and Net Fiscal Effects. Expenditures, principally from direct instruction costs, would increase by $783,803 by FY 2000 and $1,213,889 by FY 2015 for net revenue increases of $9,067 in FY 2000 and $14,043 in FY 2015.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $155,713 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($146,646 in FY 2000 and $141,671 in FY 2015). This is due to the loss of P.L. 81-874 funds, which are not replaced with state source revenue, and the inability of other revenue sources to keep up with increased costs. If Section 3 transition entitlements are fully funded, these effects would be less severe and would be apportioned in reducing amounts over a 3-year period starting in FY 1996. Cutbacks in service levels and/or additional revenue from new sources may be required to maintain a balanced fiscal position in the district.

4.6.3 Commercial Aviation Alternative

Key assumptions regarding future jurisdictional control of base property under this alternative, which influence the fiscal assessments, are presented below:

- The 997 acres designated for the airfield and the 254 acres designated for aviation support uses would be conveyed to an airport authority or another public agency and would not be subject to local property taxes.

- One-half of the 934 acres designated for commercial and industrial use would be conveyed to an airport authority or other public agencies and would not be subject to local property taxes while the remaining one-half of the acreage would be sold to private interests and would be subject to local property taxes.

- The 113 acres designated for institutional medical use are assumed to remain in public ownership and would not be subject to local property taxes.

- The Castle Gardens family housing area is assumed to be conveyed to a public housing authority or some other non-profit housing agency and would not be subject to local property taxes. The Castle Vista family housing area and an additional 152 acres of base property would be sold in the private housing market and be subject to local property taxes.

- The 81 acres designated for public facilities/recreation uses would remain in public ownership and would not be subject to local property taxes.

- The 56 acres designated for agricultural use would be sold in the private market and be subject to local property taxes.

4.6.3.1 Merced County. Fiscal effects of this alternative on Merced County indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Increased revenues to the general and special revenue funds would come from several sources. Property taxes would increase from conversion of a portion of the base to private use. Charges for services and intergovernmental revenue would increase as direct and secondary jobs attract in-migrating workers to the area. Sales taxes would increase as the project-related residents spend their earnings in the local economy. Increased general and special revenue fund revenues are projected to be $1,262,567 in FY 2000 and $5,364,772 by FY 2015.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in county residents are estimated to require $236,835 in increased expenditures in FY 2000 and $904,765 by FY 2015. Projected positive net fiscal effects would be $1,025,732 by FY 2000 and $4,460,007 by FY 2015.

Comparison with Closure Conditions. The net revenue increases, however, would not be sufficient to offset projected closure deficits of $12,015,897 (see Section 3.6). From 1995 through FY 2015, the county would be faced with gradually declining deficits ($10,990,165 by FY 2000 and $7,555,890 by FY 2015). These deficits would require some response by the county through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources.

4.6.3.2 City of Atwater. Fiscal effects of this alternative on Atwater indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Increased general and special revenue fund revenues, principally from increased intergovernmental revenue, sales taxes, and property taxes (due to the conversion of the Castle Vista housing area and Castle Park to private ownership), are projected to be $103,688 by FY 2000 and $415,987 by FY 2015.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in city residents are estimated to require $74,600 in increased expenditures by FY 2000 and $284,922 by FY 2015. Projected net positive fiscal effects would be $29,088 in FY 2000 and $131,065 by FY 2015.

Comparison with Closure Conditions. The net revenue increases, however, would not be sufficient to offset projected closure deficits of $252,189 (see Section 3.6). From 1995 through FY 2015, the city would be faced with gradually declining deficits ($223,101 in FY 2000 and $121,124 in FY 2015. These shortfalls would require some response by the city through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources.

4.6.3.3 City of Merced. Fiscal effects of this alternative on Merced indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Increased general and special revenue fund revenues, principally from increased sales taxes and intergovernmental revenue, are projected to be $251,420 by FY 2000 and $905,507 by FY 2015. No base property proposed to be converted to private use would be within the city boundaries; therefore, no direct property tax effects are projected.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in city residents are estimated to require $121,378 in increased expenditures in FY 2000 and $463,692 by FY 2015. Projected positive net fiscal effects would be $130,042 in FY 2000 and $441,815 by FY 2015.

Comparison with Closure Conditions. The net revenue increases, however, would not be sufficient to offset projected closure deficits of $709,797 (see Section 3.6). From 1995 to FY 2015, the city would be faced with gradually declining deficits ($579,755 by FY 2000 and $267,982 by FY 2015). These shortfalls would require some response by the city through service cutbacks, increases in tax and non-tax revenue schedules, or development of new revenue sources.

4.6.3.4 Atwater Elementary School District. Fiscal effects of this alternative on Atwater Elementary School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under this alternative are projected to be $167,520 in FY 2000 and $642,160 by FY 2015. District funding is principally from property taxes and noncategorical state aid revenues. Funding from both these sources is limited to approximately $2,630 per student (in constant 1989 dollars) and would amount to $126,240 in FY 2000 and $483,920 in FY 2015. The property tax component of these revenue increases would amount to $252,080 in FY 2015. The remainder of the general fund revenue increases would be principally from other state aid programs (categorical and noncategorical state aid programs) and other miscellaneous local and federal sources.

Expenditures and Net Fiscal Effects. Expenditures principally from increased direct instruction costs, would increase by $167,088 by FY 2000 and $640,504 by FY 2015 for net revenue increases of $432 in FY 2000 and $1,656 in FY 2015.

Comparison with Closure Conditions. The net revenue increases, however, would not be sufficient to offset projected closure deficits of $754,403 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($753,971 in FY 2000 and $752,747 in FY 2015). This is due to the loss of P.L. 81-874 funds, which are not replaced with state source revenue, and the inability of other revenue sources to keep up with increased costs. If Section 3 transition entitlements are fully funded, these effects could be less severe and be apportioned in reducing amounts over a 3-year period starting in FY 1996. Cutbacks in service levels and/or additional revenue from new sources would be required to maintain a balanced fiscal position in the district.

4.6.3.5 Merced City School District. Fiscal effects of this alternative on Merced City School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under this alternative are projected to be approximately $135,840 in FY 2000 and $519,588 by FY 2015. District funding is principally from property taxes and noncategorical state aid revenues. Funding from both these sources is limited to approximately $2,608 per student (in constant 1989 dollars) and would amount to $104,320 in FY 2000 and $399,024 in FY 2015. No base property that is proposed to be converted to private use would be within district boundaries; therefore, these increases would come principally from increased noncategorical state aid revenues. The remainder of the general fund revenue increases would be from other state aid programs (categorical state aid programs) and other miscellaneous local and federal sources.

Expenditures and Net Fiscal Effects. Expenditures, principally from increased direct instruction costs, would increase by $135,370 by FY 2000 and $517,790 by FY 2015 for net revenue increases of $470 in FY 2000 and $1,798 by FY 2015.

Comparison with Closure Conditions. The net revenue increases, however, would not be sufficient to offset projected closure deficits of $6,927 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($6,457 in FY 2000 and $5,129 in FY 2015). This is due to the loss of P.L. 81-874 funds, which are not replaced with state source revenue, and the inability of other revenue sources to keep up with increased costs. If Section 3 transition entitlements are fully funded, these effects could be less severe and be apportioned in reducing amounts

over a 3-year period starting in FY 1996. Cutbacks in service levels and/or additional revenue from new sources may be required to maintain a balanced fiscal position in the district.

4.6.3.6 Winton School District. Fiscal effects of this alternative on Winton School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under this alternative are projected to be $30,330 in FY 2000 and $121,320 by FY 2015. District funding is principally from property taxes and noncategorical state aid revenues. Funding from both these sources is limited to approximately $2,573 per student (in constant 1989 dollars) and would amount to $23,157 in FY 2000 and $92,628 in FY 2015. No base property that is proposed to be converted to private use would be within district boundaries; therefore, these increases would come principally from increased noncategorical state aid revenues. The remainder of the general fund revenue increases would be from other state aid programs (categorical state aid programs) and other miscellaneous local and federal sources.

Expenditures and Net Fiscal Effects. Expenditures, principally from increased direct instruction costs, would increase by $28,062 by FY 2000 and $112,248 by FY 2015 for net revenue increases of $2,268 in FY 2000 and $9,072 in FY 2015.

Comparison with Closure Conditions. The net revenue increases, however, would not be sufficient to offset projected closure deficits of $17,892 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($15,624 in FY 2000 and $8,820 in FY 2015). Cutbacks in service levels and/or additional revenue from new revenue sources would be required to maintain a balanced fiscal position in the district.

4.6.3.7 Merced Union High School District. Fiscal effects of this alternative on Merced Union High School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under this alternative are projected to be $203,300 in FY 2000 and $780,672 by FY 2015. District funding is principally from property taxes and noncategorical state aid revenues. Funding from both these sources is limited to approximately $3,303 per student (in constant 1989 dollars) and would amount to $165,150 in FY 2000 and $634,176 by FY 2015. The property tax component of these increases would amount to about $220,510 by FY 2015. The remainder of the general fund increases would be principally from other state aid programs (categorical and noncategorical state aid programs) and other miscellaneous local and federal sources.

Expenditures and Net Fiscal Effects. Expenditures, principally from increased direct instruction costs, would increase by $200,975 by FY 2000 and $771,744 by FY 2015 for net revenue increases of $2,325 in FY 2000 and $8,928 in FY 2015.

Comparison with Closure Conditions. The net revenue increases, however, would not be sufficient to offset projected closure deficits of $155,713 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($153,388 in FY 2000 and $146,785 in FY 2015). This is due to the loss of P.L. 81-874 funds, which are not replaced with state source revenue, and the inability of other sources to keep up with increased costs. If Section 3 transition entitlements are fully funded, these effects could be less severe and be apportioned in reducing amounts over a 3-year period starting in FY 1996. Cutbacks in service levels and/or additional revenue from new sources would be required to maintain a balanced fiscal position in the district.

4.6.4 Aviation with Mixed Use Alternative

Key assumptions regarding future jurisdictional control of base property under this alternative, which influence the fiscal assessments, are presented below:

- The 1,039 acres designated for the airfield and the 386 acres designated for aviation support uses would be conveyed to an airport authority or another public agency and would not be subject to local property taxes.

- One-half of the 305 acres designated for commercial and industrial use would be conveyed to an airport authority or other public agencies and would not be subject to local property taxes. The remaining one-half of the acreage would be sold to private interests and would be subject to local property taxes.

- The 20 acres designated for institutional medical use and the 115 acres designated for institutional educational use would remain in public ownership and would not be subject to local property taxes.

- The Castle Gardens family housing area would be conveyed to a public housing authority or some other non-profit housing agency and would not be subject to local property taxes. The Castle Vista family housing area would be sold in the private housing market and be subject to local property taxes.

- All 724 acres designated for public facilities/recreation uses would remain in public ownership and would not be subject to local property taxes.

4.6.4.1 Merced County. Fiscal effects of this alternative on Merced County indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Increased revenues to the general and special revenue funds would come from several sources. Property taxes would increase from conversion of a portion of the base to private use. Charges for services and intergovernmental revenue would increase as direct and secondary jobs attract in-migrating workers to the area. Sales taxes would increase as the project-related residents spend their earnings in the local economy. Increased general and special revenue fund revenues are projected to be $1,578,636 in FY 2000 and $5,316,915 by FY 2015.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in county residents are estimated to require $296,349 in additional expenditures in FY 2000 and $951,614 by FY 2015. Projected positive net fiscal effects would be $1,282,287 by FY 2000 and $4,365,301 by FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $12,015,897 (see Section 3.6). From 1995 through FY 2015, the county would be faced with gradually declining deficits ($10,733,610 by FY 2000 and $7,650,596 by FY 2015). These deficits would require some response by the county through service cutbacks, increases in tax and non-tax revenue schedules, *and/or development of new revenue sources.*

4.6.4.2 City of Atwater. Fiscal effects of this alternative on Atwater indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Increased general and special revenue fund revenues, principally from increased intergovernmental revenue, sales taxes, and property taxes (due to the conversion of the Castle Vista housing area to private ownership), are projected to be $129,650 by FY 2000 and $442,795 by FY 2015.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in city residents are estimated to require $93,541 in additional expenditures by FY 2000 and $299,564 by FY 2015. Projected net positive fiscal effects would be $36,109 in FY 2000 and $143,231 by FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $252,189 (see Section 3.6). From 1995 through FY 2015, the city would be faced with gradually declining deficits ($216,080 in FY 2000 and $108,958 in FY 2015). These shortfalls would require some response by the city through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources.

4.6.4.3 City of Merced. Fiscal effects of this alternative on Merced indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Increased general and special revenue fund revenues, principally from increased sales taxes and intergovernmental revenue, are projected to be $312,337 by FY 2000 and $959,382 by FY 2015. None of the base property proposed for private use would be within the city boundaries; therefore, no direct property tax effects are projected.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in city residents are estimated to require $151,836 in additional expenditures in FY 2000 and $487,559 by FY 2015. Projected positive net fiscal effects would be $160,501 in FY 2000 and $471,823 by FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $709,797 (see Section 3.6). From 1995 to FY 2015, the city would be faced with gradually declining deficits ($549,296 by FY 2000 and $237,974 by FY 2015). These shortfalls would require some response by the city through service cutbacks, increases in tax and non-tax revenue schedules, or development of new revenue sources.

4.6.4.4 Atwater Elementary School District. Fiscal effects of this alternative on Atwater Elementary School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under this alternative are projected to be $209,400 in FY 2000 and $677,060 by FY 2015. District funding is principally from property taxes and noncategorical state aid revenues. Funding from both these sources is limited to approximately $2,630 per student (in constant 1989 dollars) and would amount to $157,800 in FY 2000 and $510,220 in FY 2015. The property tax component of these revenue increases would amount to $118,341 in FY 2015. The remainder of the general fund revenue increases would be principally from other state aid programs (categorical state aid programs) and other miscellaneous local and federal sources.

Expenditures and Net Fiscal Effects. Expenditures, principally from direct instruction costs, would increase by $208,860 by FY 2000 and $675,314 by FY 2015 for net revenue increases of $540 in FY 2000 and $1,746 in FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $754,403 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($753,863 in FY 2000 and $752,657 in FY 2015). This is due to the loss of P.L. 81-874 funds, which are not

replaced with state source revenue, and the inability of other revenue sources to keep up with increased costs. If Section 3 transition entitlements are fully funded, these effects would be less severe and would be apportioned in reducing amounts over a 3-year period starting in FY 1996. Cutbacks in service levels and/or additional revenue from new sources may be required to maintain a balanced fiscal position in the district.

4.6.4.5 Merced City School District. Fiscal effects of this alternative on Merced City School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under this alternative are projected to be $169,800 in FY 2000 and $546,756 by FY 2015. District funding is principally from property taxes and noncategorical state aid revenues. Funding from both these sources is limited to approximately $2,608 per student (in constant 1989 dollars) and would amount to $130,400 in FY 2000 and $419,888 in FY 2015. Because no base property proposed to be converted to private use would be within district boundaries, these revenue increases would come principally from increased noncategorical state aid revenues. The remainder of the general fund revenue increases would be from other state aid programs (categorical state aid programs) and other miscellaneous local sources.

Expenditures and Net Fiscal Effects. Expenditures, principally from direct instruction costs, would increase by $169,213 by FY 2000 and $544,864 by FY 2015 for net revenue increases of $587 in FY 2000 and $1,892 by FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $6,927 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($6,340 in FY 2000 and $5,035 in FY 2015). This is due to the loss of P.L. 81-874 funds, which are not replaced with state source revenue, and the inability of other revenue sources to keep up with increased costs. If Section 3 transition entitlements are fully funded, these effects would be less severe and would be apportioned in reducing amounts over a 3-year period starting in FY 1996. Cutbacks in service levels and/or additional revenue from new sources may be required to maintain a balanced fiscal position in the district.

4.6.4.6 Winton School District. Fiscal effects of this alternative on Winton School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under this alternative are projected to be $40,440 in FY 2000 and $124,690 by FY 2015. District funding is principally from property taxes and

noncategorical state aid revenues. Funding from both these sources is limited to approximately $2,573 per student (in constant 1989 dollars) and would amount to $30,876 in FY 2000 and $95,201 in FY 2015. Because no base property proposed to be converted to private use would be within district boundaries, these revenue increases would come principally from increased noncategorical state aid revenues. The remainder of the general fund revenue increases would be from other state aid programs (categorical state aid programs) and other miscellaneous local sources.

Expenditures and Net Fiscal Effects. Expenditures, principally from direct instruction costs, would increase by $37,416 by FY 2000 and $115,366 by FY 2015 for net revenue increases of $3,024 in FY 2000 and $9,324 in FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $17,892 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($14,868 in FY 2000 and $8,568 in FY 2015). Cutbacks in service levels and/or additional revenue from new sources may be required to maintain a balanced fiscal position in the district.

4.6.4.7 Merced Union High School District. Fiscal effects of this alternative on Merced Union High School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under this alternative are projected to be $256,158 in FY 2000 and $825,398 by FY 2015. District funding is principally from property taxes and noncategorical state aid revenues. Funding from both these sources is limited to approximately $3,303 per student (in constant 1989 dollars) and would amount to $208,089 in FY 2000 and $670,509 by FY 2015. The property tax component of these revenue increases would amount to about $103,520 by FY 2015. The remainder of the general fund revenue increases would be principally from other state aid programs (categorical state aid programs) and other miscellaneous local sources.

Expenditures and Net Fiscal Effects. Expenditures, principally from direct instruction costs, would increase by $253,229 by FY 2000 and $815,959 by FY 2015 for net revenue increases of $2,929 in FY 2000 and $9,439 in FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $155,713 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($152,784 in FY 2000 and $146,274 in FY 2015). This is due to the loss of P.L. 81-874 funds, which are not replaced with state source revenue, and the inability of other revenue sources to keep

up with increased costs. If Section 3 transition entitlements are fully funded, these effects would be less severe and would be apportioned in reducing amounts over a 3-year period starting in FY 1996. Cutbacks in service levels and/or additional revenue from new sources may be required to maintain a balanced fiscal position in the district.

4.6.5 Non-Aviation Alternative

Key assumptions regarding future jurisdictional control of base property under this alternative, which influence the fiscal assessments, are presented below:

- All of the 1,045 acres designated for commercial and industrial use would be sold to private interests and would be subject to local property taxes.

- The 545 acres designated for institutional educational use would remain in public ownership and would not be subject to local property taxes.

- The Castle Gardens family housing area would be conveyed to a public housing authority or some other non-profit housing agency and would not be subject to local property taxes. The Castle Vista family housing area and an additional 145 acres of base property designated for residential use would be sold in the private housing market and be subject to local property taxes.

- All 696 acres designated for public facilities/recreation uses would remain in public ownership and would not be subject to local property taxes.

- The 158 acres designated for agricultural use would be sold in the private market and thus be subject to local property taxes.

4.6.5.1 Merced County. Fiscal effects of this alternative on Merced County indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Increased revenues to the general and special revenue funds would come from several sources. Property taxes would increase from conversion of a portion of the base to private use. Charges for services and intergovernmental revenue would increase as direct and secondary jobs attract in-migrating workers to the area. Sales taxes would increase as the project-related residents spend their earnings in the local economy. Increased general and special revenue fund revenues are projected to be $212,863 in FY 2000 and $3,737,683 by FY 2015.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in county residents are estimated to require $39,066 in additional

expenditures in FY 2000 and $586,747 by FY 2015. Projected positive net fiscal effects would be $173,797 by FY 2000 and $3,150,936 by FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $12,015,897 (see Section 3.6). From 1995 through FY 2015, the county would be faced with gradually declining deficits ($11,842,100 by FY 2000 and $8,864,961 by FY 2015). These deficits would require some response by the county through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources.

4.6.5.2 City of Atwater. Fiscal effects of this alternative on the city of Atwater indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Increased general and special revenue fund revenues, principally from increased intergovernmental revenue, sales taxes, and property taxes (due to the conversion of the Castle Vista housing area to private ownership) are projected to be $18,745 by FY 2000 and $267,406 by FY 2015.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in city residents are estimated to require $12,201 in increased expenditures by FY 2000 and $185,223 by FY 2015. Projected net positive fiscal effects would be $6,544 in FY 2000 and $82,183 by FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $252,189 (see Section 3.6). From 1995 through FY 2015, the city would be faced with gradually declining deficits ($245,645 in FY 2000 and $170,006 in FY 2015). These shortfalls would require some response by the city through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources.

4.6.5.3 City of Merced. Fiscal effects of this alternative on the city of Merced indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Increased general and special revenue fund revenues, principally from increased sales taxes and intergovernmental revenue, are projected to be $53,858 by FY 2000 and $543,851 by FY 2015. None of the base property proposed for private use would be within the city boundaries; therefore, no direct property tax effects are projected.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in city residents are estimated to require $20,002 in additional

expenditures in FY 2000 and $300,718 by FY 2015. Projected positive net fiscal effects would be $33,856 in FY 2000 and $243,133 by FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $709,797 (see Section 3.6). From 1995 to FY 2015, the city would be faced with gradually declining deficits ($675,941 by FY 2000 and $466,664 by FY 2015). These shortfalls would require some response by the city through service cutbacks, increases in tax and non-tax revenue schedules, or development of new revenue sources.

4.6.5.4 Atwater Elementary School District. Fiscal effects of this alternative on Atwater Elementary School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under this alternative are projected to be $27,920 in FY 2000 and $411,820 by FY 2015. District funding is principally from property taxes and noncategorical state aid revenues. Funding from both these sources is limited to approximately $2,630 per student (in constant 1989 dollars) and would amount to $21,040 in FY 2000 and $310,340 in FY 2015. The property tax component of these revenue increases would amount to $286,244 in FY 2015. The remainder of the general fund revenue increases would be principally from other state aid programs (categorical state aid programs) and other miscellaneous local and federal sources.

Expenditures and Net Fiscal Effects. Expenditures, principally from direct instruction costs, would increase by $27,848 by FY 2000 and $410,758 by FY 2015 for net revenue increases of $72 in FY 2000 and $1,062 in FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $754,403 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($754,331 in FY 2000 and $753,341 in FY 2015). This is due to the loss of P.L. 81-874 funds, which are not replaced with state source revenue, and the inability of other revenue sources to keep up with increased costs. If Section 3 transition entitlements are fully funded, these effects would be less severe and would be apportioned in reducing amounts over a 3-year period starting in FY 1996. Cutbacks in service levels and/or additional revenue from new sources may be required to maintain a balanced fiscal position in the district.

4.6.5.5 Merced City School District. Fiscal effects of this alternative on the Merced City School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under this alternative are projected to be approximately $23,772 in FY 2000 and $329,412 by FY 2015. District funding is principally from property taxes and noncategorical state aid revenues. Funding from both these sources is limited to approximately $2,608 per student (in constant 1989 dollars) and would amount to $18,256 in FY 2000 and $252,976 in FY 2015. None of the base property proposed for private use would be within district boundaries; therefore, these revenue increases would come principally from increased noncategorical state aid revenues. The remainder of the general fund revenue increases would be from other state aid programs (categorical state aid programs) and other miscellaneous local sources.

Expenditures and Net Fiscal Effects. Expenditures, principally from direct instruction costs, would increase by $23,690 by FY 2000 and $328,272 by FY 2015 for net revenue increases of $82 in FY 2000 and $1,140 by FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $6,927 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($6,845 in FY 2000 and $5,787 in FY 2015). This is due to the loss of P.L. 81-874 funds, which are not replaced with state source revenue, and the inability of other revenue sources to keep up with increased costs. If Section 3 transition entitlements are fully funded, these effects would be less severe and would be apportioned in reducing amounts over a 3-year period starting in FY 1996. Cutbacks in service levels and/or additional revenue from new sources may be required to maintain a balanced fiscal position in the district.

4.6.5.6 Winton School District. Fiscal effects of this alternative on Winton School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under this alternative are projected to be $6,740 in FY 2000 and $77,510 by FY 2015. District funding is principally from property taxes and noncategorical state aid revenues. Funding from both these sources is limited to approximately $2,573 per student (in constant 1989 dollars) and would amount to $5,146 in FY 2000 and $59,179 in FY 2015. Because no base property proposed to be converted to private use would be within district boundaries, these revenue increases would come principally from increased noncategorical state aid revenues. The remainder of the general fund revenue increases would be from other state aid programs (categorical state aid programs) and other miscellaneous local sources.

Expenditures and Net Fiscal Effects. Expenditures, principally from direct instruction costs, would increase by $6,236 by FY 2000 and $71,714 by FY 2015 for net revenue increases of $504 in FY 2000 and $5,796 in FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $17,892 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($17,388 in FY 2000 and $12,096 in FY 2015). Cutbacks in service levels and/or additional revenue from new revenue sources may be required to maintain a balanced fiscal position in the district.

4.6.5.7 Merced Union High School District. Fiscal effects of this alternative on Merced Union High School District indicate an improvement over the No-Action Alternative through FY 2015.

Revenues. Total general fund increases due to the additional students under this alternative are projected to be $36,594 in FY 2000 and $500,118 by FY 2015. District funding is principally from property taxes and noncategorical state aid revenues. Funding from both these sources is limited to approximately $3,303 per student (in constant 1989 dollars) and would amount to $29,727 in FY 2000 and $406,269 by FY 2015. The property tax component of these revenue increases would amount to about $238,227 by FY 2015. The remainder of the general fund revenue increases would be principally from other state aid programs (categorical state aid programs) and other miscellaneous local sources.

Expenditures and Net Fiscal Effects. Expenditures, principally from increased direct instruction costs, would increase by $36,176 by FY 2000 and $494,399 by FY 2015 for net revenue increases of $418 in FY 2000 and $5,719 in FY 2015.

Comparison with Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $155,713 (see Section 3.6). From 1995 through FY 2015, the district would be faced with gradually declining deficits ($155,295 in FY 2000 and $149,994 in FY 2015). This is due to the loss of P.L. 81-874 funds, which are not replaced with state source revenue, and the inability of other revenue sources to keep up with increased costs. If Section 3 transition entitlements are fully funded, these effects would be less severe and would be apportioned in reducing amounts over a 3-year period starting in FY 1996. Cutbacks in service levels and/or additional revenue from new sources may be required to maintain a balanced fiscal position in the district.

4.6.6 No-Action Alternative. Public finance effects for the No-Action Alternative would be the same as those described in Section 3.6 as closure conditions and remain constant over the 20-year period.

4.7 TRANSPORTATION

The effects of the Proposed Action and alternatives on the transportation system of the ROI are presented in this section. Because neither the Proposed Action nor any of the alternatives assumes direct use of local railroads or other modes of transportation, including air transportation, effects on these transport modes are expected to be minimal and are not included in the study. A more detailed discussion is presented in Section 4.2.3 of the EIS for Disposal and Reuse of Castle AFB, California.

For the purpose of this analysis, the roads most likely to be affected by the reuse alternatives are SH 99, Santa Fe Drive, Bellevue, and Buhach roads (see Figure 3.7-1). Future traffic in the area was projected using average population growth rates during the period of analysis, and applied to all of the traffic movements and volumes on key roads.

Based on the reuse development schedule for each land use, the variation in vehicle trips generated by the on-site activities was determined for the average weekday and for the morning and afternoon peak hour of the adjacent streets.

The distribution of trips to and from the site is based on travel patterns for commuters and on the locations of residences of civilian base personnel as obtained from zip code data. It was assumed that the residential choices of the project-related employees would correspond to those of the civilian base personnel. The resulting peak-hour volumes from the project were then added to the peak hour of non-project-generated traffic (background) projected under post-closure baseline conditions.

Traffic effects were determined based on LOS changes for each of the key roads during the peak hour. Intersections along key roads that would experience heavy traffic were examined for deficiencies.

The Proposed Action and alternatives assume that on-base roads would be used during the construction period, but eventually the on-base network would be upgraded where local development plans dictate a need based on community standards for acceptable LOS.

With Castle AFB closed and in caretaker status (the No-Action Alternative), SH 99 at Buhach Road and the two-lane segments of Santa Fe Drive between Shaffer and Buhach roads would drop to LOS F by 2010 due to population growth and development unrelated to base reuse. All other key road segments would operate at LOS E or better under the No-Action Alternative during the period of analysis.

4.7.1 Proposed Action

Roadways. Peak-hour traffic generated under the Proposed Action includes project activity from the industrial, commercial/retail, and residential land uses and construction activity. Based on the proposed reuse schedule, the number of peak-hour trips would increase steadily during the 20-year study period.

The Proposed Action includes ten access points to the site. However, most traffic generated by the proposed development is likely to use the five access points located along Santa Fe Drive: three access points at the Main Gate, Gate 2, and Gate 3 (via Wallace Road); the proposed access aligned with Bellevue Road; and the proposed access at the southeast corner of the base on Santa Fe Drive. The housing areas at Castle Gardens and Castle Vista would continue to use access via Buhach and Bellevue roads and Juniper Avenue.

Under the Proposed Action, SH 99 at Buhach Road would operate at LOS F by 2008. Without the project, LOS F would occur by 2010.

By the year 2001, the two-lane roadway segments of Santa Fe Drive between Shaffer and Buhach roads would operate at LOS F. Without the project, LOS F would occur shortly after 2010. By 2011, all three segments of Bellevue Road between Santa Fe Drive and Shaffer Road would operate at LOS F. Without the project, all these segments would operate at LOS E or better during the period of analysis. By 2011, most four-lane segments of Santa Fe Drive between Buhach Road and SH 59 would operate at LOS F. Without the project the LOS would be E or better during the analysis period. Throughout the 20-year period of analysis, all other key local roads would operate at LOS D or better.

Rail. The implementation of the Proposed Action could increase ridership on Amtrak at the Merced station; however, the projected effects would be minimal.

4.7.2 Castle Aviation Center Alternative

Roadways. Peak-hour traffic generated under the Castle Aviation Center Alternative includes project activity from the industrial and commercial/retail land uses and construction activity. Based on the proposed reuse schedule, the number of peak-hour trips generated by the Castle Aviation Center Alternative would reach maximum by 2005.

The Castle Aviation Center Alternative includes ten access points to the site, identical to those under the Proposed Action.

Under the Castle Aviation Center Alternative, SH 99 at Buhach Road would operate at LOS F by 2007. Without the project, LOS F would occur by 2010.

By the year 2000, the two-lane roadway segments of Santa Fe Drive between Shaffer and Buhach roads would operate at LOS F. Without the project, the drop to LOS F would occur shortly after 2010. By late 2004, all segments of Bellevue Road between Santa Fe Drive and Shaffer Road would operate at LOS F. Without the project, all these segments would operate at LOS E or better during the period of analysis. Shortly before 2010, most four-lane segments of Santa Fe Drive between Buhach Road and SH 59 would operate at LOS F. Without the project, the LOS would be E or better during the analysis period. Throughout the 20-year period of analysis, all other key local roads would operate at LOS D or better.

Rail. The implementation of the Castle Aviation Center Alternative could increase ridership on Amtrak at the Merced station; however, the projected effects would be minimal.

4.7.3 Commercial Aviation Alternative

Roadways. Peak-hour traffic generated as a result of the Commercial Aviation Alternative includes project activity from the industrial, medical, commercial, and residential land uses and construction. Based on the proposed reuse schedule, the number of peak-hour trips generated by the Commercial Aviation Alternative would increase steadily during the 20-year study period.

The Commercial Aviation Alternative includes ten access points to the site identical to those for the Proposed Action.

Under the Commercial Aviation Alternative, SH-99 at Buhach Road would deteriorate to LOS F by 2008. Without the project, LOS F would occur by 2010.

By 2002, the two-lane roadway segments of Santa Fe Drive between Shaffer and Buhach roads would have dropped to LOS F. Without the project, the drop to LOS F would occur shortly after 2010. By 2008, all segments of Bellevue Road between Santa Fe Drive and Shaffer Road would deteriorate to LOS F. Without the project, all these segments would operate at LOS E or better during the period of analysis. By 2010, most four-lane segments of Santa Fe Drive between Buhach Road and SH-59 would operate at LOS F. Without the project the LOS would be E or better during the analysis period. Throughout the 20-year period of analysis, all other key local roads would operate at LOS D or better.

Rail. The implementation of the Commercial Aviation Alternative could increase ridership on Amtrak at the Merced station; however, the projected effects would be minimal.

4.7.4 Aviation with Mixed Use Alternative

Roadways. Peak-hour traffic generated under the Aviation with Mixed Use Alternative includes industrial and commercial/retail land uses and construction activity. Based on the proposed reuse schedule, the number of peak-hour trips generated by the Aviation with Mixed Use Alternative would increase steadily during the 20-year study period.

The Aviation with Mixed Use Alternative includes ten access points to the site identical to those under the Proposed Action.

Under the Aviation with Mixed Use Alternative, SH 99 at Buhach Road would operate at LOS F by 2008. Without the project, LOS F would occur by 2010.

By 2003, the two-lane roadway segments of Santa Fe Drive between Shaffer and Buhach roads would operate at LOS F. Without the project, LOS F would occur shortly after 2010. By 2010, all segments of Bellevue Road between Santa Fe Drive and Shaffer Road would operate at LOS F. Without the project, all these road segments would operate at LOS E or better during the period of analysis. By 2012, most four-lane segments of Santa Fe Drive between Buhach Road and SH 59 would operate at LOS F. Without the project the LOS would be E or better during the analysis period. Throughout the 20-year period of analysis, all other key local roads would operate at LOS D or better.

Rail. The implementation of the Aviation with Mixed Use Alternative could increase ridership on Amtrak at the Merced station; however, the projected effects would be minimal.

4.7.5 Non-Aviation Alternative

Roadways. Peak-hour traffic generated under the Non-Aviation Alternative includes industrial and commercial/retail land uses and construction activity. Based on the proposed reuse schedule, the number of peak-hour trips generated by the Non-Aviation Alternative would increase steadily during the 20-year study period.

The Non-Aviation Alternative includes ten access points to the site identical to those for the Proposed Action.

Under the Non-Aviation Alternative, SH 99 at Buhach Road would operate at LOS F by 2009. Without the project, LOS F would occur by 2010.

By 2006, the two-lane roadway segments of Santa Fe Drive between Shaffer and Buhach roads would operate at LOS F. Without the project, the drop to LOS F would occur shortly after 2010. By 2012, all segments of Bellevue Road between Santa Fe Drive and Shaffer Road would operate at LOS F. Without the project, all these segments would operate at LOS E or better during the period of analysis. Shortly before 2015, most four-lane segments of Santa Fe Drive between Buhach Road and SH 59 would operate at LOS F. Without the project the LOS would be E or better during the analysis period. Throughout the 20-year period of analysis, all other key local roads would operate at LOS D or better.

Rail. The implementation of the Non-Aviation Alternative could increase ridership on Amtrak at the Merced station; however, the projected effects would be minimal.

4.7.6 No-Action Alternative

Transportation effects of the No-Action Alternative would be the same as those conditions described in Section 3.7 and the beginning of Section 4.7. With Castle AFB closed and in caretaker status, transportation demands in the study area would grow with area population. A net growth rate of 3 percent per year was projected for traffic volumes on various road segments and during the period of analysis.

In the absence of any reuse of the base, on-base roads would no longer be used except by a small caretaker personnel team. All on-base roads would operate at LOS A.

4.8 UTILITIES

This section describes the utility demand and subsequent infrastructure changes that may be required under the Proposed Action and each reuse alternative. A more detailed discussion is given in Section 4.2.4 of the EIS for Disposal and Reuse of Castle AFB.

Changes in total regional utility demand in the ROI were derived for each reuse from the estimated number of in-migrating workers to the region. Preclosure per capita use rates were applied to each area of the ROI. On-site utility demands were estimated by applying use rates to appropriate units of land uses.

With or without reuse of the site, infrastructure improvements in the ROI would be required before 2015, resulting primarily from non-site-related population growth. The ROI wastewater treatment capacity of 17.40 MGD would be exceeded by 2008 under all reuse plans. Without the reuse, the treatment capacity would be exceeded by 2009. PG&E has adequate capacity to supply projected electricity and gas demands under all reuse

plans. The selection of specific on-site infrastructure improvements, and the associated costs for such improvements, could be borne by future site developer(s). The reuse of the base wastewater treatment plant would require improvements to maintain compliance. Electric and natural gas interruptions are not anticipated as a result of the Proposed Action or alternatives throughout the period of analysis.

With Castle AFB closed and in caretaker status (the No-Action Alternative), utilities consumption would continue to increase with the ROI population growth through 2015. It is estimated that the utilities ROI population would more than double from closure to 2015. ROI water consumption would increase from 24.31 MGD in 1990 to 24.40 MGD at closure (1995), reaching 52.48 MGD by 2015. Wastewater treatment demand would increase from 10.37 MGD in 1990 to 10.41 MGD at closure, reaching 22.55 MGD by 2015. Solid waste production would increase from 190.3 tons per day in 1990 to 192.9 tons per day at closure, reaching 418.6 tons per day by 2015. Electricity consumption would be 1,234 MWH per day in 1990, 1,174 MWH per day at closure, reaching 2,503.1 MWH per day by 2015. Natural gas consumption in the ROI would increase from 79,300 therms per day in 1990 to 80,500 therms per day at closure, reaching 173,200 therms per day by 2015.

The Castle Aviation Center Alternative would generate the greatest utility demand in the ROI and the greatest on-site demand for water, wastewater, and solid waste disposal. The Commercial Aviation Alternative has the greatest on-site demand for electricity and natural gas. The Proposed Action has the least on-site utility demand among all reuse plans. The Proposed Action and the Aviation with Mixed Use and Non-Aviation alternatives are comparable in utility demand within the ROI.

4.8.1 Proposed Action

A summary of regional utility demand changes associated with the Proposed Action is shown in Table 4.8-1. Under the Proposed Action, the ROI demand for water, wastewater, solid waste, electricity, and natural gas would increase by 2.4 to 5.3 percent of the demand projected over post-closure conditions through 2000. By 2015, increases in utility demand associated with the Proposed Action would range from 2.6 to 4.3 percent above projected post-closure conditions.

4.8.2 Castle Aviation Center Alternative

A summary of regional utility demand changes associated with this alternative is shown in Table 4.8-1. Increase in utility demand through 2000 would range from 4.6 to 8.2 percent of the demand projected over post-

Table 4.8-1. Total Projected Utility Demand
Page 1 of 2

	2000			2005			2015		
	Total ROI	Reuse-Related	Percent Increase	Total ROI	Reuse-Related	Percent Increase	Total ROI	Reuse-Related	Percent Increase
Water Consumption (MGD)									
No-Action	28.34			35.34			52.48		
Proposed Action	29.13	0.79	2.8	36.50	1.16	3.3	53.89	1.41	2.7
Castle Aviation Center	29.82	1.48	5.2	37.50	2.16	6.1	54.82	2.34	4.5
Commercial Aviation	28.71	0.37	1.3	36.08	0.74	2.1	53.86	1.38	2.6
Aviation with Mixed Use	28.8	0.46	1.6	36.09	0.75	2.1	53.89	1.41	2.7
Non-Aviation	28.59	0.25	0.9	36.06	0.72	2.0	53.66	1.18	2.2
Wastewater Treatment (MGD)									
No-Action	12.13			15.15			22.55		
Proposed Action	12.46	0.33	2.7	15.64	0.49	3.2	23.14	0.59	2.6
Castle Aviation Center	12.76	0.63	5.2	16.10	0.95	6.3	23.57	1.02	4.5
Commercial Aviation	12.26	0.13	1.1	15.43	0.28	1.8	23.10	0.55	2.4
Aviation with Mixed Use	12.31	0.18	1.5	15.45	0.30	2.0	23.13	0.58	2.6
Non-Aviation	12.21	0.08	0.7	15.44	0.29	1.9	23.05	0.50	2.2
Solid Waste Disposal (tons/day)									
No-Action	224.3			280.5			418.6		
Proposed Action	236.1	11.8	5.3	295.6	15.1	5.4	436.5	17.9	4.3
Castle Aviation Center	242.6	18.3	8.2	307.9	27.4	9.8	447.2	28.6	6.8
Commercial Aviation	228.8	4.5	2.0	289.5	9.0	3.2	435.0	16.4	3.9
Aviation with Mixed Use	231.1	6.8	3.0	289.8	9.3	3.3	435.9	17.3	4.1
Non-Aviation	229.2	4.9	2.2	290.9	10.4	3.7	435.7	17.1	4.1

Note: No-Action Alternative represents the closure baseline conditions.
MGD = Million gallons per day.
ROI = Region of Influence.

Table 4.8-1. Total Projected Utility Demand
Page 2 of 2

	2000			2005			2015		
	Total ROI	Reuse-Related	Percent Increase	Total ROI	Reuse-Related	Percent Increase	Total ROI	Reuse-Related	Percent Increase
Electrical Consumption (MWH/day)									
No-Action	1,360.5			1,692.0			2,503.1		
Proposed Action	1,399.4	38.9	2.9	1,765.5	73.5	4.3	2,597.8	94.7	3.8
Castle Aviation Center	1,439.7	79.2	5.8	1,818.0	126	7.4	2,638.7	135.6	5.4
Commercial Aviation	1,373.3	12.8	0.9	1,738.2	46.2	2.7	2,613.8	110.7	4.4
Aviation with Mixed Use	1,376.6	16.1	1.2	1,736.2	44.2	2.6	2,615.8	112.7	4.5
Non-Aviation	1,362.4	1.9	0.1	1,737.2	45.2	2.7	2,600.4	97.3	3.9
Natural Gas Consumption (thousands of therms/day)									
No-Action	93.5			116.6			173.2		
Proposed Action	95.7	2.2	2.4	120.2	3.6	3.1	177.8	4.6	2.7
Castle Aviation Center	97.8	4.3	4.6	123.1	6.5	5.6	180.3	7.1	4.1
Commercial Aviation	94.4	0.9	1.0	119.1	2.5	2.1	178.5	5.3	3.1
Aviation with Mixed Use	94.6	1.1	1.2	118.9	2.3	2.0	178.4	5.2	3.0
Non-Aviation	93.7	0.2	0.2	118.7	2.1	1.8	177.3	4.1	2.4

Note: No-Action Alternative represents the closure baseline conditions.
MWH = Megawatt-hours.
ROI = Region of Influence.

closure conditions for this alternative. By 2015, increases in utility demand from this reuse alternative would range from 4.1 to 6.8 percent over post-closure conditions.

By 2015, on-site utility demand increases related to this reuse alternative would be 40 to 70 percent higher than those identified under the Proposed Action.

4.8.3 Commercial Aviation Alternative

A summary of regional utility demand changes associated with the Commercial Aviation Alternative is shown in Table 4.8-1. Under this alternative, the ROI utility demand would increase by 0.9 to 2.0 percent of the demand projected under post-closure conditions through 2000. By 2015, increases in utility demand from this reuse alternative would range from 2.4 to 4.4 percent over post-closure conditions.

The ROI utility demands related to the Commercial Aviation Alternative are similar to those projected for the Aviation with Mixed Use Alternative.

The Commercial Aviation Alternative requires the greatest on-site demand for electricity and natural gas among all reuse plans. For water, wastewater, and solid waste disposal demands this alternative ranks second to the Castle Aviation Center Alternative.

4.8.4 Aviation with Mixed Use Alternative

A summary of regional utility demand changes associated with the Aviation with Mixed Use Alternative is shown in Table 4.8-1. Under this alternative, the ROI utility demand would increase by 1.2 to 3.0 percent of the demand projected over post-closure conditions through 2000. By 2015, increases in utility demand from this reuse alternative would range from 2.6 to 4.5 percent over post-closure conditions.

4.8.5 Non-Aviation Alternative

A summary of regional utility demand changes associated with the Non-Aviation Alternative is shown in Table 4.8-1. Increases in utility demand through 2000 would range from 0.1 to 2.2 percent of the demand projected over post-closure conditions. By 2015, increases in utility demand associated with the Non-Aviation Alternative would range from 2.2 to 4.1 percent over post-closure conditions.

By 2015, utility demands related to this reuse alternative would remain in general below those identified under the Proposed Action.

4.8.6 No-Action Alternative

Utility effects for the No-Action Alternative would be those described in Section 3.8 as closure conditions and those described at the beginning of Section 4.8.

4.9 OTHER LAND USE CONCEPTS

This study performs in-depth analysis only for those reuse options that, as a whole, provide an integrated plan for future site redevelopment. The other land use concepts described in Section 1.4.7 could occur on a piecemeal basis and would, therefore, selectively enhance or detract from site redevelopment. A descriptive treatment of these potential effects is presented in this section (and summarized in Table 4.9-1).

Federal Correctional Complex. The U.S. Department of Justice, Federal Bureau of Prisons has requested approximately 660 acres northeast of the airfield for the development of two low security federal correctional facilities. Direct employment is estimated at 450 full-time employees. This represents a reduction of 507 direct employees from the Proposed Action reuse of the same area, an increase of 445 direct employees from the Castle Aviation Center Alternative, a reduction of 1,483 direct employees under the Commercial Aviation Alternative, and an increase of 450 direct employees for each of the Aviation with Mixed Use and Non-Aviation alternatives.

Private Recreational Facility. The CGSTA has proposed an extensive trapshooting range and gun club to occupy the southeastern half of the 660-acre parcel of land northeast of the airfield. Proposed uses would include facilities for trapshooting and other shooting events sponsored by the CGSTA and a recreational vehicle park. Direct employment is estimated at ten full-time employees. This represents a reduction of 173 direct employees from the Proposed Action reuse of the same area, reduction of 927 direct employees for the Commercial Aviation Alternative, and increases of 8 direct employees for the Castle Aviation Center and 10 each for the Aviation with Mixed Use and Non-Aviation alternatives.

As on-site employment (and thus earnings) is changed by these independent proposals, either positively or negatively, local and regional secondary employment effects of the various alternatives also would change. The degree to which these secondary effects are altered would depend on a number of factors, including the differences in: non-payroll spending associated with independent proposals compared to displaced industrial or commercial endeavors, construction costs among the various land uses, and the propensity to purchase local goods and services by employees and occupants of the proposed facilities compared to those displaced.

Table 4.9-1. Socioeconomic Effects of Other Land Use Concepts
Page 1 of 2

Agency/Proposal	Employment/Population	Alternative	Change in Reuse Plan
U.S. Department of Justice/ Federal Correctional Complex	450 direct jobs	Proposed Action	Reduced industrial development (up to 335 acres). Reduced public facilities/recreation land (by up to 325 acres). Net decrease of 507 on-site jobs, 319 secondary jobs, and 683 migratory-related population.
		Castle Aviation Center	Reduced industrial development (up to 160 acres). Reduced public facilities/recreation land (by up to 500 acres). Net increase of 445 on-site jobs, 317 secondary jobs, and 610 migratory-related population.
		Commercial Aviation	Reduced industrial development (up to 660 acres). Net decrease of 1,483 on-site jobs, 992 secondary jobs, and 2,015 migratory-related population.
		Aviation with Mixed Use	Reduced public facilities/recreation land (up to 660 acres). Net increase of 450 on-site jobs, 308 secondary jobs, and 613 migratory-related population.
		Non-Aviation	Reduced public facilities/recreation land (up to 660 acres). Net increase of 450 on-site jobs, 244 secondary jobs, and 595 migratory-related population.

Table 4.9-1. Socioeconomic Effects of Other Land Use Concepts
Page 2 of 2

Agency/Proposal	Employment/Population	Alternative	Change in Reuse Plan
California Golden State Trapshooting Association/Private Recreational Facility	10 direct jobs	Proposed Action	Reduced industrial development (up to 64 acres). Net decrease of 173 on-site jobs, 109 secondary jobs, and 233 migratory-related population.
		Castle Aviation Center	Reduced industrial development (up to 57 acres). Net increase of 8 on-site jobs, 6 secondary jobs, and 11 migratory-related population.
		Commercial Aviation	Reduced industrial development (up to 660 acres). Net decrease of 927 on-site jobs, 620 secondary jobs, and 1,259 migratory-related population.
		Aviation with Mixed Use	Net increase of 10 on-site jobs, 7 secondary jobs, and 14 migratory-related population.
		Non-Aviation	Net increase of 10 on-site jobs, 5 secondary jobs, and 13 migratory-related population.

Compatibility issues also could surface by the juxtaposition of certain land uses with one another. For instance, the suitability of the proposal by the CGSTA overlapping about one-half of the area proposed for film and television operations under the Castle Aviation Center Alternative is uncertain at this time.

THIS PAGE INTENTIONALLY LEFT BLANK

5.0 CONSULTATION AND COORDINATION

The federal, state, and local agencies and private agencies/organizations that were contacted during the course of preparing this Socioeconomic Impact Analysis Study are listed below.

FEDERAL AGENCIES

U.S. Bureau of the Census
U.S. Department of Education
U.S. Department of Commerce, Bureau of Economic Analysis

STATE AGENCIES

California Department of Consumer Affairs
California Department of Education
California Department of Health Services
California Department of Transportation (Caltrans)
California Employment Development Department

LOCAL/REGIONAL AGENCIES

Atwater, City of
Atwater Elementary School District
Atwater Fire Department
Atwater Police Department
Atwater Public Works Department
Atwater Regional Wastewater Treatment Plant
McSwain Union Elementary School District
Merced, City of
Merced City School District
Merced Community College District
Merced Community Medical Center
Merced County
Merced County Association of Governments
Merced County Emergency Medical Services Authority
Merced County Fire Department
Merced County Health Department
Merced County Office of Education
Merced County Public Works Department
Merced Fire Department
Merced Union High School District
Merced Wastewater Treatment Plant
Stanislaus Area Association of Governments
Winton School District

PRIVATE ORGANIZATIONS

Amtrak
Bloss Memorial Hospital
Kemper CPA Group
Meadowbrook Water Company
Merced Chamber of Commerce
Mercy Hospital
Modesto Chamber of Commerce
Pacific Gas and Electric Company
Tolladay, Fremming, and Parson Consulting Engineers
Western Area Power Association

6.0 LIST OF PREPARERS AND CONTRIBUTORS

Thomas F. Adamcyk, Economist, U.S. Air Force, AFCEE/ESER
B.S., 1972, Education, History and Economics, Eastern Illinois University, Charleston
M.A., 1975, Economics, Eastern Illinois University, Charleston
Years of Experience: 18

Raul Alonzo, Environmental Specialist, The Earth Technology Corporation
A.A., 1980, Graphic Arts, Santa Ana Community College, Santa Ana, California
Years of Experience: 13

Sandra E. Andres, Senior Project Environmental Professional, The Earth Technology Corporation
B.A., 1972, Sociology/Urban Studies, University of Connecticut, Storrs
M.U.P., 1979, Urban Planning, Michigan State University, East Lansing
Years of Experience: 14

Gary P. Baumgartel, Lieutenant Colonel, U.S. Air Force, P.E., Chief, AFCEE-ESE
B.S., 1972, Science Degree in Civil Engineering, Lowell Technological Institute, Lowell, Massachusetts
M.S., 1979, Facilities Management, Air Force Institute of Technology, School of Systems and Logistics, Wright-Patterson AFB, Ohio
Years of Experience: 20

Daniel T. Brechbuhl, Staff Economist, The Earth Technology Corporation
B.A. 1992, Economics, University of Colorado, Boulder
Years of Experience: 1

Anthony Burns, Environmental Planner, Robert D. Niehaus, Inc.
B.S., 1990, City and Regional Planning, California Polytechnic State University
Years of Experience: 3

Tacy Costanzo, Geographer, Robert D. Niehaus, Inc.
B.A., 1988, Geography, University of California, Santa Barbara
Years of Experience: 6

Katherine S. Cowell, Environmental Planner, Robert D. Niehaus, Inc.
B.A., 1977, Psychology, Wellesley College, Wellesley, Massachusetts
M.A., 1981, Social Environmental Psychology, Claremont Graduate School, Claremont, California
Years of Experience: 16

Sandra Lee Cuttino, P.E., Environmental Manager, The Earth Technology Corporation
B.S., 1979, Civil Engineering, University of California, Davis
Years of Experience: 14

Jackie Eldridge, Senior Technical Editor, The Earth Technology Corporation
B.S., Biology, Fairleigh Dickinson University, New Jersey
M.S., 1979, Marine and Environmental Science, Long Island University, New York
M.B.A, 1983, Business Administration, National University, National City, California
Years of Experience: 16

Mahmoud Y. Fawaz, P.E., Transportation Engineer, Robert D. Niehaus, Inc.
B.S., 1970, Civil Engineering, St. Joseph University, Beirut, Lebanon
M.S., 1970, Physics, Center of Mathematics, Beirut, Lebanon
M.S., 1971, Transportation, University of California, Berkeley
Ph.D., 1974, Transportation, University of California, Berkeley
Years of Experience: 17

Teresa Green, Project Manager, U.S. Air Force, AFCEE/ESEM
B.A., 1983, Environmental Studies, State University of New York at Binghamton
M.A., 1985, Public Administration & Public Policy Analysis, State University of New York at Binghamton
Years of Experience: 7

Thomas R. Harter, Economist, HQ USAF/CEVP
B.S.B.A., 1964, Accounting and Finance, Washington University
M.B.A., 1966, Finance, Washington University
Ph.D., 1972, Finance, Washington University
Years of Experience: 25

William Livingstone, Principal Planner, Robert D. Niehaus, Inc.
B.A. 1950, Architecture, University of Southern California, Los Angeles
M.A., 1966, Urban and Regional Planning, University of Southern California, Los Angeles
Years of Experience: 35

Fred Nicoloff, Systems Analyst, Robert D. Niehaus, Inc.
B.A., 1976, Psychology, University of Central Florida, Orlando
M.A., 1981, Experimental Psychology, University of South Florida, Tampa
Years of Experience: 11

Robert D. Niehaus, Principal Economist, Robert D. Niehaus, Inc.
B.A., 1972, Government, Oberlin College, Oberlin, Ohio
Ph.D., 1979, Economics, University of Maryland, College Park
Years of Experience: 20

Maurice E. Norton, III, Manager, Facility Engineering, The Earth Technology Corporation
B.A., 1966, Mathematics, Concordia College, Moorehead, Minnesota
Years of Experience: 21

Lee Schoenecker, Community Planner, HQ USAF/CEVP
B.S., 1961, Political Science, University of Wisconsin, Madison
M.S., 1964, Urban and Regional Planning, University of Wisconsin, Madison
Years of Experience: 29

Robert M. Silsbee, Economic Analyst, Robert D. Niehaus, Inc.
B.A., 1980, Economics/Environmental Studies, University of California, Santa Barbara
M.A., 1989, Economics, University of California, Santa Barbara
Years of Experience: 12

David B. Smith, San Bernardino Operations Manager, Robert D. Niehaus, Inc.
B.A., 1975, Business Administration/Economics, Chapman College, Orange, California
M.B.A., 1978, Chapman College
Years of Experience: 16

Linda Spitzer, Technical Editor, The Earth Technology Corporation
A.B.A., 1959, Business, University of Denver, Denver, Colorado
Years of Experience: 15

Joseph R. Trnka, Senior Staff Environmental Specialist, The Earth Technology Corporation
B.A., 1988, Geography/Russian, University of North Dakota
Years of Experience: 5

Jeff D. Vitucci, Senior Economist, Robert D. Niehaus, Inc.
B.A., 1974, Environmental Studies, San Jose State University, San Jose, California
M.A., 1978, Urban Economics, University of California, Santa Barbara
Years of Experience: 13

John Walcher, Staff Economist, The Earth Technology Corporation
B.S., 1991, Economics, University of California, Riverside
Years of Experience: 2

Terri Caruso Wessel, Senior Project Environmental Specialist, The Earth Technology Corporation
B.A., 1979, Anthropology, California State University, Northridge
M.A., 1988, Anthropology, California State University, Northridge
Years of Experience: 14

Keith R. Zwick, Site Planning Manager, The Earth Technology Corporation
B.S., 1966, Landscape Architecture, Kansas State University, Manhattan
Years of Experience: 23

THIS PAGE INTENTIONALLY LEFT BLANK

7.0 REFERENCES

Atwater, City of, 1989. City of Atwater, California, Comprehensive Annual Financial Report, Fiscal Year Ended June 30, 1989, Atwater, California.

Atwater, City of, 1990. City of Atwater, California, Comprehensive Annual Financial Report, Fiscal Year Ended June 30, 1990, Atwater, California.

Atwater, City of, 1992a. Atwater General Plan, 1992-2012 (with Final Environmental Impact Report), Atwater, California.

Atwater, City of, 1992b. Fiscal Year 1992-1993 Budget, City of Atwater, California.

Atwater Elementary School District, 1989. Atwater Elementary School District, County of Merced, Atwater, California, Audit Report, June 30, 1989, Atwater, California.

Atwater Elementary School District, 1990. Atwater Elementary School District, County of Merced, Atwater, California, Audit Report, June 30, 1990, Atwater, California.

Atwater Elementary School District, 1991. Atwater Elementary School District, County of Merced, Atwater, California, Audit Report, June 30, 1991, Atwater, California.

Atwater Elementary School District, 1992. Public Law 81-874 Survey Count, Atwater, California.

Baucom, C., 1992. Personal communication with Chuck Baucom, EMS coordinator, Merced County Emergency Medical Services Authority, Merced, California, October.

Belluomini, M., 1992. Personal communication with Michael Belluomini, Director of Facilities, Planning and Follow-On Communications with Levon Abbs, Business Department, and Sylvia Christiansen, Public Information Officer, Merced Union High School District, Merced, California, November.

Boyer, M., 1992. Personal communication with Mathew Boyer, Merced County Association of Governments, Merced, California.

Burchell, R.W., and D. Listokin, 1978. The Fiscal Impact Handbook: Estimating Local Costs and Revenues of Land Development, The Center for Urban Policy Research, Piscataway, New Jersey (1987 printing).

C. Tom Nelson and Associates, see Nelson, C. Tom, and Associates.

California Department of Consumer Affairs, 1992. Licensed Professionals Actively Practicing as of October 1992, Information Systems Division, Sacramento, California.

California Department of Education, 1992. Estimated Average Daily Attendance, Winton School District, SAB 411, Office of Local Assistance, Sacramento, California.

California Department of Finance, 1990. Population Estimates of California Cities and Counties, Report 89E-2, Department of Finance, Demographic Research Unit, Sacramento, California.

California Department of Finance, 1992. Population Estimates of California Cities and Counties, Report 92E-1, Department of Finance, Demographic Research Unit, Sacramento, California, May.

California Department of Health Services, 1992. Hospital Facility Listings for Merced and Stanislaus Counties, Sacramento, California.

California Department of Transportation, 1990. 1989 Traffic Volumes on the California State Highway System.

California Department of Transportation, 1991a. 1990 Annual Average Daily Truck Traffic on the California State Highway System.

California Department of Transportation, 1991b. 1990 Traffic Volumes on the California State Highway System.

California Department of Transportation, 1992a. 1991 Ramp Volumes on the California State Freeway System, District 10.

California Department of Transportation, 1992b. 1991 Traffic Volumes on the California State Highway System.

California Department of Transportation, 1992c. Road Construction Ahead, Information for Travelers on I-5/U.S. 99 from the Grapevine to the Oregon border.

California Employment Development Department, 1992a. Annual Planning Information, Merced Metropolitan Statistical Area (Merced County), June, 1992, Labor Market Information Division, Sacramento, California.

California Employment Development Department, 1992b. Annual Planning Information, Modesto Metropolitan Statistical Area (Stanislaus County), June, 1992, Labor Market Information Division, Sacramento, California.

California Employment Development Department, 1992c. Projections of Employment by Industry and Occupation (Merced County) 1989-1996, Labor Market Information Division, Los Angeles, California.

California Employment Development Department, 1992d. Projections of Employment by Industry and Occupation, Modesto Metropolitan Statistical Area (Stanislaus County), 1989-1996, Labor Market Information Division, Los Angeles, California.

Caltrans, see California Department of Transportation.

Cartwright, J.V., and R.M. Beemiller, 1980. The Regional Economic Impact of Military Base Spending, U.S. Bureau of Economic Analysis, Regional Economic Analysis Division, U.S. Department of Commerce for the President's Economic Adjustment Committee, Office of Economic Adjustment, Office of the Assistant Secretary of Defense, Washington, DC, November.

Cartwright, J.V., R.M. Beemiller, and R.D. Gustely, 1981. RIMS II, Regional Input-Output Modeling System, U.S. Department of Commerce, Bureau of Economic Analysis, Washington, DC.

CH2M Hill, 1991a. Project Definition for U.S. Air Force Wastewater Treatment Facilities at Castle Air Force Base, prepared for the Army Corps of Engineers.

CH2M Hill, 1991b. Report of Wastewater Discharge, Highway 59 Landfill, prepared for County of Merced, Department of Public Works.

City of Atwater, see Atwater, City of.

City of Merced, see Merced, City of.

Davidson, P., 1992. Personal communication with Paul Davidson, Supervisor of the Atwater Regional Wastewater Treatment Plant, Atwater, California.

Davis, R., 1992. Personal communication with Ronald Davis, Superintendent of the Merced Wastewater Treatment Plant, Merced, California.

Dunn, E., 1992. Personal communication with Earl Dunn, Civil Engineer, Atwater Public Works Department, Atwater, California.

Fitchett, R., 1992. Personal communication with Raymond Fitchett, Superintendent, Winton School District, Winton, California.

Ford, H., 1993. Personal communication with Michael Ford, Director of Public Health, Merced County Health Department, Merced, California, January.

Gonzales, M., 1992. Personal communication with Madelyn Gonzales, Amtrak Station, Merced, California.

Hartog, C., 1992. Personal communication with Curt Hartog, Superintendent of Solid Waste, Merced County Public Works Department, Merced, California.

Haug, J., 1993. Personal communication with Jim Haug, Atwater Municipal Airport.

Hobbs, J., 1992. Personal communication with MSgt. Joseph Hobbs and Sgt. Robert Garady of the 93rd Security Policy Squadron, Castle AFB, California, October.

Ikeda, B., 1992. Personal communication with Bob Ikeda, Traffic Engineer, Caltrans District 10, Stockton, California.

Institute of Transportation Engineers, 1990. Traffic Access and Impact Studies for Site Development.

Institute of Transportation Engineers, 1991a. Traffic Engineering Handbook, J.L. Pline, ed. (4th edition), Prentice-Hall.

Institute of Transportation Engineers, 1991b. Trip Generation, and Informational Report, (5th edition).

International City Management Association, 1992. The Municipal Yearbook, Washington, DC.

Johnson, B., 1992. Personal communication with Bruce Johnson, Director of Finance, City of Atwater, California, November.

Kemper CPA Group, 1989. Winton School District, County of Merced, Winton, California, Audit Report, June 30, 1989, Merced, California.

Kemper CPA Group, 1990. Winton School District, County of Merced, Winton, California, Audit Report, June 30, 1990, Merced, California.

Kemper CPA Group, 1991. Winton School District, County of Merced, Winton, California, Audit Report, June 30, 1991, Merced, California.

Kemper CPA Group, 1992. City of Atwater, Atwater, California, Financial Statements and Independent Auditor's Report, June 30, 1991, Atwater, California.

Khatami, M., 1992. Personal communication with Mohamed Khatami, Traffic Engineer, Atwater, California.

Knutzen, D., 1992. Personal communication with D. Knutzen, Commander, Administrative Division, Merced Police Department, Merced, California, November.

Lenker, S., 1992. Personal communication with Sandra Lenker, Superintendent, and follow-on communications with Agnes Luker and Jean Anderson, Atwater Elementary School District Atwater, California, November.

Lis, M., 1992. Personal communication with Mona Lis, Director of Fiscal Services (and follow-on communications with Betty Avery, Administrative Services, and Jolonda Chavez, Personnel), Merced City School District, Merced, California, November.

Luft, K., 1992. Personal communication with Ken Luft, Major Account Representative, Pacific Gas and Electric Company, Merced, California.

Lyons, D., 1992. Personal communication with David Lyons, Area Analyst, California Employment Development Department, Northern Area Information Group, Sacramento, California, November.

R.S. Means Company, 1991a. Means Building Construction Cost Data 1992 (50th annual ed.), Kingston, Massachusetts.

R.S. Means, Company, 1991b. Means Square Foot Costs 1992 (13th annual ed.), Kingston, Massachusetts.

Merced Chamber of Commerce, 1992. Community Economic Profile for Merced City, County of Merced, California, January.

Merced, City of, 1987. City of Merced General Plan, Revised November 1987.

Merced, City of, 1991. City of Merced, California Comprehensive Annual Financial Report, June 30, 1990, Merced, California.

Merced, City of, 1992. City of Merced, California Comprehensive Annual Financial Report, June 30, 1991, Merced, California.

Merced City School District, 1989. Application for School Assistance in Federally Affected Areas, 1989-1990, Merced, California.

Merced City School District, 1990. Application for School Assistance in Federally Affected Areas, 1990-1991, Merced, California.

Merced City School District, 1991. Application for School Assistance in Federally Affected Areas, 1991-1992, Merced, California.

Merced City School District, 1992. Personnel data, Merced, California.

Merced County, 1990. Year 2000 General Plan, Merced Planning Department.

Merced County, 1991. County of Merced, State of California, Comprehensive Annual Financial Report, Year Ended June 30, 1991, Merced, California.

Merced County, 1992. Merced County Budget, 1992, Merced, California.

Merced County, n.d. Photocopies of combined statements of revenues, expenditures, and changes in fund balances, all governmental funds for FY 1989 and FY 1990.

Merced County Association of Governments, 1992a. Draft 1992 Regional Transportation Plan - Update for Merced County.

Merced County Association of Governments, 1992b. Population and Employment Forecasts for Merced County 1990 through 2010, Merced, California.

Merced County Association of Governments, 1993. Atwater General Plan, Final Environmental Impact Report.

Merced Union High School District, 1989. Application for School Assistance in Federally Affected Areas, 1989-1990, Merced, California.

Merced Union High School District, 1990a. Application for School Assistance in Federally Affected Areas, 1990-1991, Merced, California.

Merced Union High School District, 1990b. Number of Employees and Enrollment, 1990-1991, Merced, California.

Merced Union High School District, 1991a. Application for School Assistance in Federally Affected Areas, 1991-1992, Merced, California.

Merced Union High School District, 1991b. Number of Employees and Enrollment, 1991-1992, Merced, California.

Merced Union High School District, 1991c. Analysis of Need for School Facilities, Merced, California.

Merced Union High School District, 1992. Number of Employees and Enrollment, 1992-93, Merced, California.

Mitten, K., 1992. Personal communication with Kenneth Mitten, Fire Chief, Merced Fire Department, Merced, California, September.

Modesto Chamber of Commerce, 1991. Community Economic Profile.

Murdock, S., 1992. Personal communication with Stan Murdock, Refuse/Recycling Superintendent, City of Merced, California.

National Center for Education Statistics, 1991. Digest of Education Statistics, Table 59-Public and Private Elementary and Secondary Teachers and Pupil-Teacher Ratios by Level: Fall 1985 to Fall 1991, U.S. Department of Education, Office of Education Research and Improvement, NCES 91-697.

Nelson, C. Tom, and Associates, 1989. Merced Union High School District, County of Merced, Merced, California, Audit Report for Fiscal Year Ended June 30, 1989, Fresno, California.

Nelson, C. Tom, and Associates, 1990. Merced Union High School District, County of Merced, Merced, California, Audit Report for Fiscal Year Ended June 30, 1990, Fresno, California.

Nelson, C. Tom, and Associates, 1991. Merced Union High School District, County of Merced, Merced, California, Audit Report for Fiscal Year Ended June 30, 1991, Fresno, California.

Nolte and Associates, 1991. Water Treatment Study for the Atwater Community Facilities District 1-90.

Nolte and Associates, 1992. City of Atwater - Connection of Castle AFB to City Wastewater Treatment System - Engineering Feasibility Study (Final Draft).

O'Brien, J., 1992. Personal communication with Jimmy O'Brien, Acting Chief of Police, Atwater Police Department, Atwater, California, September.

Olson, Brammer, Oster, and Spinardi, 1989. Merced City School District, County of Merced, Merced, California, Audit Report for the Year Ended June 30, 1989, Merced, California.

Olson, Brammer, Oster, and Spinardi, 1990. Merced City School District, County of Merced, Merced, California, Audit Report for the Year Ended June 30, 1990, Merced, California.

Olson, Brammer, Oster, and Spinardi, 1991. Merced City School District, County of Merced, Merced, California, Audit Report for the Year Ended June 30, 1991, Merced, California.

Rau, J., and D. Wooten, 1980. Environmental Impact Analysis Handbook, McGraw-Hill.

Raymond, M., 1992. Personal communication with Mike Raymond, Captain of Corrections Division, Merced County Sheriff's Department, October.

Robbins, J., 1992. Personal communication with John Robbins, Fire Chief, Merced County Fire Department, Merced, California, October.

Robertson, H., 1992. Personal communication with Howard Robertson, Amtrak Public Affairs, Statistics Department.

Rodrigs, J., 1992. Personal communication with Lt. John Rodrigs, Merced County Sheriff's Department, October.

Rogers, L., 1992. Personal communication with Linda Rogers, California Employment Development Department, Northern Area Information Group, Sacramento, California, November.

Shea, J., 1992. Personal communication with Jerry Shea, California Employment Development Department, Southern Area Information Group, Los Angeles, California, November.

Sparks, D., 1992. Personal communication with Dennis Sparks, Fire Chief, Atwater Fire Department, Atwater, California, September.

Spiegel, D. and G.J.D. Hewings, 1989. Economic Impact Report of the Proposed Closure of Chanute AFB on the Village of Rantoul, University of Illinois, Urbana-Champaign, Illinois.

Stanislaus Area Association of Governments, 1992. Current Projections for Jurisdictions Using DOF as a Base (population projections), Stanislaus Area Association of Governments, Staff Report (Attachment 1), August.

Stevenson, T., 1992. Personal communication with Tim Stevenson, Meadowbrook Water Co., Franklin/Beachwood, Merced County, California.

Tolladay, J., 1992. Personal communication with James Tolladay, Tolladay, Fremming, and Parson Consulting Engineers, Merced, California.

Transportation Research Board, 1985. Highway Capacity Manual, National Research Council Special Report 209, National Academy of Sciences, Washington, DC.

U.S. Air Force, 1987. Castle Air Force Base, Economic Resource Impact Statement, Fiscal Year 1987.

U.S. Air Force, 1988. Castle Air Force Base, Economic Resource Impact Statement, Fiscal Year 1988.

U.S. Air Force, 1989. Castle Air Force Base, Economic Resource Impact Statement, Fiscal Year 1989.

U.S. Air Force, 1990. Castle Air Force Base, Economic Resource Impact Statement, Fiscal Year 1990.

U.S. Air Force, 1991. Castle Air Force Base, Economic Resource Impact Statement, Fiscal Year 1991.

U.S. Air Force, 1992a. Castle AFB, Utilities Billing, 1988 Through 1991.

U.S. Air Force, 1992b. Residence Zip Code for Military and Appropriated Fund Civilian Employees, Castle AFB, Consolidated Base Personnel Office (CBPO).

U.S. Bureau of the Census, 1972. 1970 Census of Housing, Volume 1 - Characteristics of Housing Units, Chapter A: General Housing Characteristic, Part - California, Government Printing Office, Washington, DC.

U.S. Bureau of the Census, 1981. Housing Units Authorized by Building Permits and Public Contracts Annual 1980, Government Printing Office, Washington, DC.

U.S. Bureau of the Census, 1982a. Housing Units Authorized by Building Permits and Public Contracts: Annual 1981, Government Printing Office, Washington, DC.

U.S. Bureau of the Census, 1982b. 1980 Census of Housing Volume 1 - Characteristics of Housing Units, Chapter A - General Housing Characteristics, Part - California, Government Printing Office, Washington, DC.

U.S. Bureau of the Census, 1982c. 1980 Census of Housing Volume 1 - Characteristics of the Population, Chapter A - Number of Inhabitants Part 6 - California, Government Printing Office, Washington, DC.

U.S. Bureau of the Census, 1983a. Housing Units Authorized by Building Permits and Public Contracts: Annual 1982, Government Printing Office, Washington, DC.

U.S. Bureau of the Census, 1983b. 1980 Census of Housing Volume 1 - Characteristics of Housing Units, Chapter B - Detailed Housing Characteristics, Part - California, Government Printing Office, Washington, DC.

U.S. Bureau of the Census, 1984. Housing Units Authorized by Building Permits and Public Contracts: Annual 1983, Government Printing Office, Washington, DC.

U.S. Bureau of the Census, 1985. Housing Units Authorized by Building Permits and Public Contract: Annual 1984, Government Printing Office, Washington, DC.

U.S. Bureau of the Census, 1986. Housing Units Authorized by Building Permits and Public Contracts: Annual 1985, Government Printing Office, Washington, DC.

U.S. Bureau of the Census, 1987a. Geographical Mobility: March 1980 to March 1985, Department of Commerce, U.S. Government Printing Office, Washington, DC.

U.S. Bureau of the Census, 1987b. Housing Units Authorized by Building Permits and Public Contracts: Annual 1986, Government Printing Office, Washington, DC.

U.S. Bureau of the Census, 1988. Housing Units Authorized by Building Permits and Public Contracts: Annual 1987, Government Printing Office, Washington, DC.

U.S. Bureau of the Census, 1989. Housing Units Authorized by Building Permits and Public Contracts: Annual 1988, Government Printing Office, Washington, DC.

U.S. Bureau of the Census, 1990. Housing Units Authorized by Building Permits and Public Contracts: Annual 1989, Government Printing Office, Washington, DC.

U.S. Bureau of the Census, 1991a. Housing Units Authorized by Building Permits and Public Contracts: Annual 1990, Government Printing Office, Washington, DC.

U.S. Bureau of the Census, 1991b. 1990 Census of Population and Housing Summary Tape File 1A, Department of Commerce, Data User Services Division, Washington, DC, September.

U.S. Bureau of Economic Analysis, 1990. Regional Economic Information System, Department of Commerce, Washington, DC, April.

U.S. Bureau of Economic Analysis, 1991. Regional Economic Information System, Department of Commerce, Washington, DC.

U.S. Bureau of Economic Analysis, 1992a. Regional Economic Information System, Department of Commerce, Washington, DC.

U.S. Bureau of Economic Analysis, 1992b. Regional Economic Multipliers, Aggregated for Two Counties, Department of Commerce, Washington, DC.

U.S. Bureau of Economic Analysis, 1992c. A User Handbook of Regional Input-Output Modelling System (RIMS II), Special Edition, Department of Commerce, Regional Economic Analysis Division, Washington DC.

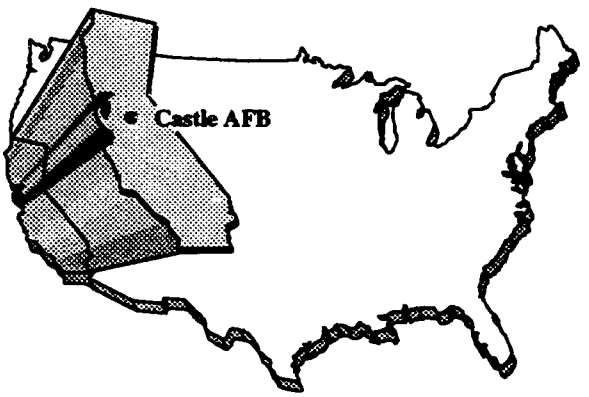
U.S. Council of Economic Advisors, 1992. Economic Report of the President, Table B-30, Population and the Labor Force, 1929-1991.

U.S. Department of Defense, Office of Economic Adjustment, 1990. Civilian Reuse of Former Military Bases, 1961-1990: Summary of Completed Military Base Economic Adjustment Projects, Washington, DC, April-June.

U.S. Federal Bureau of Investigation, 1992. Crime in the United States 1991, Uniform Crime Reports, U.S. Department of Justice, Washington, DC, Release date Sunday, August 30.

Western Economic Research Company, Inc, 1992. Zip Codes in the Fresno-Merced-Visalia area, (1992 ed.).

THIS PAGE INTENTIONALLY LEFT BLANK



CHAPTER 6
LIST OF PREPARERS AND CONTRIBUTORS

APPENDIX A

DATA SOURCES

Economic Activity

County-level jobs and earnings data, provided by major industrial sector, and personal income data were obtained for 1969 through 1990 from the Regional Economic Information System (U.S. Bureau of Economic Analysis, 1992b). Indices for the conversion of current year dollars to constant 1989 dollars were provided in the Economic Report of the President prepared by the U.S. Council of Economic Advisors (1992). Data pertaining to the labor force and employed and unemployed workers in Merced and Stanislaus counties were obtained from the California Employment Development Department (1992a, 1992b). Information concerning the largest employers in the area near Castle AFB was obtained from the Merced Chamber of Commerce (1992). Data concerning Castle AFB personnel, payrolls, and spending within the region were obtained from Castle AFB Economic Resource Impact Statements (U.S. Air Force, 1987, 1988, 1989, 1990, 1991). Regional output, earnings, and jobs multipliers were obtained from the Regional Input-Output Multiplier System (RIMS II) for the two-county ROI consisting of Merced and Stanislaus counties (U.S. Bureau of Economic Analysis, 1992b).

Population

The primary source of population data for this study was the U.S. Bureau of the Census. The data examined included the 1990 Census of Population and Housing for the United States (U.S. Bureau of the Census, 1991b). Supplemental population data were obtained from the 1980 Census of Population (U.S. Bureau of the Census, 1982c), which, when compared with the 1990 data, provided the change experienced in the ROI during the last decade. Population projections prepared by the Merced County Association of Governments (1992b) and Stanislaus Area Association of Governments (1992) provided data on anticipated population changes in the two-county ROI over the next two decades. Air Force personnel data by zip code for both military and civilian personnel at Castle AFB were used to determine the distribution of employees within the ROI (U.S. Air Force, 1992b).

Housing

The major source on housing characteristics in the ROI was obtained from the 1990 Census of Population and Housing (U.S. Bureau of the Census, 1991b). Additional housing data were obtained from the 1980 Census of Housing (U.S. Bureau of the Census, 1982b). An examination of the census data provided a comparison of change over time for several key housing

characteristics. Data in the Current Construction Report Series provided information on housing units authorized by building permits, thereby indicating the capacity of the construction industry to provide housing within selected parts of the ROI (U.S. Bureau of the Census, 1981, 1982a, 1983a, 1984, 1985, 1986, 1987b, 1988, 1989, 1990, 1991a).

Public Services

Information regarding staffing levels, jurisdictional boundaries, degrees of use, equipment, and facilities for public service providers was acquired directly through personal communication with agency representatives (Johnson, 1992; Knutzen, 1992; Mitten, 1992; O'Brien, 1992; Raymond, 1992; Robbins, 1992; Rodrigs, 1992; Sparks, 1992) and from the California Department of Health Services (1992). Additional information regarding public education was obtained from the California Department of Education (1992), Atwater Elementary School District (1989, 1990, 1991), Merced City School District (1989, 1990, 1991, 1992), Merced Union High School District (1989, 1990a, 1990b, 1991a, 1991b, 1992), Winton School District (Fitchett, 1992), and the National Center for Education Statistics (1991). These data included enrollment data for local school districts. Information on security and fire protection provided by the federal government within the boundaries of Castle AFB were acquired from representatives of the base.

Public Finance

Data sources for public finance included the most recent financial reports, typically from FY 1989 through FY 1991, and the most recent year budget reports for the potentially affected local government units in the ROI (Atwater Elementary School District, 1989, 1990, 1991; City of Atwater, 1989, 1990; City of Merced, 1991, 1992; C. Tom Nelson & Associates, 1989, 1990, 1991; Kemper CPA Group, 1989, 1990, 1991, 1992; Merced County, n.d., 1991; Olson et al., 1989, 1990, 1991). The financial reports provided the actual amount of revenue collected and money spent compared to budgeted levels during the covered period. Budget reports were used as sources of property tax rate and assessed valuation information.

Transportation

Data regarding road and highway transportation such as maps, circulation plans, highway improvement plans, and traffic volume counts were collected from Castle AFB, local jurisdictions, the California Department of Transportation (Caltrans, 1990, 1991a, 1991b, 1992a, 1992b, 1992c; City of Atwater, 1990; Ikeda, 1992; Merced County, 1990, 1992), and traffic counts performed for this study. Information regarding regional rail transportation was obtained from Amtrak (Gonzales, 1992; Robertson, 1992).

Utilities

Representatives from various responsible organizations at Castle AFB, including Civil Engineering and the Comptroller's Office, provided historic consumption data, peak demand characteristics, storage and distribution capacities, engineering reports, and related information for base utilities (CH2M Hill, 1991a; Nolte and Associates, 1992; U.S. Air Force, 1992a). Public and private utility purveyors and related county and local agencies also were contacted to obtain similar types of information, including projections of future utility demand for the particular service areas of each utility provider (Davidson, 1992; Davis, 1992; Dunn, 1992; Hartog, 1992; Luft, 1992; Murdock, 1992; Stevenson, 1992; Tolladay, 1992).

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX B

METHODS

This appendix presents methods used to evaluate preclosure and future socioeconomic conditions, both for post-closure without interim leases or long-term reuse (No-Action Alternative) and for the Proposed Action and other alternatives. The description of preclosure socioeconomic conditions includes important indicators that provide a basis for comparison with national trends, as well as with future conditions with and without the Proposed Action and alternatives.

All changes associated with the Proposed Action and alternatives over the No-Action Alternative were considered effects. The No-Action Alternative was considered equivalent to closure baseline conditions.

In Chapter 3, historic data were used to define preclosure conditions. These historic data served as the baseline conditions to which the reuse alternatives were compared. In addition, recent trends were analyzed to develop projections of future socioeconomic conditions that would result from base closure without reuse (closure conditions). Chapter 3 identifies potential beneficial or limiting factors within the region. Chapter 4 determines whether such factors may make the region either more or less susceptible to socioeconomic effects as a result of the Proposed Action and alternatives.

Regions of Influence

Definition of the Regions of Influence (ROIs) occurred in two steps. Initially, in support of the Base Closure and Realignment Commission in 1991, an ROI was defined for each of the 106 Air Force bases being evaluated for the potential socioeconomic effects of closure. Starting with the host county, the ROI was extended to other adjacent counties taking into consideration such factors as the proximity of principal communities in the surrounding area and the transportation network, until about 90 percent of the residences of base personnel were considered to have been included. In the second step, the ROI was further refined as data gathering for this Socioeconomic Impact Analysis Study gave a clearer picture of the area around the base.

The factor of primary importance in refining the ROIs used in this analysis was the distribution of residences for military personnel stationed at Castle AFB in September 1990, and civilian personnel working at the base in August 1992. This residential distribution has a critical influence on where the greatest effects of closure are likely to occur. It also provides a useful guide in determining the possible effects of reusing the base, since it reflects

availability of suitable housing, commuting patterns, and attractiveness of area communities for people employed on the site. The distribution of both civilian and military personnel served to quantify the effects of closure. However, only the distribution of civilian personnel was used to estimate the future distribution of direct worker residences because it provided a more probable allocation of in-migrating worker residential patterns.

Table B-1 displays the residential distribution by county, communities, and zip code for all personnel employed at the base for whom data were available. Counties and sub-county areas were used to present and analyze this information because they provided a comprehensive and mutually exclusive coverage of the entire geographic area. Data on the zip codes of residences for approximately 90 percent of base personnel were obtained from the base personnel offices. Zip code data for the remaining 10 percent of base personnel were not available; therefore, residential location for these personnel could not be determined and was excluded from the analysis. The resulting zip code analysis is likely to be a highly reliable guide to the residential distribution of the total base population. The zip codes were mapped to cities and counties (Figure B-1) to derive the information presented in Table B-1. The data showed that most base personnel lived within the boundaries of Atwater, Merced, and the unincorporated portion of Merced County surrounding the base, including the community of Winton. The number of base personnel, excluding their dependents, residing in each area is compared to area population in Table B-2.

This information was used to determine the percentages of out-migrating workers during the closure process and to allocate in-migrating workers to communities associated with site development.

The second factor in determining the extent of the socioeconomic effects of both closure and reuse of Castle AFB within the region depends on the degree of interindustry economic linkages among the economies of the communities in the region. These linkages, based on the trade among regional sectors, determine the nature and magnitude of the multiplier effect of actions at the base. Castle AFB is located within a region that has a smaller economy than more urbanized parts of the nation (see Chapter 3). The base's influence on the ROI economy is therefore relatively great. Due to these interactions most of the regional socioeconomic effects associated with closure and reuse of Castle AFB would occur within Merced and Stanislaus counties.

Region of Influence

Economic Activity

Most demands associated with regional economic effects of base closure and potential reuse activities at the site are anticipated to be concentrated within Merced and Stanislaus counties.

Table B-1. Residential Locations of Castle AFB Military and Civilian Personnel by County, Community, and Zip Codes

County and Communities	Zip Codes	Military Personnel	Civilian Personnel	Total Personnel	Percent of Total
Merced County					
City of Atwater	Parts of 95301, 95340, and 95388	1,298	126	1,424	34.7
City of Merced	95348 and part of 95340	1,169	103	1,272	31.0
Winton	Part of 95388	103	13	116	2.8
Remainder of Merced County	93635, 95303, 95312, 95315, 95333, 95334, 95369, and parts of 95301, 95340, 95380, and 95388	1,193	57	1,250	30.4
Stanislaus County	95307, 95316, 95319, 95354, 95355, 95356, 95363, 95367, 95386, and part of 95380	19	9	28	0.7
ROI Total		3,782	308	4,090	99.6
Outside of ROI	93610, 93637, 93638, and 95338	11	5	16	0.4
Total Personnel		3,793	313	4,106	100.0

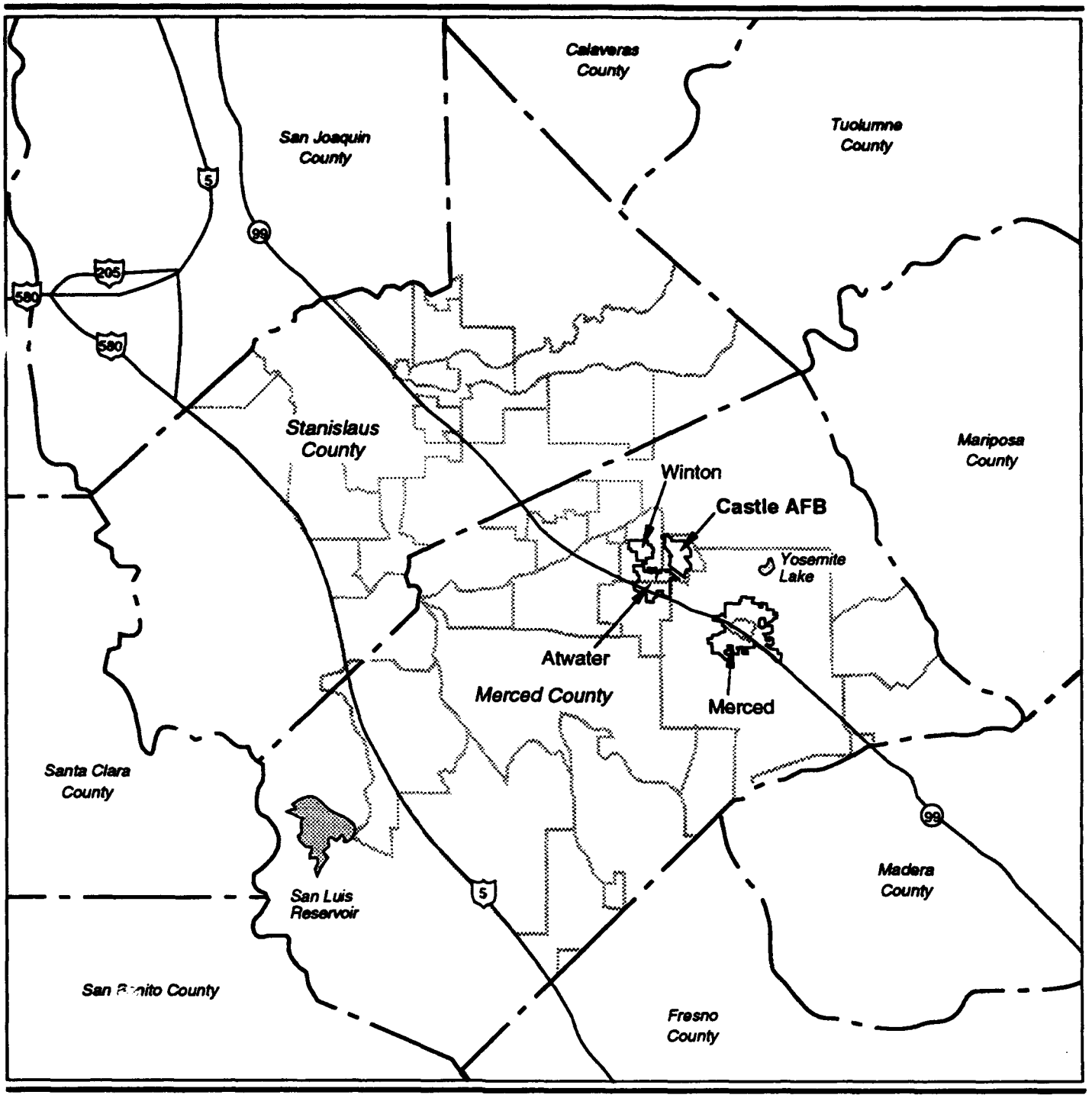
Notes: Data shown are for personnel for which zip code of residence was available from base personnel offices. Data for civilian personnel are for appropriated fund personnel only. Allocations to city and community portions of zip codes were based on approximate land areas.

Sources: U.S. Air Force, 1990, 1992a. Mapping to community and county areas prepared for this study, based on Western Economic Research Co., Inc., 1992, and U.S. Bureau of the Census, 1991b. Zip code area boundaries were obtained from Western Economic Research Co., Inc., 1992.

Secondary or multiplier effects within the ROI, which are determined by the extent of economic interactions and linkages within the region, would be lower than more populated and more economically diverse parts of the nation. Although this fact indicates that additional economic effects outside the ROI are likely, because of the linkage of industries in the ROI with those outside, the interaction among industries outside the ROI would be so dispersed that the effects in other regions of California and of the United States would be minimal.

Population

The population effects of closure and potential reuse of Castle AFB were analyzed at both regional and local levels. The ROI consists of Merced and



EXPLANATION

- 5 Interstate Highway
- 101 U. S. Highway
- 99 State Highway
- Zip Code Boundary
- County Boundary

0 4.5 9 18 Miles

Zip Code Boundaries, Cities and Counties in Vicinity of Castle AFB

Figure B-1

Table B-2. Population and Castle AFB Military and Civilian Personnel Residences by County and Communities

County and Communities	Castle AFB Personnel	1990 Area Population	Personnel as Percent of Population
Merced County	4,063	178,403	2.28
Atwater	1,424	22,282	6.39
Merced	1,272	56,216	2.26
Winton	116	7,559	1.53
Rest of County	1,251	92,346	1.35
Stanislaus County	28	370,522	0.01
ROI Total	4,091	548,925	0.75

Notes: Castle AFB personnel excludes dependents. Data for dependents were not available, but would be approximately three times the figures shown. Zip code data were provided from base personnel records. Zip code data were available for approximately 90 percent of the base personnel; data for the remaining 10 percent were not available.

Sources: U.S. Air Force, 1990, 1992a; U.S. Bureau of the Census, 1991b.

Stanislaus counties. Population effects were further allocated based upon the likely residency patterns of personnel associated with each reuse alternative and the communities most affected by base closure. These include the communities of Atwater, Merced, and Winton. About 90 percent of Castle AFB military and civilian personnel reside in these communities. The remaining 10 percent are widely scattered among other communities and represent a very small portion of the population in those areas.

Housing

Housing effects resulting from closure and reuse of Castle AFB were analyzed at both regional and local levels and are expected to follow the distribution of population effects as discussed above. As with population, housing effects are expected to be greatest in the communities closest to the base. Thus, the ROI is the same for housing issues as it is for population issues: Merced and Stanislaus counties and the communities of Atwater, Merced, and Winton.

Public Services

The public service analysis focuses on the principal jurisdictions likely to be most affected by base closure and reuse, including those that provide services directly to Castle AFB military and civilian personnel or their dependents, and those that have public service and facility arrangements with the base. These jurisdictions include Merced County government; Atwater and Merced city governments; and the Atwater Elementary, Merced

City, Winton, and Merced Union High school districts. Component police departments and fire protection agencies, including the units of Merced County and the cities of Atwater and Merced, also are included. Health care providers and facilities within the ROI are also discussed.

Public Finance

The ROI for public finance consists of the jurisdictions expected to receive the majority of the public service effects under base closure and reuse. These include Merced County government; Atwater and Merced city governments; and the Atwater Elementary, Merced City, Winton, and Merced Union High school districts.

Transportation

The ROI for the transportation analysis includes the communities of Atwater, Merced, and Winton, with emphasis on the area immediately surrounding Castle AFB. Within this geographic area, the analysis covers the principal road, air, and rail networks, including those segments that serve as direct or indirect linkages to the base, those that would be affected during reuse, and those used by Castle AFB personnel.

Utilities

The ROI for assessing utility systems is made up of the service areas of each utility purveyor serving communities most affected by the closure and reuse of Castle AFB. The ROI includes the cities of Atwater and Merced, and the unincorporated communities of Winton and Franklin/Beachwood.

Methods

Economic Activity

The economic activity analysis concentrated first on estimating ROI-level effects on employment and worker out-migration and in-migration, and then on allocating these effects to areas (counties and cities) within the ROI.

Analysis of economic effects utilized total output, employment, and earnings multipliers for the ROI, obtained from the U.S. Bureau of Economic Analysis (BEA) Regional Input/Output Modeling System (RIMS II). Interindustry multipliers were prepared by the BEA using the United States input-output table in combination with the most recently available region-specific information describing the relationship of the regional economy to the national economy. The BEA's RIMS II model is based on research by Cartwright, et al. (1981).

The same basic methodology was used to develop quantitative projections of economic activity for closure conditions, the Proposed Action, and the reuse alternatives. Changes in regional demand in each local industrial and household sector were first estimated as follows:

- For preclosure and closure conditions, demands from residual base operations and caretaker activities were estimated from employment, payroll, and contract data published in Economic Resource Impact Statements for Castle AFB.

- For reuse, construction-phase demands were estimated from cost data published by R.S. Means Company, Inc. (1992a, 1992b), and from factors developed in support of the Description of Proposed Action and Alternatives. Operations phase demands were estimated from land use jobs planning factors and regional output per job estimates derived from RIMS II coefficients.

These primary or direct effects were then multiplied, using RIMS II multipliers specific to the regional economy, to provide estimated total output, employment, and earnings associated with the reuse alternatives. Input-output sectors were selected to reflect the anticipated spending profiles associated with the Proposed Action and other reuse alternatives in order to capture the economic characteristics of each scenario within the ROI. The sectors used in the analysis are listed in Table B-3.

Table B-3 Total Employment Aggregated to Nine Input/Output Sectors, Proposed Action

	2000	2005	2015
Agriculture and mining	43	51	64
New Construction	24	8	8
Maintenance/repair	104	64	72
Manufacturing	326	532	734
Transportation and utilities	890	1,541	1,974
Wholesale trade	68	99	122
Retail trade	1,214	1,478	1,549
Finance/insurance/real estate	77	109	128
Services/other	1,177	1,513	1,662
Total	3,923	5,395	6,313

The number of in-migrating workers associated with each alternative and out-migrating workers associated with phase-down of base operations were estimated according to a set of proportional assumptions. The percentages were extrapolated from assumptions developed by Spiegel and Hewings (1989) for a study of the closure of Chanute AFB in Rantoul, Illinois.

All military personnel are assumed to leave the area when the base closes. Many civil service employees are in skilled positions, which increases the likelihood of out-migration. Nonappropriated fund employees are typically in less skilled positions, employed in support functions such as recreation and commissary sales, and less likely to out-migrate. Contract employees generally are employed under service contracts at the base, such as for housing area maintenance. Many of these workers are in craft positions of varying skill levels, which decreases the likelihood of out-migration. Secondary workers would be employed principally in retail and service jobs, and would be less likely to out-migrate. Retired military personnel are likely to move out in modest proportions due to loss of services customarily provided by the base. Out-migration assumptions and base closure calculations illustrating their use are presented in Table B-4.

Table B-4. Out-Migrating Workers and Population by Employment Category, 1990

Employment Category	Site-Related Employment and Retirees	Percent Relocating from Region	Out-Migrating Employees	Household Size	Out-Migrating Population
Military	5,176	100.0	5,176	3.25[a]	16,813
Civilian[b]	2,148	19.2	412	2.91	1,197
Civil service	492	50.0	246	2.91	716
Nonappropriated fund	445	10.0	45	2.91	129
Secondary[c]	1,211	10.0	121	2.91	352
Total workers	7,324	76.3	5,588	3.22	18,010
Retired Military	2,812	20.0	562	2.00	1,125
Total	10,136	60.7	6,150	3.11[d]	19,135

Notes: (a) Military out-migrating population of 16,813. Household size of 3.2483 calculated for presentation here.
(b) Civil service are appropriated fund employees. Private business on-base jobs were excluded since these jobs would remain after base closure.
(c) Includes contract civilians due to lack of payroll data to calculate direct economic effects.
(d) Weighted average.

Sources: Spiegel and Hewings, 1989; U.S. Air Force, 1990; U.S. Bureau of the Census, 1987a.

The calculation of out-migrating workers and dependents presented in Table B-4 is based on the effects of closing the base. Site-related workers plus retirees are presented by labor category for the preclosure year of 1990. The percentages of workers expected to move out of the ROI ranges from 10 percent to 100 percent, depending on the type of personnel. Out-migrating employees were calculated by multiplying the number of personnel times the assumed relocation percentage in that job category. The number of out-migrating employees multiplied by the average household size in that category determined the out-migrating population.

As base operations personnel decline to zero by 1995, all out-migrating employees and dependents were projected to leave the area. This analysis projects that 60.7 percent of all site-related employees and retired military personnel will move out of the ROI with closure of the base. This percentage is the weighted average of 100.0 percent of all military out-migrating and 19.2 percent of all civilian workers plus 20.0 percent of retirees moving out of the ROI.

Assumptions for in-migration are related to those for out-migration. No jobs were projected to be filled 100 percent by in-migrating workers, since this would imply that no persons with the necessary skills would be available in the ROI to perform these jobs. Direct on-site operations jobs were assumed to require skill levels similar to those of civil service personnel. Construction workers were expected to be readily available in the area, though supervisory and highly skilled craft workers likely would in-migrate from outside the ROI. Relatively few secondary workers would move into the ROI, due to the availability of suitable workers in the local labor force. In-migration assumptions and calculations for the Proposed Action in 2015 are presented in Table B-5.

Table B-5. In-Migrating Workers and Population by Employment Category for the Proposed Action, 2015

Employment Category	Site-Related Employment	Percent Relocating to Region	In-Migrating Employees	Household Size	In-Migrating Population
Direct Operations	3,861	40.0	1,546	2.91	4,499
Construction	13	15.4	2	2.91	6
Secondary	2,439	10.0	244	2.91	710
Total	6,313	28.4	1,790	2.91	5,215

Note: Data in this table exclude projected natural increase of 899 persons from 1995 to 2015. Total migratory-related population effect in 2015 is 6,114 persons.

Source: U.S. Bureau of the Census, 1987a.

Average household size assumptions were specific to each type of employment, including direct and secondary jobs by category. Most civilian households were assumed to correspond with the average size of state-to-state migrating families between 1980 and 1985 (2.91 persons per household; U.S. Bureau of the Census, 1987a). For out-migrating military families, the number of personnel and dependents was based on Castle AFB personnel records. For retired military personnel the average household size was assumed to be 2.00 persons.

The calculations presented in Table B-5 indicate the nature of the analysis performed for the worker and population in-migration effects of reuse. The

same methodology was utilized for all reuse alternatives; the Proposed Action data is shown in this table for illustrative purposes only. Site-related employment by category was projected for each year of the analysis. Worker in-migration assumptions were then applied to these job projections. The resulting figures represented the number of workers who would be in the ROI in that year for each employment category, under that alternative, who would not be in the ROI without reuse. The number of workers, multiplied by average household size for that worker category determined the number of persons in the ROI in that year who would not have been there without reuse. An average of 28.4 percent of all workers holding site-related jobs was projected to be in the ROI because of the Proposed Action who would not otherwise live there. These may be either persons who move into the ROI to take a site-related job, or refrain from moving out of the ROI due to availability of site-related employment when they otherwise would leave. The data in Table B-5 exclude the effects of natural increase in population, which are discussed under population methods below.

Out-migration and in-migration were assumed to occur during the same year in which the associated jobs were lost or became available. Retirees leaving the area were assumed to have out-migrated by closure of the base.

The assumptions specified in Tables B-4 and B-5 were determined, based on prior Air Force base closure and reuse socioeconomic studies, to be the most likely values applicable to this study. Other assumptions would result in either higher or lower population effects than those resulting from the assumptions specified. Such outcomes are possible, but the likelihood is difficult to assess.

The next step in the analysis was to allocate or assign the ROI-level effects on in-migrating and out-migrating workers to areas (counties and communities) within the ROI. This was done using the data presented in Tables B-1 and B-2 and discussed above in the definition of the ROIs for this study. This intraregional allocation analysis separately accounted for the distribution of direct and secondary workers and their families among the various residential areas within the region.

The relative attractiveness of residential areas was estimated from Castle AFB personnel files of civilian workers (see Table B-1). The residential choices of Castle AFB civilian workers in 1992 were anticipated to coincide with the residential choices of direct in-migrating workers to the area. This assumption was based on the expectation that the attractiveness of each residential location, including attributes such as housing, adequate public and commercial services, and proximity to work location, would best be measured by the revealed preferences of base civilian workers.

Table B-6 shows the percentages of out-migrating or in-migrating workers (military personnel, other direct workers, and secondary workers) allocated

Table B-6. Intra-ROI Distribution of Out-Migrant Workers Related to Castle AFB

County and Communities	Military (percent)	Civilian Direct (percent)	Civilian Secondary: Worker Spending (percent)	Civilian Secondary: Goods and Services (percent)
Merced County	99.3	95.5	95.5	32.0
Atwater	51.8	40.1	40.1	4.1
Merced	27.6	32.9	32.9	10.3
Winton	2.4	4.2	4.2	1.4
Rest of County	17.5	18.3	18.3	16.2
Stanislaus County	0.4	2.9	2.9	68.0
Outside of ROI	0.3	1.6	1.6	0.0
Total	100.0	100.0	100.0	100.0

Sources: U.S. Air Force, 1990b, 1992a; U.S. Bureau of the Census, 1991a.

to or from each local area (communities and counties). These spatial allocation percentages were calculated from the 90 percent sample of base residential data and 1990 area population data presented in Tables B-1 and B-2. Military out-migrants (first column of data) were projected to move out of the areas in which they were known to reside, including the base itself and areas around the base. Direct civilian base employees (second column of data) were projected to move out of the areas around the base in proportion to their known pattern of residence. Secondary employees leaving the area, whose jobs were dependent on spending of direct military and civilian employees (third column of data), were projected to out-migrate from areas around the base in the same spatial proportions as direct civilian workers. Secondary workers leaving the area whose jobs depended on the purchases of goods and services by the base (fourth column of data) were projected to leave areas within the ROI in proportion to the overall 1990 pattern of off-base population settlement in the ROI. This fourth column of data was calculated from the area population data presented in Table B-2, excluding the on-base resident population.

Workers moving into the ROI to take site-related jobs under the Proposed Action and alternatives were spatially allocated to areas within the ROI using these same proportionate distributions. Direct workers were assigned to areas on the basis of the 1992 residential distribution of direct civilian workers at the base. Secondary workers dependent on direct worker spending were allocated within the ROI using the same distribution as for direct workers. Secondary workers dependent on purchases of goods and services by establishments on the site were allocated within the ROI on the basis of the 1990 off-base ROI population distribution.

Population

Population changes associated with preclosure and post-closure without reuse, the Proposed Action, and all reuse alternatives are an important determinant of other socioeconomic and environmental effects. These population changes have three key components: (1) baseline growth, (2) relocation of workers and their dependents, and (3) natural increase of population (births minus deaths) over the long term.

Population trends for the ROI were projected by the Merced County Association of Governments (1992b) and the Stanislaus Area Association of Governments (1992). These projections were made in 1990 and, therefore, assumed continued operation of Castle AFB within the ROI. The forecasts were adjusted to reflect actual 1990 census counts and the effects of base closure by subtracting the estimated population loss expected with closure of the base.

The relocation of workers in response to closure and subsequent reuse was determined by utilizing the methods and assumptions discussed under economic activity. The number of dependents expected to relocate with these workers was estimated based on household sizes derived from census demographic data and Castle AFB personnel records (U.S. Air Force, 1990, 1992b; U.S. Bureau of the Census, 1987a; see Tables B-4 and B-5).

The natural increase in population was based on state demographic data and calculations for similar Air Force bases in California (California Department of Finance, 1990). The natural increase (resulting from births in excess of deaths) was assumed to be approximately 20 percent over a 20-year period, beginning at base closure in 1995.

To evaluate anticipated population effects, projected ROI population with reuse was compared to changes projected without reuse. The numerical comparison of growth rates under these two future projections was used as a basis for assessing the effects of reuse relative to the No-Action Alternative. Population changes at the ROI level and in Atwater, Merced, and Winton received primary emphasis in this analysis.

Housing

The population changes associated with closure and reuse would result in further changes in housing demand. Housing demand effects of closure and reuse were estimated from migration projected for the Proposed Action and alternatives, assuming each in-migrating household would require one unit and each out-migrating household would relinquish one unit. Only the off-base portion of the out-migrating population was used for estimating the closure housing demand changes. The number of relocating households was calculated by dividing the number of people projected to in-migrate by the

average family size of state-to-state migrating families (U.S. Bureau of the Census, 1987a).

Expected housing availability for the ROI and key communities was considered based on recent housing construction and vacancy trends. Housing projections based on the reuse plan for Castle AFB housing units were used to evaluate housing availability. Projected growth in total housing demand for the ROI and the communities of Atwater, Merced, and Winton with the Proposed Action and each alternative was then compared with the No-Action Alternative to assess the effect of reuse on local housing conditions.

Public Services

Potential effects on local public services due to changes in demand associated with closure and reuse of Castle AFB were determined for the region's key public services: general government, public education, police protection, fire protection, and health care. Effects were determined for the jurisdictions that have the closest linkages to Castle AFB (and base military and civilian personnel and their dependents), as well as jurisdictions likely to be most affected by reuse of the base.

Several key assumptions regarding future jurisdictional control of base property were made in determining the effects on public services. These assumptions also apply to assessment of effects on public finance.

Under the No-Action Alternative, ownership of the base property remains with the U.S. government, and caretaker activities include provision of security and maintenance of on-site facilities. Under the Proposed Action and alternatives, ownership would pass eventually to private organizations and state and local government entities. Local governments would be responsible for providing needed public services.

The levels of general public service were determined by considering the size of the population of each jurisdiction (county, township, school district); the land area of the jurisdictions served; the jurisdiction's type of service and, in some instances, the minimum level of service needed to maintain government functions.

The greatest emphasis was placed on the population served, using ratios of employees (e.g., municipal employees, sworn officers, professional fire fighters) to population served and student/teacher ratios at the primary and secondary public school levels. Existing level-of-service ratios were determined for each affected jurisdiction.

These service ratios were used to estimate jurisdiction-specific future requirements for service, reflecting the assumption that local governments

would exercise flexibility in providing services to accommodate changes in area population. For example, schools may choose to close facilities or combine classes in response to lower enrollments and lower funding levels; police and sheriff departments may reassign officers if reduced area population results in staff reductions; and general government functions may be performed with more part-time or on-call personnel and fewer full-time employees.

Ratios of employees to jurisdiction land area or developed land area were used to calculate possible additional requirements for personnel based on the added on-base land area to be served (area-generated demands).

Projected changes in public school enrollments were estimated based upon the results of the population analysis. The number of future public school instructors that would be required was based on enrollment projections and existing student/teacher ratios. The number of future public-sector employees needed to meet future demand and maintain existing levels of service for other public services was determined using projected population changes and existing level-of-service ratios.

Finally, the analysis examined the geographical distribution of potential effects. Because of the magnitude of some effects of closure and reuse, past level-of-service ratios may not adequately meet new service requirements. Changes in land area served and types of services to be provided were considered. Discussions with staff at key local agencies were used to assess these particular factors.

Public Finance

Local jurisdiction finances were evaluated based on changes in historic revenue and expenditure levels, changes in fund balances, and reserve bonding capacities. The analysis concentrated on each jurisdiction's governmental funds (general fund, special revenue funds, and, as applicable, capital projects and debt service funds). Other funds, such as enterprise funds, which are funded principally through user charges without contributing to the general tax burden of area residents, have not been included in the analysis.

Post-closure conditions (assuming closure and caretaker status of Castle AFB) and effects of the Proposed Action and alternatives (assuming base reuse) were determined by:

- Population increases (or decreases) in each jurisdiction, including school districts.

- Potential changes in each jurisdiction's property tax base.

- Changes in federal fund or revenue transfers due to closure of the base (particularly losses in P.L. 81-874 funds).

Revenue effects were estimated for both the tax and non-tax revenue sources of each jurisdiction. Changes in tax revenue were estimated for the major types of taxes collected by the local jurisdiction based on the change in the tax base resulting from closure or reuse (e.g., changes in assessed valuation) and the effective tax rate associated with that tax source (e.g., the property tax rate applicable to each jurisdiction). Non-tax revenue effects, such as changes in service charges, intergovernmental transfers, fines, fees, and miscellaneous revenues were estimated on a total or per capita basis.

Per capita rates for the revenue sources, assumed to change in response to changing population levels, were calculated using FY 1990 values for each revenue source analyzed in each jurisdiction and the estimated population in each jurisdiction for that year. Receipts for each revenue source in each jurisdiction were divided by the estimated population in that jurisdiction for that year.

Some revenue sources were not expected to respond to changes in population and were treated differently from sources that would respond to population changes. In particular, miscellaneous revenues include interest earnings, which would not be affected by changing population levels. Exact portions of miscellaneous revenues attributable to interest earnings were not known for every jurisdiction. Per capita miscellaneous revenue rates were, therefore, reduced by 50 percent to account for the expected lack of change in interest revenues.

Expenditure effects were estimated based on the historic (FY 1990) per capita costs of the principally affected service functions of each jurisdiction, such as law enforcement, fire protection, and recreation. Per capita costs were multiplied by the estimated change in the population base of each jurisdiction. Certain functions, such as general government administration and public safety, were assumed to exhibit some economies of scale. Rates for these functions were lowered to reflect the potential savings for these services. Any potential increases in per capita costs due to added land area served, independent of changes in population, would be in addition to the expenditures projected in this study.

Net fiscal effects, or shortfalls, are based on the projected increase (or decrease) in revenues minus the projected increase (or decrease) in expenditures.

It is uncertain to what extent the redevelopment powers of the Castle Joint Powers Authority would be utilized in redevelopment activities at the base. Declaration of the base as a redevelopment project would ensure that any

incremental property tax revenues generated by the conversion of portions of the base to private ownership are credited to the redevelopment agency and not to the local jurisdictions within which the base is located (i.e., Merced County, the city of Atwater, Atwater Elementary School District, and the Merced Union High School District). For purposes of this analysis, it was assumed that the base area has not been formally declared a redevelopment area and any property tax revenue generated by conversion of portions of the base to private ownership would accrue to the jurisdiction within which the base is located.

Transportation

The transportation network of the ROI was examined to identify potential effects to Level of Service (LOS) arising from closure conditions (caretaker status of Castle AFB) and effects of the Proposed Action and alternatives. Changes in peak-hour traffic volumes and LOS ratings were projected for road segments (excluding highway ramps). LOS ratings were based on Highway Capacity Manual recommendations (Transportation Research Board, 1985).

Effects on roads in the ROI were measured in terms of the changes in the number of vehicles traversing uniform sections of roadway. These changes would arise from closure conditions (caretaker status of Castle AFB) and from effects of alternative reuse plans. To measure these changes, traffic volumes (including projected reuse-related traffic) were compared to the capacity of the road segment and determined as a ratio (known as volume-to-capacity ratio). The capacity of a roadway is defined as the maximum hourly rate at which vehicles can pass a uniform section of a roadway under *prevailing roadway, traffic, and control conditions.*

Traffic volumes typically were reported as either the daily number of vehicular movements in both directions on a segment of roadway averaged over a full calendar year (average annual daily traffic [AADT]) and/or the number of vehicular movements on a road segment during the average peak hour. The average peak-hour volume for urban areas typically is about 10 percent of the AADT (Transportation Research Board, 1985). These values are useful indicators in determining the extent to which the roadway segment is used and in assessing the potential for congestion and other problems.

Traffic flow conditions generally are reported in terms of LOS, rating factors that represent the general freedom (or restriction) of movement on roadways (Table B-7). The LOS scale ranges from A to F, with low-volume, high-speed, free-flowing conditions classified as LOS A. LOS E is representative of conditions that, although not favorable from the point of view of the motorist, provide the greatest traffic volume per hour. With minor

interruptions, however, LOS E will deteriorate to LOS F (Transportation Research Board, 1985).

LOS ratings presented in this study, as depicted in Table B-7, were determined by the volume-to-capacity ratio for peak-hour traffic. The types of facilities were classified as: two-lane highway, multi-lane highway (typically four through lanes in urban or suburban settings, no controlled access, and may represent urban arterial segments), and freeway to account for the possibility of upgrading some state or county roads. The most appropriate Highway Capacity Manual data were selected based on the study area.

Table B-7. Levels of Service (LOS) Criteria for Basic Roadway Sections

		Criteria (Volume/Capacity)		
LOS	Description	Freeway[a]	Urban Arterial[b]	2-Lane Highway[c]
A	Free flow with users unaffected by presence of others in traffic stream.	0-0.35	0-0.60	0-0.12
B	Stable flow, but presence of other users in traffic stream becomes noticeable.	0.36-0.54	0.61-0.70	0.13-0.24
C	Stable flow, but operation of single users becomes affected by interactions with others in traffic stream.	0.55-0.77	0.71-0.80	0.25-0.39
D	High density, but stable flow; speed and freedom of movement are severely restricted; poor level of comfort and convenience.	0.78-0.93	0.81-0.90	0.40-0.62
E	Unstable flow; operating conditions near capacity with reduced speeds, maneuvering difficulty, and extremely poor levels of comfort and convenience.	0.94-1.00	0.91-1.00	0.63-1.00
F	Forced or breakdown flow with traffic demand exceeding capacity; unstable stop-and-go traffic.	1.00	1.00	1.00

Notes:
(a) Table 3-1, LOS for basic freeway sections, 70 miles per hour (Transportation Research Board, 1985).
(b) Merced County Association of Governments, 1989.
(c) Table 8-1, level terrain, 20 percent no passing zones, design speed >50 miles per hour. Applicable to two-lane collector segments (Transportation Research Board, 1985.)

Traffic volumes for the study area were derived from the AADT counts provided by the California Department of Transportation (Caltrans), the Merced County Association of Governments, local planning agencies, previous studies, and short period counts at some intersections in the vicinity of the base. Changes in trip generation arising from land use

changes at Castle AFB were estimated and resulting volume changes on key road segments were determined.

Changes in demand for air, rail, and passenger service, arising from closure and reuse of the base, were determined from data developed for each alternative.

Additional information on methods used in the transportation analysis is presented in Appendix E of the Environmental Impact Statement, Disposal and Reuse of Castle AFB, California.

Utilities

The utility systems addressed in this analysis include the facilities and infrastructure used for:

- Potable water pumping, treatment, storage, and distribution.
- Wastewater collection and treatment.
- Solid waste collection and disposal.
- Energy generation and distribution, including the provision of electricity and natural gas.

For the reuse alternatives, local purveyors of potable water, wastewater treatment, and energy were anticipated to provide services within the area of the base, and these entities would acquire most or all related on-base utilities infrastructure and distribution equipment. It also was assumed that reuse activities would generate solid wastes that would be disposed of in area landfills.

Long-term projections of demand were developed based on changes in population and usage rate data obtained from the various utility purveyors within the ROI for each of their respective service areas. These projections were adjusted to reflect the decrease in demand associated with closure of Castle AFB and its subsequent operation under caretaker status. These adjusted forecasts were then considered the baseline for comparison with potential reuse alternatives.[1]

The potential effects of reuse alternatives were evaluated by estimating and comparing the additional direct and indirect demand associated with each alternative to the historic and projected operating capabilities of each utility system. Projections in the utilities analysis include demand for water, wastewater treatment, solid waste disposal, electricity, and natural gas, on Castle AFB from activities planned under the Proposed Action and alternatives.

Additional information on methods used for the utilities analysis is provided in Appendix E of the Environmental Impact Statement, Disposal and Reuse of Castle AFB, California.

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX C

GLOSSARY OF TERMS AND ACRONYMS/ABBREVIATIONS

GLOSSARY OF TERMS

Arterial. Signalized street that serves primarily through-traffic and provides access to abutting properties as a secondary function.

Average Annual Daily Traffic (AADT). For a 1-year period, the total volume passing a point or segment of a highway facility in both directions, divided by the number of days in the year.

Average Daily Traffic (ADT). The typical 24-hour traffic volume for passing a point or segment of a highway facility in both directions, unless otherwise specified.

Average Travel Speed. The average speed of a traffic stream computed as the length of a highway segment divided by the average travel times of vehicles traversing the segment, in miles per hour.

Biophysical. Pertaining to the physical and biological environment, including the environmental conditions crafted by man.

Capacity (transportation). The maximum rate of flow at which vehicles can reasonably be expected to traverse a point or uniform segment of a lane or roadway during a specified time period under prevailing roadway, traffic, and control conditions.

Capacity (utilities). The maximum load a system is capable of carrying under service conditions.

Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). A co-payment medical plan that provides coverage for specific medical services to eligible dependents of active duty, retired, or deceased military personnel.

Easement. A right or privilege (agreement) that a person may have on another's property.

Effects/Impacts. An assessment of the meaning of changes in all attributes being studied for a given resource; an aggregation of all the effects, usually measured using a qualitative and nominally subjective technique. In environmental impact statements, as well as in the Council on Environmental Quality regulations, the word impact is used synonymously with the word effect.

Employment. The total number of full- and part-time jobs held by wage and salary workers, both civilian and military, as well as farm and nonfarm proprietors.

Enterprise Fund. One of the proprietary fund types used to account for activities that are financed primarily through user charges.

Environmental Impact Analysis Process. The process of conducting environmental studies as outlined in Air Force Regulation 19-2.

Expenditure. A disbursement of funds by a government entity; includes operation and maintenance costs, as well as capital costs.

Fiscal Year. In government finance, the 12-month period that corresponds to the jurisdiction's accounting period. The federal fiscal year is October 1 through September 30. Local and state government fiscal years vary from jurisdiction to jurisdiction.

Fund Balance. Resources remaining from prior years that are available to be budgeted in the current year.

General Aviation. All aircraft that are not commercial or military aircraft.

General Fund. General operating fund accounting for all financial resources except those required to be accounted for in other funds.

General Obligation Bonds. Bonds backed by the full faith and credit (which includes taxing and further borrowing power) of a jurisdiction. It is repaid by voter-approved increases in local property tax rates, in contrast to revenue bonds, which are paid back by the revenue generated by operation of a specific facility built with the borrowed funds (for example, a sewage treatment plant).

Infrastructure. The basic installations and facilities on which the continuance and growth of a community, state, etc., depend (e.g., roads, schools, power plants, transportation, and communication systems, etc.).

Interstate. The designated National System of Interstate and Defense Highways located in both rural and urban areas; they connect the east and west coasts and extend from points on the Canadian border to various points on the Mexican border.

Kilowatt. A unit of power equivalent to 1,000 watts.

Land Use Plans and Policies. Guidelines adopted by governments to direct future land use within their jurisdictions.

Level of Service (LOS). In transportation analyses, a qualitative measure describing operational conditions within a traffic stream and how these conditions are perceived by motorists and/or passengers.

Level of service. In public services, a measure describing the amount of public services (e.g., fire protection and law enforcement services) available to community residents, generally expressed as the number of personnel providing the services per 1,000 population or the land area per employee providing services.

Megawatt-hour (MWH). A unit of energy equivalent to 1,000,000 watt-hours.

Migratory-Related Effects. Persons who would leave the ROI or move into the ROI as a result at closure or reuse of an Air Force base, due to changes in employment, and its effects on population, housing, public services, public finance, transportation, and utilities.

Multiple-Family Housing. Townhouse or apartment units that accommodate more than one family though each dwelling unit is occupied by only one household.

National Environmental Policy Act (NEPA). Public Law 91-190, passed by Congress in 1969. The Act established a national policy designed to encourage consideration of the influences of human activities (e.g., population growth, high-density urbanization, industrial development) on the natural environment. NEPA also established the Council on Environmental Quality. NEPA procedures

require that environmental information be made available to the public before decisions are made. Information contained in NEPA documents must focus on the relevant issues in order to facilitate the decision-making process.

Noncategorical State Education Aid. The principal state education aid program for general education services provided by local school districts; compare to categorical state education aid program revenues which are generally a lesser amount and are earmarked for specific uses by the local school district such as for special education programs.

Peak Hour. The hour of highest traffic volume on a given section of roadway between 7:00 a.m. and 9:00 a.m. or between 4:00 p.m. and 6:00 p.m.

P.L. 81-874. A federal law that authorizes financial assistance for local school districts upon which the United States has placed financial burdens as the result of the acquisition of real property by the United States; a sudden and substantial increase in enrollment as the result of federal activities; or due to the need to provide education for children residing on federal property or whose parents are employed on federal property.

Primary Roads. A consolidated system of connected main roads important to regional, statewide, and/or interstate travel; they consist of rural arterial routes and their extensions into and through urban areas of 5,000 or more population.

Revenue Limit Source Revenue. The sum of school district property tax collections and noncategorical state education aid program revenues; typically equalized across all school districts on a per pupil basis.

Sales Tax. A tax placed on goods or services at the time of their purchase.

Secondary Effects. Effects (usually employment, population, and income/spending changes) caused by a program, project, or action, but removed from the program, project, or action in space or time.

Secondary Employment. The additional employment generated by the economic activity required to produce the inputs to meet the initial changes in demand. The term often is used to include both indirect and induced effects.

Section 3 Transition Entitlements. Special impact aid program authorized under P.L. 81-874 for continued funding of federal impact aid to a local school district after the district becomes ineligible under general program guidelines. Provides authority for continued impact aid when a decrease or cessation of federal activities in an area results in a substantial decrease in the number of children eligible for such aid. Payments would be for a period of 3 years, in reduced amounts (90 percent of the previous year's entitlement), and are subject to congressional appropriation.

Shortfall. The difference between projected local government expenditures and revenues when the projected expenditures are greater than projected revenues.

Single-Family Housing. A conventionally built house consisting of a single dwelling unit occupied by one household.

Special Revenue Fund. A fund which accounts for the proceeds of specific revenue sources that are legally restricted to expenditures for specified purposes.

Therm. A measurement of energy equal to 100,000 British thermal units.

Traffic Assignment. The allocation of traffic flows among routes available between any two places.

Trip Distribution. A determination of the interchange of trips among zones in the region.

Trip Generation. A determination of the quantity of trip ends associated with a parcel of land.

U.S. Environmental Protection Agency (U.S. EPA). The independent federal agency, established in 1970, that regulates federal environmental matters and oversees the implementation of federal environmental laws.

Volume. The number of vehicles passing a point on a lane, roadway, or other trafficway during some time interval.

Watt. A unit of electrical power equal to 1/746 horsepower.

ACRONYMS/ABBREVIATIONS

AADT	average annual daily traffic
ACC	Air Combat Command
ADT	average daily traffic
AFB	Air Force Base
AFBCA	Air Force Base Conversion Agency
AT&SF	Atchison Topeka & Santa Fe
BEA	Bureau of Economic Analysis
CGSTA	California Golden State Trapshooting Association
CHAMPUS	Civilian Health and Medical Program of the Uniformed Services
CJPA	Castle Joint Powers Authority
DBCRA	Defense Base Closure and Realignment Act
DOD	Department of Defense
EIS	Environmental Impact Statement
EOD	Explosive Ordnance Disposal
ERIS	Economic Resource Impact Statement
FBO	fixed base operations
FAA	Federal Aviation Administration
FTE	full-time equivalent
FY	fiscal year
kV	kilovolt
LOS	Level of Service
MGD	million gallons per day
MWH	megawatt-hours
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
OL	Operating Location
PG&E	Pacific Gas & Electric Company
P.L.	Public Law
RIMS II	Regional Input-Output Modeling System
RN	registered nurse
ROI	Region of Influence
SAC	Strategic Air Command
SD	School District
SH	State Highway
SIAS	Socioeconomic Impact Analysis Study
U.S. EPA	U.S. Environmental Protection Agency
VA	Veterans Administration
VPH	vehicles per hour
WAPA	Western Area Power Association
WSA	Weapons Storage Area

THIS PAGE INTENTIONALLY LEFT BLANK