A COST ANALYSIS OF DINING FACILITIES: SHOULD THE AIR FORCE CONTINUE TO OPERATE DINING FACILITIES?

THESIS

Michael J. Hickam, Captain, USAF

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DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY

AIR FORCE INSTITUTE OF TECHNOLOGY

Wright-Patterson Air Force Base, Ohio

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Michael J. Hickam, BBA, MSM

Captain, USAF

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Michael J. Hickam, BBA, MSM
Captain, USAF

Approved:

//SIGNED//	3 Mar 09
Lt Col Patrick D. Kee (Chairman)	Date
//SIGNED//	3 Mar 09
Maj Todd A. Peachey (Member)	Date
//SIGNED//	3 Mar 09
Lt Col Eric J. Unger (Member)	Date

AFIT/GFA/ENV/09-M01

Abstract

The Air Force is currently spending approximately $128M per year for food service contracts alone (Hamilton, 2008). These costs do not even account for the costs of labor, supplying food, maintenance contracts, or even utilities. With available annual dollars becoming smaller, the Air Force must examine its current processes and eliminate those which are not mission essential.

The Air Force is currently testing new ways of providing meals for their enlisted members. In, 2009, several bases will begin using a swipe card system where airmen can use their swipe card to eat at any services operated facility. In addition, several bases have decided to close their dining facilities. Hanscom AFB closed their dining facility in 1999 and Andrews AFB estimates closure of one of their dining facilities will save an annual $1M.

This thesis used a cost effectiveness analysis to evaluate the Air Force's dining facilities. It was found that at all four bases included in the analysis, a cost savings would be realized by closing dining facilities and paying all airmen BAS. The savings ranged from $420K to $4.6M annually and a total savings from all four bases totaling over $12.1M. With such a large savings possible by closing dining facilities, the option of closing base dining facilities should be strongly considered.

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I. Introduction

The Air Force is currently spending approximately $128M per year for food service contracts alone (Hamilton, 2008). These costs do not account for the costs of labor, supplying food, maintenance contracts, or even utilities. While the Air Force budget is shrinking, the Air Force is looking for ways to save money and operate its dining facilities more efficiently (Government Food Service, 2007). According to Government Food Service (2007), the big push is to have a college swipe card system up and running by the summer of 2009 at several test bases. This would allow airmen on dining cards to eat at any services operated facility simply by swiping their dining card as payment. Since the Air Force would still need to pay for these meals, this seems to miss the mark in the fight to save dwindling dollars the Air Force currently has available to them.

Former CSAF, General T. Michael Moseley, challenged all MAJCOM commanders to "find a way to generate savings within our constrained budget that can be applied to the pressing need of recapitalization" (Tactical Rapid Improvement Event Fieldbook, 2006). This challenge was aimed at finding and eliminating non-mission essential tasks. By eliminating these non-mission essential tasks, a manpower drawdown would free up dollars for recapitalization.

The current CSAF, General Norton Schwartz, is changing directions from General Moseley by proposing to cut the number of fighters in the inventory to free up funds to

increase manpower, bombers, and unmanned aerial vehicles (LaGrone, 2008). Regardless of senior leadership direction, the fact remains, that the Air Force is facing a smaller budget and needs to find ways to save money.

The option of closing dining facilities is not new. Hanscom AFB closed their dining facility in 1999, showing that closing dining facilities could be one option to save money. In May 2008, Andrews AFB closed one of their dining facilities with an estimated annual savings of $1M (Chehy, 2008). These two examples demonstrate possible cost savings to the Air Force by closing dining facilities.

With the development and construction of new 1-plus-1 dormitories, airmen at many Air Force Bases across the country now have a fully furnished kitchen in their dorm rooms (Demmons, Rohlinger, & Heiman, 2006). With the Air Force already spending valuable resources developing, designing, and building new living facilities where airmen can feed themselves, is it still fiscally responsible to continue funding dining facility food service contracts for dining facilities which are currently being underutilized? (Demmons, Rohlinger, & Heiman, 2006) While the cost effectiveness analysis might show savings by closing dining operations, the living standards at each base must be taken into consideration before a final closure decision is made.

Finally, AETC's unique mission requires dining facilities to be available on their bases. Airmen going through basic military training do not have options on where to eat and dining facilities must be provided. Besides basic military training, AETC also operates several technical school missions. These technical schools have both pipeline students (students directly out of basic military training) and students sent on temporary

duty (TDY) from their current duty assignment. By closing dining facilities at these locations pipe line students would not have dining facilities available to them and the perdiem rates paid to TDY students would increase dramatically. For this reason, this thesis will not evaluate the possible benefits of closing dining facilities on these installations.

With senior leadership indicating the need to save dollars, it is obvious the Air Force must find ways to increase savings in order to allow spending on recapitalization while at the same time increasing manpower. The current living situation of airmen provides a means of preparing their own food within the comforts of home. There are also dramatic costs involved in operating dining facilities. This thesis will provide Commanders from the base level all the way to the Air Force level a means of evaluating the cost effectiveness of either continuing to operate dining facilities or closing and paying all airmen BAS. This thesis shows it is much more cost effective to close dining facilities then to continue operating them. Therefore, serious consideration should be given towards closing dining facilities.

The answer to the following research question will help Commanders at all levels make the difficult decision between operating dining facilities or closing dining facilities and paying all airmen BAS.

Research Question

Is operating dining facilities more cost effective than closing dining facilities and paying all airmen BAS?

In order to answer this question, this thesis compared the cost effectiveness of operating dining facilities with the cost effectiveness of closing dining facilities while paying all airmen basic allowance for subsistence (BAS). This cost comparison was performed using cost data from a representative base from ACC, AFMC, and AMC. Cost factors to be considered are:

a. mess attendant contract
b. equipment maintenance contracts
c. food purchased to prepare meals
d. labor
e. utilities

Theses cost factors will then be subtracted from the cost of paying BAS to all airmen at each base. If there is a realizable benefit from closing dining facilities, this could provide a substantial amount of annual funding which could then be reprogrammed and spent on other urgent needs throughout the Air Force.

II. Literature Review

In FY08, the Air Force spent approximately $128M for food service contracts alone (Hamilton, 2008). These costs do not include the cost of utilities, labor, food, or maintenance contracts. The elimination of these contract costs could directly increase the amount of dollars available for recapitalization initiatives.

With the Air Force's Vision 2020 plan, all dormitories are planned to be a 1-plus-1 dormitory design by 2005 (Arana-Barradas, n.d.). This design has one fully furnished kitchen attached to two separate bedrooms (Demmons, Rohlinger, & Heiman, 2006). With the advent of these new facilities the Air Force may be paying too much to operate underused dining facilities because airmen are already choosing to eat elsewhere. To examine this question, we will look at prior work done in this area and examine the following four areas prior work has focused on:

a. dining facility roles
b. environmental changes
c. cost effectiveness of dining facilities
d. review of the available data

Dining facility roles

The three basic purposes for dining facilities are to provide meals to airmen living in the dormitories, feed transient alert personnel and flight crews, and provide contingency training for military food service personnel (Eglin Air Force Base). For years, the Air Force has used dining facilities to feed single airmen living in the dormitories. Until recently, dormitories did not contain cooking facilities (Arana-

Barradas, n.d.). Single Airmen had to choose whether to eat in the dining facility or pay out-of-pocket to eat elsewhere. Therefore, until the introduction of 1-plus-1 dormitories, closing dining facilities would have never been a viable option. With the new dormitories being built on all Air Force installations, airmen now have the ability to prepare their own meals.

Transient personnel have also been a main customer of dining facilities. This includes individuals who are currently TDY, as well as flight crews who require meals prepared and packaged for in-flight meals. By providing meals to transient personnel, the Air Force benefits by paying a reduced cost in daily per diem. As stated in volume 9, chapter 5 of the DoD Financial Management Regulation (DODFMR), individuals TDY to a base with available dining facilities will be paid a lower per diem rate (Defense Link).

Finally, like any mission in the Air Force, military food service personnel must train for contingency operations and dining facilities provide this necessary training (Demmons, Rohlinger, & Heiman, 2006). While the current dormitory arrangement may provide the option of closing dining facilities, the Air Force would then need to find a way of training food services personnel in order to prepare them for deployments to support troops in the field.

Environmental Changes

Today's Air Force is facing significant financial challenges. It is essential to find new ways of doing more with less and eliminating waste and non-mission critical tasks. One of the largest environment changes is the current fiscal problems faced by the Air Force. With the pressing need of recapitalizing our Air Force, everyone has been tasked

with identifying and implementing changes to generate savings across the Air Force. The AFSO21 Fieldbook specifically tasks commanders to save money by eliminating non-mission critical tasks (Tactical Rapid Improvement Event Fieldbook, 2006). The AFSO21 Fieldbook begins with a letter from former CSAF General T. Michael Moseley to all MAJCOM Commanders stating, "We must find a way to generate savings within our constrained budget that can be applied to the pressing need of recapitalization". General Moseley goes on to say, "this effort will need to rely primarily on the Lean concept, which includes the two predominate process attributes of doing it right the first time, as well as to stop doing non-mission critical tasks." In light of this tasking and with the availability of cooking facilities within their own dorm rooms, dining facility operations need to be reevaluated and determined if it truly is a mission critical task.

A key component of AFSO21 is identifying and eliminating waste. With the implementation of the 1-plus-1 dormitories discussed earlier, airmen are now provided a fully furnished kitchen available for personal use. Not only do these new dormitories provide single airmen a way of preparing their own meals, but they are also contributing to the low usage rates found in dining facilities across the Air Force (Demmons, Rohlinger, & Heiman, 2006). Airmen are deciding, with more consistency, to pay for their food costs out of pocket by either preparing their food at home, or dining out. With airmen already deciding to eat elsewhere, this thesis will provide commanders with a cost effectiveness analysis to evaluate the cost effectiveness of operating dining facilities.

Services Squadrons operate recreation, gym, entertainment, and food facilities on each base within the Air Force. One major environmental change affecting current

dining facility usage is the number of restaurants available to dormitory residents (Demmons, Rohlinger, & Heiman, 2006). Even though these costs are not reimbursed, airmen are choosing to eat at places like the base club, bowling alley, food court, and many other restaurants either on or off base. With airmen choosing other Services operated facilities, ACC is currently working on implementing a college campus style swipe card system (Government Food Service, 2007). Under this system, airmen will be issued a swipe card which can be used to eat at any Services operated facility. While the costs may be reduced, no estimated annual savings is given (Government Food Service, 2007). There are two potential problems with this new system. First, there would still be costs involved in operating the card system and paying each facility for their meals. Second, going back to AFSO21, this may not eliminate the non-mission critical tasks.

The Services community does recognize the problem and has, under AFSO21, taken action to make improvements to the way food service is administered. In the 2007 Services Strategic Planning Board (SSPB), it was recommended that transformation of food services should be Service's highest priority (News & Views, 2008). Services has submitted a proposal to develop, test, and implement a new food service model with projected costs to the Air Force of $52M while saving approximately $117M (News & Views, 2008). If approved, the plan will go into effect by FY12. However, while the plan does project a cost savings, it still does not seem to answer the daunting question of whether or not feeding Airmen is cost effective and even needed in today's environment.

Cost Effectiveness

Cost effectiveness can be measured in a few different ways. In their work, Demmons et al., developed a matrix (Figure 1) designed to assist commanders in deciding the most appropriate route to take when renewing dining facility contracts (Demmons, Rohlinger, & Heiman, 2006).

Decision matrix
XXXX AFB

	Options					
criteria	**Full Food Contract**	**Mess Attendant Contract**	**Full MOA**	**Mess Attendant MOA**	**Close**	**Weight**
Price						
Flexibility						
Mission Need						
Customer Desire						
Training	1	3	1	3	1	0.4
TOTAL SCORE	0.4	1.2	0.4	1.2	0.4	

Scale:

1	Does Not Meet Criteria
2	Somewhat Meets Criteria
3	Meets Criteria
4	Exceeds Criteria Somewhat
5	Significantly Exceeds Criteria

Figure 1-1 Example Decision Matrix (Demmons, Rohlinger, & Heiman, 2006)

Their matrix contained five different options; full food contract, mess attendant contract, full memorandum of agreement (MOA), mess attendant MOA, and dining

facility closure. A full food service appropriated fund (APF) contract is funded with operations and maintenance (O&M) funds and awarded to a commercial contractor. The commercial contractor is responsible for the operations and management of the dining facility. A mess attendant APF contract is also funded with O&M dollars but only the mess attendant duties are contracted. The actual food preparation and dining facility management is performed by Services Squadron personnel. With a non-appropriated funds (NAF) full service food MOA, wing O&M dollars are still used to fund the MOA, however, instead of using civilian contractors, the base hires NAF employees to operate the dining facility. Finally, with a mess attendent NAF MOA, just like with a mess attendant APF, the NAF personnel only provide the mess attendant services while Services personnel provide the management and food preperation activities. The option to close dining facilities will need to be based on a detailed cost benefit analysis with the matrix being scored according to those results.

In order to decide which option is most cost effective, the following criteria must be considered:

a. price
b. flexibility
c. mission need
d. customer desire
e. training (Demmons, Rohlinger, & Heiman, 2006)

Each of these criteria is weighted from 0 to 1 with the total of all weights equaling one. Once the weights are established, each criteria is then scored on a Likert scale of 1-

5 which is then multiplied by the weight. Each item is then added together to get a total score. Once each option is scored, the scores are compared and the best option is selected.

According to Baldwin el al., metrics used should align the priorities of the provider with those of the customer (Baldwin, Camm, & Moore). When taking this definition, the matrix developed by Demmons et al., (2006) does align the priorities of the Air Force with the users of the dining facilities. However, while the matrix may provide a valuable tool to commanders on deciding contract types, there was little emphasis placed on the cost/benefit of operating a dining facility.

The measurement of operating costs has been poorly accomplished and depending on the number of users at a base dining facility, the overall costs can either appear relatively favorable or expensive. When operating costs are computed, they are done on a per plate basis (Miller, 2008). While this does give an accurate method of computing the costs of feeding each airman eating in the dining facility, it does not account for those who chose to eat elsewhere. Because the costs are fixed, when bases have a higher number of airmen eating in dining facilities, the cost per plate will be reduced, while those bases with low numbers of airman using dining facilies, their cost per plate will be much higher. Airmen choosing to either prepare their own meals or eat somewhere else, cause the cost per plate to increase. This method will also cause huge differences in costs when bases which have a low number of airmen eating in dining facilities are compaired to bases with higher usage rates. The cost per plate method of reporting operating costs also masks the overall costs; a cost of $5 per plate looks much better than reporting a

$1.5M contract cost. For this reason, using the cost per plate method does not give a true picture of total costs involved in providing meals.

One other area of concern with using the cost per plate computation involves how the cost is actually computed. Miller only computes his cost per plate based on the food mess attendent contracts (Miller, 2008). There is no consideration given for expenses of food, facility maintenance, military pay and benefits, or utility costs. Instead, these costs are just "believed" costs. For example, using the cost per plate estimate for ACC we get a per plate cost of $7.17 per meal, however, Miller states, "If all costs were considered, Air Force Services believes the cost per meal would be in excess of $25.00 (Miller, 2008)." This wide variation in costs calls into question the prior methodology used to estimate per plate costs for USAF dining facilities. For this reason, this cost effectiveness analysis will include all costs pertaining to the daily operation of dining facilities.

Available Data

As mentioned earlier, Demmons matrix includes scoring for costs to provide the option of closing dining facilities (Demmons, Rohlinger, & Heiman, 2006). However, their thesis did not mention what costs are associated with a cost/benefit analysis of operating a dining facility. Although Miller (2008) introduces estimating the total cost on a "cost per plate" basis; these costs fall short and only include the cost of the mess attendant contract. After careful consideration and guidance from several dining facility managers, the following costs should be used when calculating the cost of dining facility operations:

a. mess attendant contract

b. equipment maintenance contracts

c. food purchased to prepare meals

d. labor

e. utilities

The cost of the mess attendant contract will vary depending on the type of food service contract awarded and will also be based on the estimated number of individuals served. Equipment maintenance contracts have also varied from base to base. Some bases include this cost in their actual food service contract while others have a separate contractor who will repair and maintain the dining facilities equipment. For this reason, some bases will not have this cost considered in their cost effectiveness analysis.

Regardless of the type food service contract awarded, all bases must provide the food to the contractor to be prepared and served. Each of the four bases will have charges for food in each of the four years.

Labor is another category which varies from base to base. Some bases do not provide any military or civilian labor. Instead, all labor is covered under the basic food service contract, while others have both a food service contract and military personnel. Those bases using military and/or employing civilians, their annual salary and benefits must be used in the cost effectiveness analysis.

Finally, the cost of utilities must also be included. For this analysis, utilities are defined as electricity and gas. Electricity is used to operate refrigerators and air conditioning units while gas is used for appliances. Heating is provided by the base in the form of steam which is pumped out to all base facilities from a central heat plant.

Table 2-1 Annual Dining Facility Contract Values by MAJCOM (Hamilton, 2008)

MAJCOM	Total Value of Contracts	% of AF Total
ACC	$21,281,000	16.64%
AFMC	$11,245,676	8.79%
AFSPC	$11,635,179	9.10%
AMC	$20,704,016	16.19%
	$64,865,871	50.71%
AETC	$56,467,810	44.15%
AFDW	$1,577,070	1.23%
AFRC	$481,585	0.38%
AFSOC	$3,031,919	2.37%
USAFA	$1,481,042	1.16%
	$63,039,426	49.29%
Total	**$127,905,297**	

Table 2-1, designed with data from Hamilton (2008), shows the total annual dining facility contract values (not including options) for each CONUS Major Command (MAJCOM). Air Combat Command (ACC), Air Force Material Command (AFMC), Air Force Space Command (AFSPC), and Air Mobility Command (AMC) hold over 50% of the total dollar amount of dining facility contracts. Air Education and Training Command (AETC), the largest MAJCOM in terms of contract values makes up over 44%.

Data was collected for one base from each of the four largest Major Commands with AETC being excluded; Langley AFB, VA (ACC), Wright Patterson AFB, OH (AFMC), Travis AFB, CA (AMC), and Peterson AFB, CO (AFSPC). With the five smallest MAJCOM's only making up approximately 5% of the total contracted value, these MAJCOM's were not selected for this cost effectiveness analysis. Although AETC is the largest user of food services contractors, it was not selected due to its large number

of basic military trainees and transient personnel. Because of the nature of basic military training, dining facilities must be provided to feed basic military trainees. These trainees have no other options and are completely reliant on dining facilities for their daily meals.

AETC also operates a large number of technical schools and other training courses. With these individuals being sent from their home units and being paid per diem, dramatic costs would be associated with the closure of dining facilities on AETC installations. With the unique design of AETC, regardless of the outcome of any cost effectiveness analysis, dining facilities would continue to be a requirement. Therefore, AETC will not be included in this cost effectiveness analysis.

III. Methodology

This thesis will use a cost effectiveness analysis to compare the costs associated with operating a dining facility and compare those costs with the benefits of closing the facilities while paying all military personnel basic allowance for subsistence (BAS). This chapter will provide the methodology used in this thesis to compute both the costs of operating base dining facilities and the costs of closing the facilities while paying all military personnel BAS. If operating costs are less than the BAS costs, then continuing to operate dining facilities would be of greater value to the Air Force, however, if BAS costs are greater than operating costs, closing dining facilities and paying all military personnel BAS would be of greater financial value to the Air Force. The final section of this chapter will discuss known threats to validity and how this thesis addressed them.

Costs

There are several costs involved in computing the operating cost of dining facilities. For this thesis, the cost of operations was computed by summing the total costs of the food service contract, equipment contract, food costs, and employment costs. Each base Services Squadron provided the costs for their basic food service contract, food costs, and the number of personnel employed in each facility for their base.

There are two contract values used in this thesis. First, the annual contract value for basic food service which provides either food preparation and mess attendant duties or just the mess attendant duties. The type of contract used varied by base. The food service contracts are five year contracts which do contain options. Since these options

are not guaranteed, the annual value was used in order to prevent over-inflating the total value.

Second, the contract value for equipment maintenance provides service for any broken equipment in the kitchen or serving line. Two of the bases, Peterson AFB and Travis AFB do not use an equipment contract, instead, this service is provided in the basic food service contract. The equipment maintenance contracts were only reported as a yearly value.

Food costs do not fall under the basic food service contract. Each base must purchase and provide the contractor with all food to be prepared and served. Each of the four bases provided their annual food costs.

Employment numbers varied at each base. Wright Patterson AFB (WPAFB) for example does not use any military or civil service personnel. All employees are funded under the basic food service contract. For this reason, WPAFB does not have any employee costs. Langley, Peterson, and Travis AFBs all have military personnel working in their dining facilities but do not employ any civil service employees. Employment costs were computed using the standard composite pay rates developed by SAF/FMCCF for each pay grade employed at that bases dining facility and multiplying the number of employees at that grade (Coats, 2008). These standard composite rates use the military pay and benefits to compute a total annual cost for each pay grade (AFI 65-503, 2008). The costs for each pay grade were then summed to get a total fiscal year labor cost. The employment costs were computed for each year from FY04 to FY08 (see Table 3-1).

Table 3-1 Manning Costs

TRAVIS AFB MANNING COSTS

Rank	Number	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
MSgt	1	$ 100,491	$ 92,329	$ 83,411	$ 96,252	$ 88,559
TSgt	3	$ 264,804	$ 244,599	$ 219,330	$ 252,845	$ 231,229
SSgt	5	$ 379,560	$ 357,910	$ 302,760	$ 367,125	$ 330,965
SrA	2	$ 128,036	$ 121,482	$ 102,010	$ 118,296	$ 109,281
A1C	14	$ 754,138	$ 741,972	$ 642,893	$ 692,301	$ 643,007
Amn	4	$ 199,888	$ 197,784	$ 160,210	$ 179,282	$ 172,353
Total Labor Costs		$ 1,826,917	$ 1,756,076	$ 1,510,615	$ 1,706,101	$ 1,575,394

LANGLEY AFB MANNING COSTS

Rank	Number	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
SMSgt	1	$ 112,049	$ 103,818	$ 107,297	$ 108,887	$ 99,895
MSgt	1	$ 100,491	$ 92,329	$ 94,947	$ 96,252	$ 88,559
TSgt	3	$ 264,804	$ 244,599	$ 250,233	$ 252,845	$ 231,229
SSgt	10	$ 759,120	$ 715,820	$ 731,102	$ 734,251	$ 661,931
SrA	9	$ 576,162	$ 546,669	$ 544,968	$ 532,330	$ 491,766
A1C	20	$ 1,077,340	$ 1,059,960	$ 1,020,104	$ 989,001	$ 918,581
Amn	6	$ 299,832	$ 296,676	$ 275,526	$ 268,923	$ 258,529
Total Labor Costs		$ 3,189,798	$ 3,059,871	$ 3,024,176	$ 2,982,489	$ 2,750,489

PETERSON AFB MANNING COSTS

Rank	Number	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
MSgt	1	$ 100,491	$ 92,329	$ 94,947	$ 96,252	$ 88,559
TSgt	2	$ 176,536	$ 163,066	$ 166,822	$ 168,563	$ 154,152
SSgt	5	$ 379,560	$ 357,910	$ 365,551	$ 367,125	$ 330,965
SrA	2	$ 128,036	$ 121,482	$ 121,104	$ 118,296	$ 109,281
A1C	7	$ 377,069	$ 370,986	$ 357,036	$ 346,150	$ 321,503
Amn	4	$ 199,888	$ 197,784	$ 183,684	$ 179,282	$ 172,353
Total Labor Costs		$ 1,361,580	$ 1,303,557	$ 1,289,144	$ 1,275,669	$ 1,176,814

The cost of closing base dining facilities would be equal to the costs of paying all airmen on each base BAS. If this cost is less than operating costs, it would be more cost effective to close dining facilities and pay all airmen BAS. The amount of BAS which would need to be paid at each of the four bases was computed by using the number of meal cards on each base and multiplying that number by the BAS rate for that fiscal year

for fiscal years FY04 through FY08. As mentioned earlier, each base's Services Squadron provided the number of meal cards for their base.

At all four bases, meal cards are issued to both active duty and reserve personnel. While active duty BAS costs are rather straightforward to compute, reserve personnel are only paid BAS while serving on active duty. Since reserves are only on active duty for two days per month and two weeks per year, the BAS which would need to be paid to reserves needed to be computed on a prorated rate. The formula, $AD = \frac{38R}{365}$, where AD is the active duty equivalents, R is the number of base reserve meal cards issued, 38 is the total days of reserve duty per year (2 days per month x 12 months per year, plus 14 days per year), and 365 is the number of days per year, will compute the prorated annual amount each base would need to pay in BAS for reserve personnel.

Data

In order to increase the level of validity, this cost effectiveness analysis will be done over a 5 year period, FY04 through FY08. Instead of providing a "snapshot" over the period of one year, the five year period will average out noise in the data. External validity will be improved if the cost effectiveness analysis finds the same outcome over all five years, thereby strengthening the probability that future outcomes would not deviate from these findings.

As stated in the literature review, each MAJCOM was not represented in the selection of dining facilities. From the data collected, dining facilities are operated identically within a MAJCOM. For example, at WPAFB, military personnel are not

assigned to work in their dining facility. Instead, the facility is operated under a full food service contract. With the exception of Hanscom AFB, which has already closed their dining facility, this is also true about each base within AFMC. Travis and Langley AFB however, both operate with a mess attendant contract while using military personnel to perform the food preparation functions. Because each base in the MAJCOM operates similarly to the base chosen, external validity should remain for each base within that MAJCOM.

In previous thesis work, utility usage costs have only been estimated (Miller, 2008). In the beginning of this thesis work, it was anticipated that utility usage at each dining facility would be accurately accounted for. After receiving estimates from both WPAFB (Burkholder, 2008) and Travis AFB (Yu, 2008) and comparing those estimates with actual metered values from Langley AFB (White, 2008), there was little to no confidence in the accuracy of the estimates provided. The actual electrical usage rates from Langley AFB were close to three times higher than the estimates of both Wright Patterson and Travis AFB (table 3-3), while the estimates for gas usage was over four times higher (table 3-2).

Table 3-2 Natural Gas Costs of Dining Facilities

Estimated Natural Gas Costs

	FY08	FY07	FY06	FY05	FY04
WPAFB	$ 16,192.80	$ 15,692.20	$ 14,243.39	$ 9,815.74	$ 7,698.52
Travis AFB	$ 23,820.00	$ 30,432.00	$ 26,616.00	$ 19,488.00	$ 20,544.00

Actual Natural Gas Costs

	FY08	FY07	FY06	FY05	FY04
Langley AFB	$ 107,648.00	$ 97,480.00	$ 106,094.00	$ 111,816.00	$ 125,373.00

Table 3-3 Electrical Costs of Dining Facilities

Estimated Annual Electrical Costs

	FY08	FY07	FY06	FY05	FY04
WPAFB	$ 18,169.59	$ 15,391.48	$ 14,821.93	$ 14,604.16	$ 13,945.19
Travis AFB	$ 39,556.12	$ 23,440.67	$ 28,457.32	$ 24,284.17	$ 29,931.24

Actual Monthly Electrical Costs

	Apr-08	May-08	Jun-08	Jul-08	Aug-08
Langley AFB	$ 7,272.57	$ 7,953.90	$ 9,385.17	$ 9,929.46	$ 8,813.24

At first, it was thought that the differences in usage rates may be contributed to one or more of the following:

a. building size

b. difference in climate

c. difference in operating hours

When building sizes were compared, there was a significant difference in the size of Langley's (29,801 sq ft) facility compared to Wright Patterson's (14,461 sq ft). While this huge difference in size may contribute to a higher utility usage rate, it does not explain why Travis's usage rate is almost identical to Wright Patterson and the Travis facility is 22,057 sq ft.

The differences in climates might also have an effect on a bases utility usage rates. For this, the average annual low and high temperatures were compared (Weather Underground, 2008). All three bases have very similar average high temperatures and low temperatures varied from upper 30's for Travis AFB and upper to low 20s for Wright Patterson AFB. Langley AFB had average low temperatures in the upper 20s to lower

30s. Temperatures were not found to have a large impact on the variation of utility usage rates.

Finally, a comparison of each dining facilities operating hours was performed. Table 3-4 gives the operating hours of each dining facility. Wright Patterson AFB operates two hours for each meal, breakfast, lunch, and dinner (88th Services, 2005). Travis AFB operates similar hours with two and a half hour breakfast and lunch, a two hour dinner, and also operates a two hour midnight meal service (60th Services). As with the other two bases, Langley AFB also has a similar operating schedule with two hour breakfast, lunch, and midnight meals. Their dinner service does however operate for four hours (Skwirut, 2008).

Table 3-4 Dining Facility Operating Hours

Base	Breakfast	Lunch	Dinner	Midnight	Total
WPAFB	2	2	2		6
Travis AFB	2.5	2.5	2	2	9
Langley AFB	2	2	4	2	10

Again, like the building size and climate, the operating hours of each facility cannot explain the dramatic differences between actual utility usage and estimated values. Therefore, without actual values from both WPAFB and Travis AFB, the validity of estimated utility rates cannot be measured. With such a large variance in the estimated utility usage with the actual costs collected from Langley AFB, and with utilities having no effect on the outcome of the cost effectiveness analysis, utility costs will not be included in these computations.

IV. Results

This chapter discusses the cost/benefit results at each of the four military bases. Each section will examine the costs of operating dining facilities with breakdowns in labor and contract costs. Once these costs are computed, they will be summed and compared with the benefits associated with closing dining facilities. Finally, all four bases will be summed and a total cost/benefit for the Air Force will be computed. At the conclusion of this chapter, the research question, will be answer if it is in fact more cost effective to operate dining facilities instead of paying all airmen BAS.

Langley AFB

Tables 4-1 through 4-5 present all data for Langley AFB. These tables give a complete breakdown of operating costs (less labor), labor costs, total operating costs, BAS, and total benefits which would be realized through dining facility closure. These tables will only be presented for Langley AFB. All other bases can be found in the thesis appendix.

Table 4-1 shows the facility operating costs (less labor) of the Langley AFB dining facility. These costs are applied annually for fiscal years FY04 through FY08. Labor costs, shown in Table 4-2, represent Langley's largest operating costs, accounting for approximately 58% of total dining facility costs. Table 4-3 gives the total operating costs for Langley AFB. These costs represent the total cost portion of the cost benefit analysis. Finally, Figure 4-1 gives a breakdown of Langley's operating costs for FY08. Like mentioned earlier, Labor accounts for over $3.1M annually or 58%, food provided

by the Air Force accounts for over $1.3M, the mess attendant contract $1M, and the equipment maintenance contract accounts for less than 1% of annual costs at $30,000.

Table 4-1 Langley Facility Operating Costs (Less Labor)

Mess Attendent Contract	$ 1,000,000.00
Food	$ 1,320,000.00
Equip Maint	$ 30,000.00
Total	$ 2,350,000.00

Table 4-2 Langley AFB Labor Costs

Rank	Number	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
SMSgt	1	$ 112,049	$ 103,818	$ 107,297	$ 108,887	$ 99,895
MSgt	1	$ 100,491	$ 92,329	$ 94,947	$ 96,252	$ 88,559
TSgt	3	$ 264,804	$ 244,599	$ 250,233	$ 252,845	$ 231,229
SSgt	10	$ 759,120	$ 715,820	$ 731,102	$ 734,251	$ 661,931
SrA	9	$ 576,162	$ 546,669	$ 544,968	$ 532,330	$ 491,766
A1C	20	$ 1,077,340	$ 1,059,960	$ 1,020,104	$ 989,001	$ 918,581
Amn	6	$ 299,832	$ 296,676	$ 275,526	$ 268,923	$ 258,529
Total Labor Costs		$ 3,189,798	$ 3,059,871	$ 3,024,176	$ 2,982,489	$ 2,750,489

Table 4-3 Langley AFB Total Operating Costs

	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
Total Labor Costs	$ 3,189,798	$ 3,059,871	$ 3,024,176	$ 2,982,489	$ 2,750,489
Mess Attendent Contract	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000
Food Costs	$ 1,320,000	$ 1,320,000	$ 1,320,000	$ 1,320,000	$ 1,320,000
Equipment Maintenance Contract	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000
Total Costs	$ 5,539,798	$ 5,409,871	$ 5,374,176	$ 5,332,489	$ 5,100,489

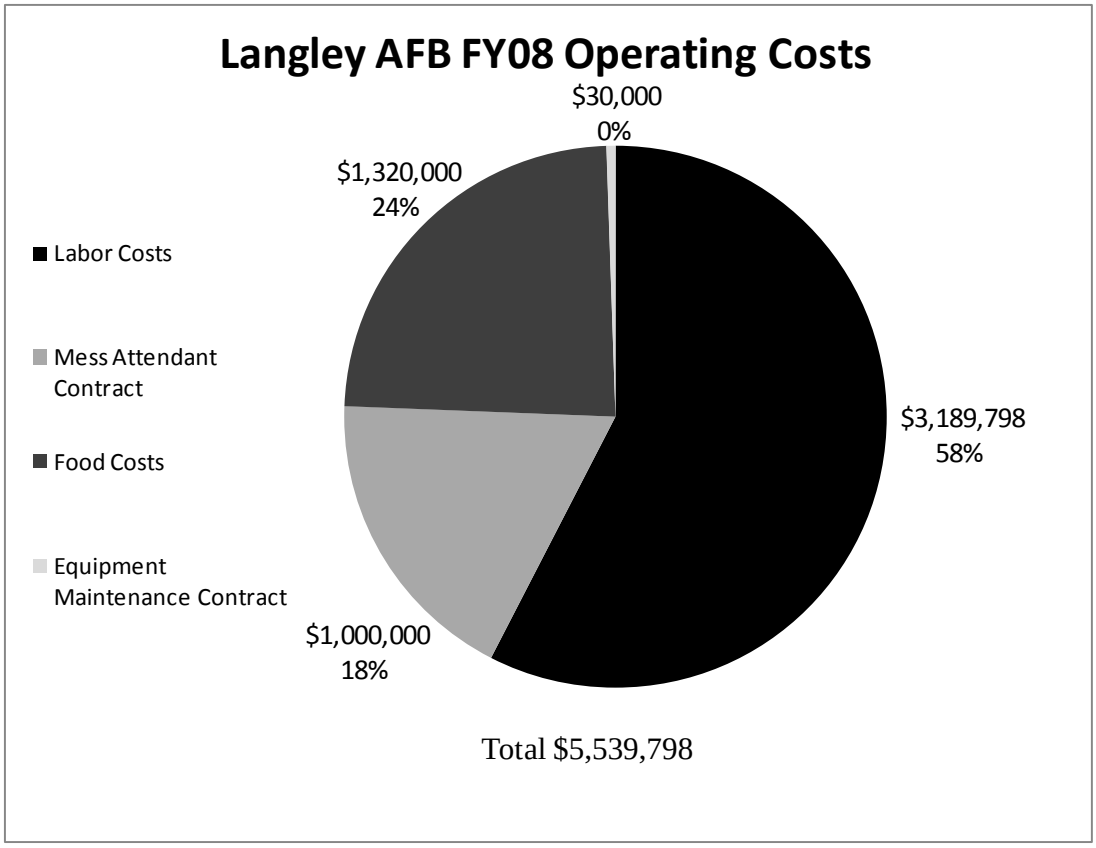

Figure 4-1 Langley AFB FY08 Operating Costs

Table 4-4 shows the total amount in BAS which would be required to be paid if the base dining facility was closed and Table 4-5 shows the computation for total benefits which would be realized if Langley's dining facility was closed and airmen were paid BAS. Using Table 4-4, Langley's total BAS costs without a dining facility would come to just under $1.9M. Using Langley's total operating costs from Table 4-3, the benefits of closing the dining facility can be computed. Table 4-5 clearly shows that in FY08 alone, a total of $3.65M would have been saved by closing the dining facility and paying all enlisted airmen BAS. This is not a onetime occurrence. Since FY04, over $3.45M could have been saved every year with a total savings over the five year period of just

over $18M. Figure 4-2 shows the cost difference and savings for Langley AFB for FY08.

Table 4-4 Langley AFB Basic Allowance for Subsistence

	Number	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
Active Duty	458	$ 1,618,187	$ 1,538,220	$ 1,496,341	$ 1,433,467	$ 1,398,512
Reserve	730					
Enlisted Equivalent	76	$ 268,520	$ 255,251	$ 248,301	$ 237,868	$ 232,068
Total Annual Card Holders	534	$ 1,886,707	$ 1,793,471	$ 1,744,642	$ 1,671,335	$ 1,630,580

Table 4-5 Langley AFB Savings

	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
Cost Savings	$ 5,539,798	$ 5,409,871	$ 5,374,176	$ 5,332,489	$ 5,100,489
Less BAS	$ 1,886,707	$ 1,793,471	$ 1,744,642	$ 1,671,335	$ 1,630,580
Total Savings	$ 3,653,091	$ 3,616,400	$ 3,629,534	$ 3,661,154	$ 3,469,909

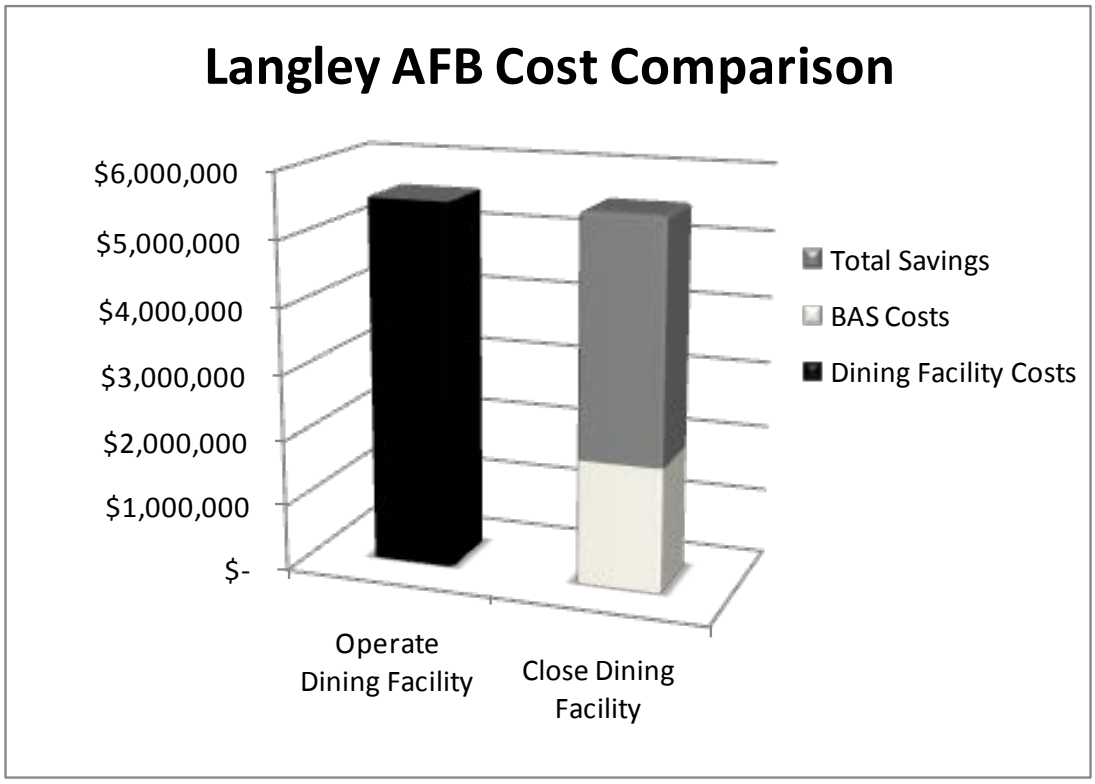

Figure 4-2 Langley AFB FY08 Cost Comparison

With bases currently fighting for every dollar they can get, these savings would have been more than enough to fund all 5 of Langley AFB's top unfunded requirements for FY08 (McInnish, 2009). Some of the unfunded requirements which could have been purchased if Langley's dining facility was closed are shown in Table 4-6.

Table 4-6 Langley AFB Top Five Unfunded Requirements (McInnish, 2009)

Issue#	Title	Amount (K)
1	Transient Alert Services Contract	$ 676,000
2	PDS Maintenance Contract	$ 175,000
3	Project Oversight Engineer (Privatized Housing)	$ 200,000
4	Lightning Protection Contract	$ 170,000
5	Laser Etcher (GSA Purchase)	$ 1,025,000
	Total	$ 3,092,000

Issue #1, transient alert services contract, includes items such as fuel and building repairs and equipment for several Service's Squadron facilities. Issue #2, PDS (Protection Distribution System) maintenance contract, would replace an outdated intrusion detection system which replacement parts are no longer available. Finally, issue #5, laser etcher, also includes support items such as computers, tools, and repairs.

As is evident from the previous unfunded list, closure of Langley's dining facility would not only free up valuable dollars, it would have allowed the base to make purchases it was otherwise unable to make.

Travis AFB

Figures 4-3 and 4-3 give Travis AFB's operating costs of their base dining facility. Unlike Langley AFB, labor at Travis only accounts for 22% of the dining

facility budget with food costs equal to 17% and the mess attendant contract consuming 61% of the FY08 budget.

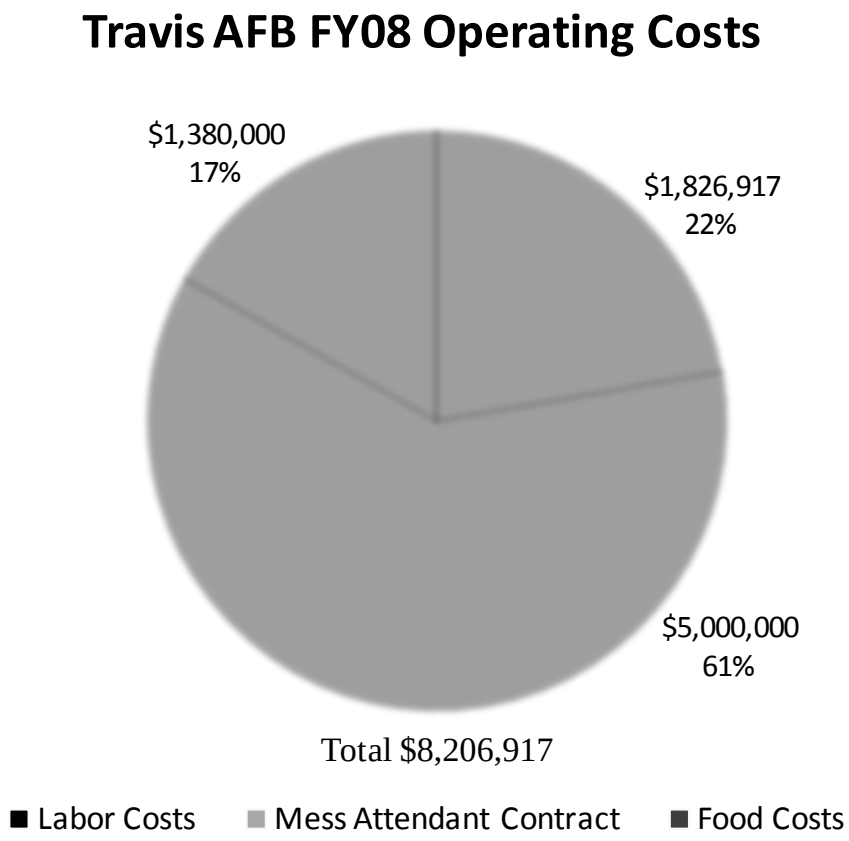

Figure 4-3 Travis AFB FY08 Operating Costs

When figure 4-3 is analyzed, comparing the cost of operating a dining facility with the cost of closing and paying all airmen BAS, Travis AFB would have saved over $4.6M in FY08 alone. Just like at Langley AFB, the savings which could be realized by closing the base dinging facility would have been large enough to cover several of Travis AFB's FY08 unfunded requirements as well (Hollingsworth, 2009). In fact, the savings

at Travis would have been large enough to fund all 10 of their unfunded requirements totaling just over $3.7M. Table 4-7 lists Travis AFB top three unfunded requirement.

Table 4-7 Travis AFB Top Three Unfunded Requirements (Hollingsworth, 2009)

Issue#	Title	Amount (K)
1	60th Maintenance Group TDY	$ 340,000
2	KC-10 Fleet Services	$ 157,000
3	Facility sustainment, repair, and maintenance	$ 1,350,000
	Total	$ 1,847,000

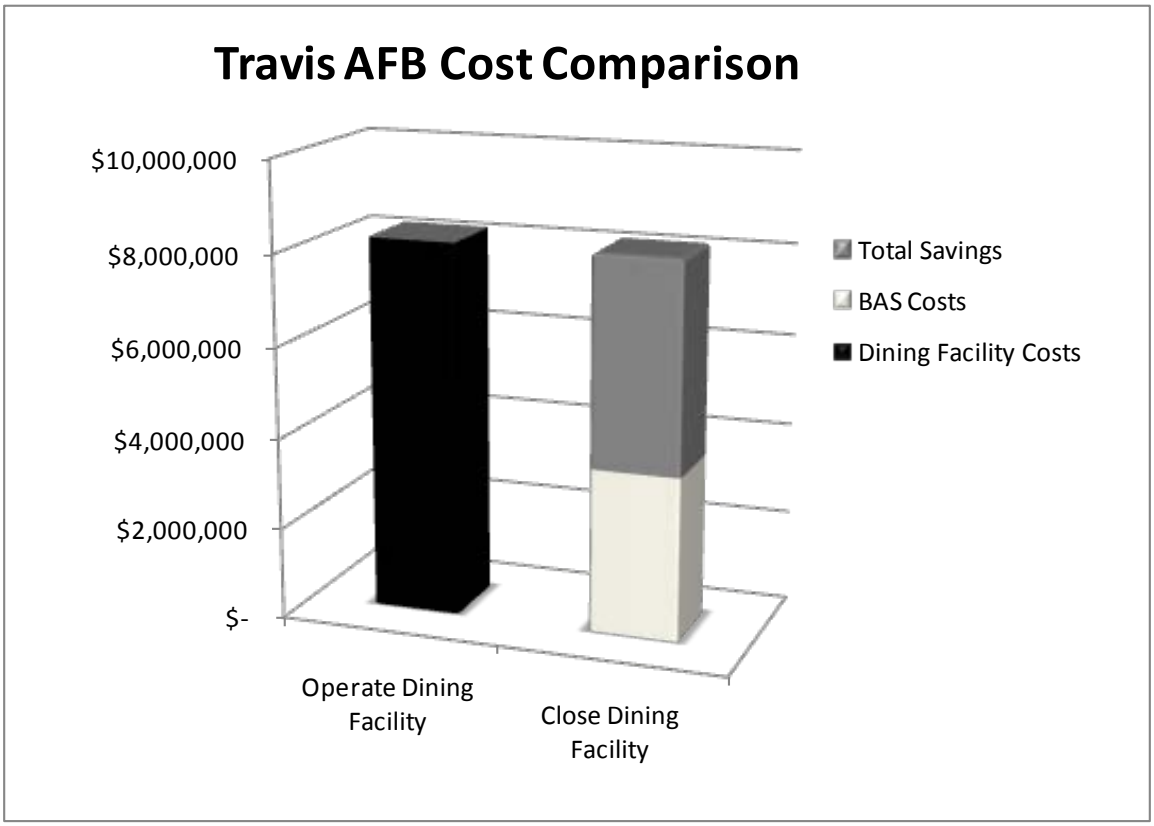

Figure 4-4 Travis AFB FY08 Cost Comparison

Peterson AFB

Figures 4-5 and 4-6 show the findings at Peterson AFB. Figure 4-5 shows that like Travis AFB, Peterson AFB also has a much lower annual labor cost then does Langley AFB with their costs reaching just over $1.35M or 30% of their operating budget in FY08. Again, we see the mess attendant contract take up a very large portion of their annual budget with an FY08 cost of $2.75M. Food is relatively low compared to the other two bases with only a $360,000 annual cost.

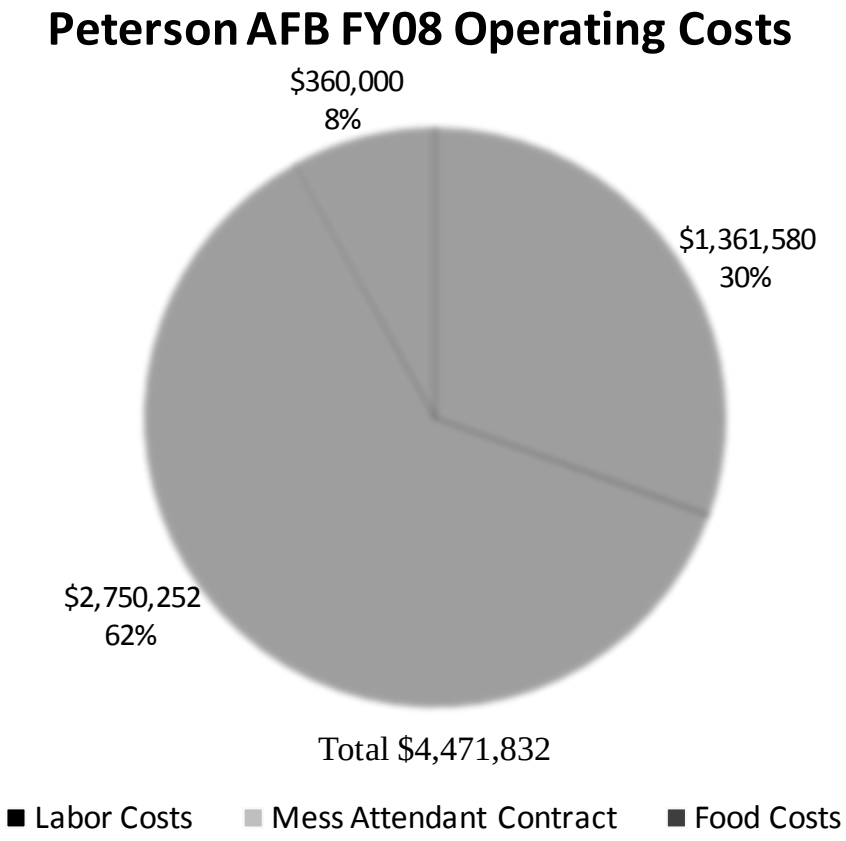

Figure 4-5 Peterson AFB FY08 Operating Costs

When analyzing the potential cost savings in Figure 4-5, again, like the previous two bases, a large annual savings would be realized by closing the base dining facility and paying all airmen BAS. In FY08 alone, Peterson would have generated savings of over $3.5M.

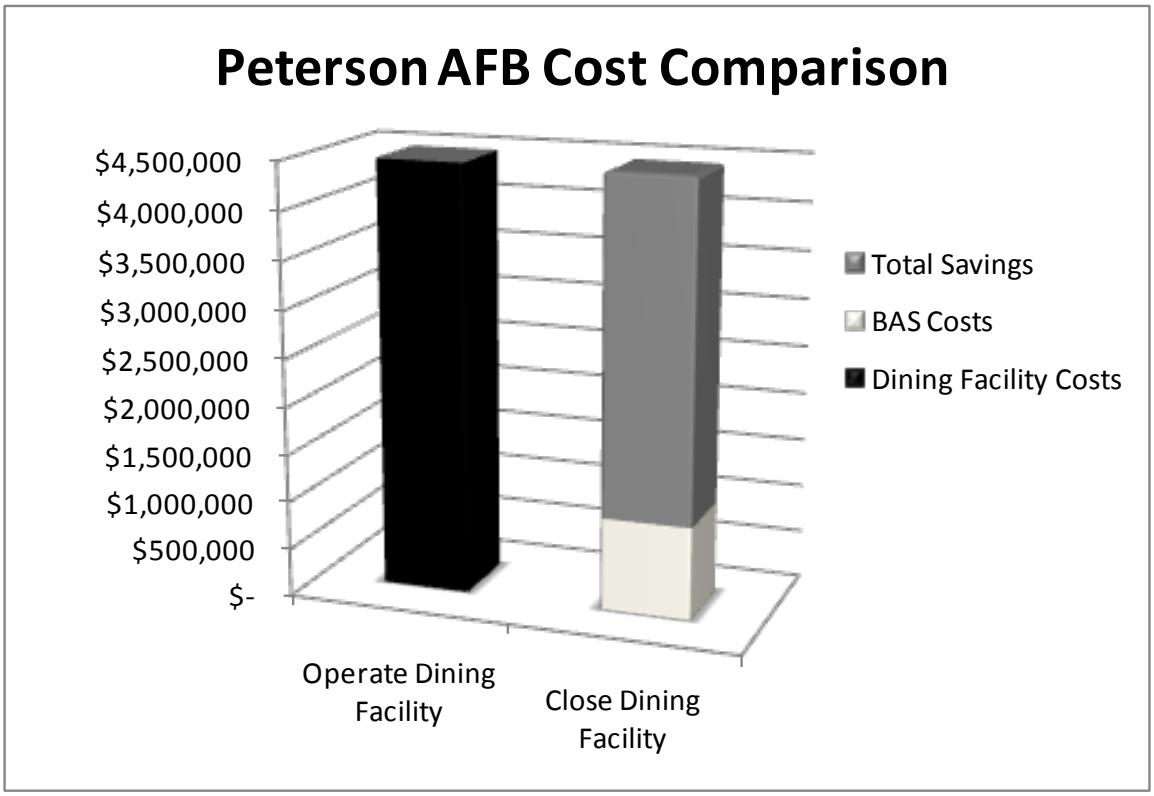

Figure 4-6 Peterson AFB FY08 Cost Comparison

Table 4-8 lists Peterson AFB's top unfunded requirements for FY08. With the total unfunded requirements for Peterson AFB coming in at over $8.5M the $3.5M savings which could have been realized by closing the bases dining facility would have funded all of the mission critical unfunded requirements and a portion of the utilities. In fact, if utilities were removed from their unfunded requirements, the savings which could

have been generated would have been enough to completely fund all of the unfunded requirements at Peterson AFB.

Table 4-8 Peterson AFB Unfunded Requirements (Phillian, 2009)

Issue#	Title	Amount (K)
1	Mission Critical/Falure	
	Utilities	$ 6,700,000
	Ground Fuel	$ 200,000
	Arctic Survival Gear	$ 75,000
	Video Camera Upgrade	$ 230,000
	Total	**$ 7,205,000**
2	Buy Down Risk	
	Logistic Buydown	$ 390,000
	Expendable Supplies/benchstock	$ 390,400
	Total	**$ 780,400**
3	Mission Essential	
	CAC Readers	$ 80,000
	Lighting	$ 25,000
	Audio Visual System Chapel	$ 165,000
	Total	**$ 270,000**
4	Quality of Life	
	Airman Development Room	$ 54,000
	Dorm Furniture/TVs/Carpet	$ 100,000
	Total	**$ 154,000**
5	Projects/Design	
	New Landscape	$ 84,000
	Thule Lighting Phase 1	$ 169,800
	Total	**$ 253,800**
	Total of all Issues	**$ 8,663,200**

Wright Patterson AFB

Wright Patterson AFB was slightly different from the other three bases. Since their dining facility operates under a full food contract, they do not have any military personnel working in the dining facilities and therefore have no labor costs. Figures 4-7 and 4-8 show Wright Patterson AFB's dining facility operating costs and a cost comparison of operating dining facilities or closing the facilities and paying all airmen BAS. With no labor charges, the Wright Patterson dining facility has a much smaller

annual operating cost just under $1.9M. Since their dining facility is operated with a full food service contract, the percentage of their budget being paid towards the contract is higher than the other three bases with 64% of their budget being spent on the food service contract in FY08. Their food costs and equipment maintenance costs are close to being split evenly with FY08 food costs coming to $360,000 or 19% of the budget and food costs totaling $312,000 or 17% of their FY08 budget.

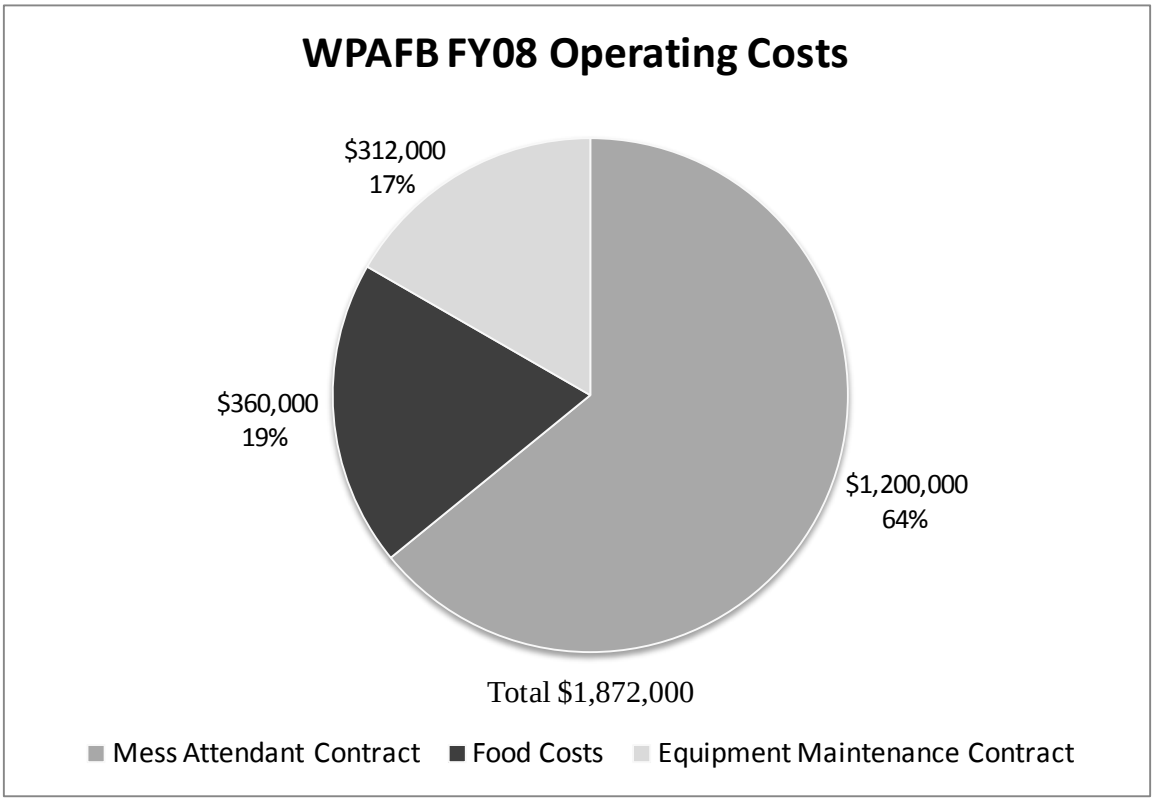

Figure 4-7 WPAFB FY08 Operating Costs

With a lower total operating cost, Wright-Patterson AFB would also realize a much smaller annual savings if it was decided to close their dining facility. If the dining facility was closed, Wright-Patterson, in FY08, would have had an increase in BAS payments of $1.45M. With the low annual operating costs and the relatively high BAS

cost, Wright-Patterson could have saved just over $420K in FY08 by closing their dining facility.

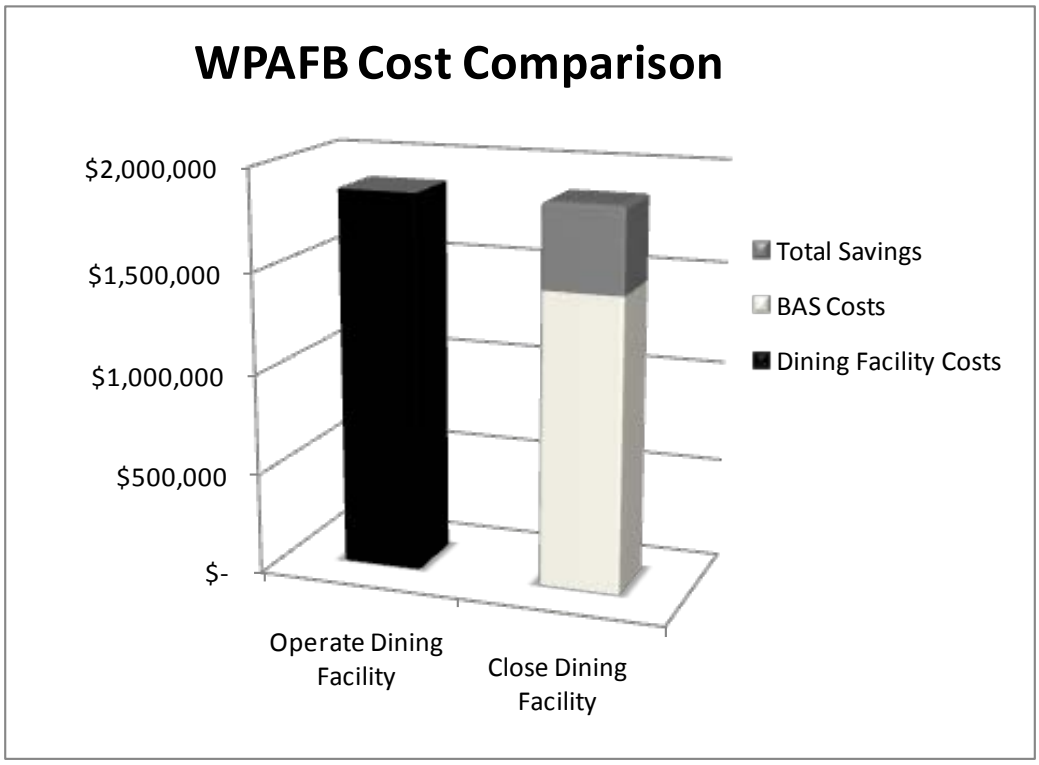

Figure 4-8 WPAFB FY08 Cost Comparison

While Wright-Patterson would realize a smaller savings then the other three bases by closing their dining facility, these savings are by no means irrelevant. Table 4-8 lists the FY08 unfunded requirements for WPAFB. In FY08, the $420K which could have been saved could have funded their number one unfunded requirement of $230,000 in security forces tactical deployment gear (Kemp, 2009). The savings could have also been used to offset some of the cost of their number two and three unfunded requirements. While it would not have been enough to completely fund $600K for various services activities or $500K for tech refresh (new computers) it could have funded portions of

those requirements. In future years, Wright-Patterson AFB, like the other three bases should give consideration in closing dining facilities in order to free up financial resources and fund other needed requirements.

Table 4-9 WPAFB Top Three Unfunded Requirements (Kemp, 2009)

Issue#	Title	Amount (K)
1	Security Forces Tactical Deployment Gear	$ 230,000
2	Various Services Activities	$ 600,000
3	Tech Refresh	$ 500,000
	Total	$ 1,330,000

Overall Results

The overall results merge all four bases to get a total FY08 operating cost of all four dining facilities Figure 4-9 and a total FY08 cost comparison of operating dining facilities or closing the facilities and paying all airmen BAS. As shown in figure 4-9, the Air Force spent over $20M in total operating costs at just these four bases alone. That's more than double the reported contract cost of just under $10M. FY08 food costs and labor costs combined were 49% of the budget for these four dining facilities. This was equal to the mess attendant contract cost.

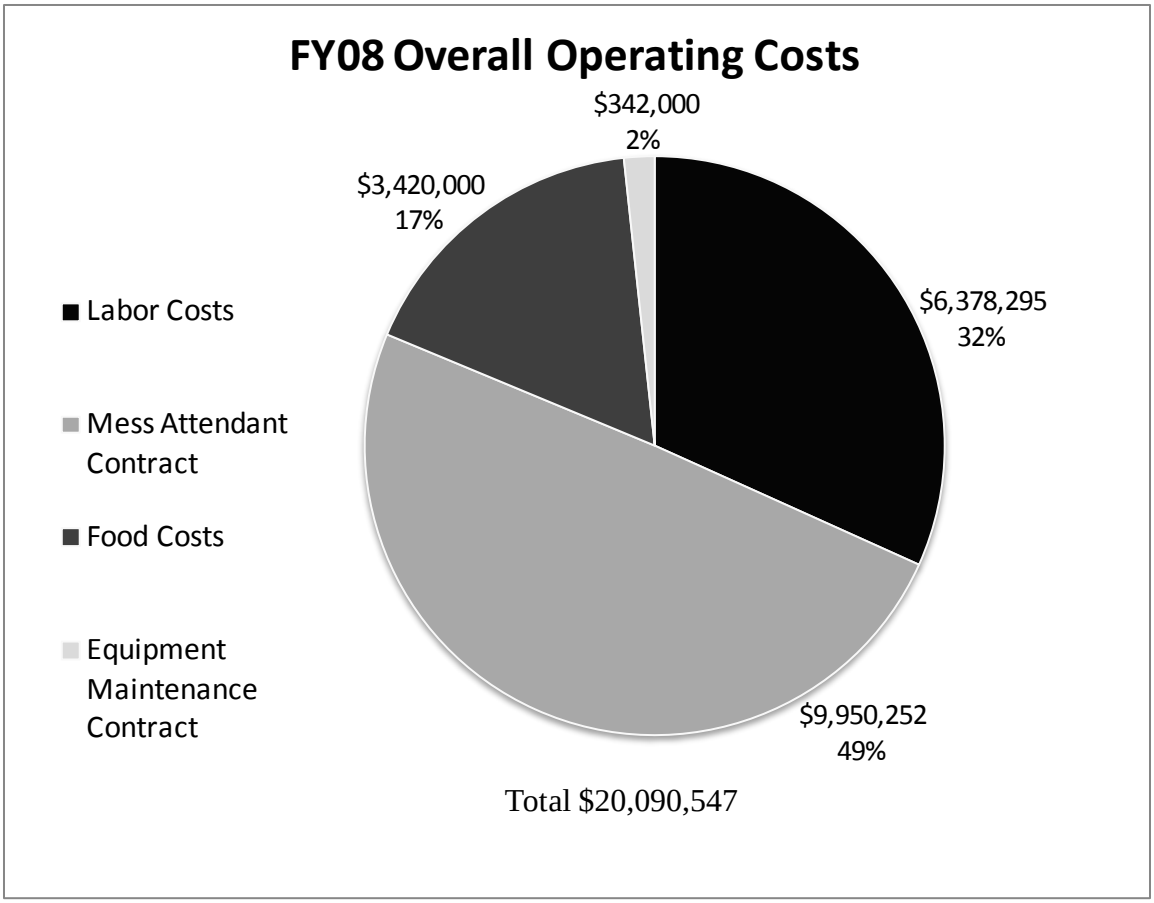

Figure 4-9 FY08 Overall Operating Costs

Reviewing figure 4-10, if the Air Force would have closed these four dining facilities and paid all enlisted members BAS, the Air Force would have realized over $12M in savings at just these four locations in FY08 alone. The dining facility operating costs alone would have paid the BAS costs almost three times. With the Air Force spending more than $128M annually in just mess attendant contracts for all their stateside dining facilities, the annual savings of closing all dining facilities would be substantial.

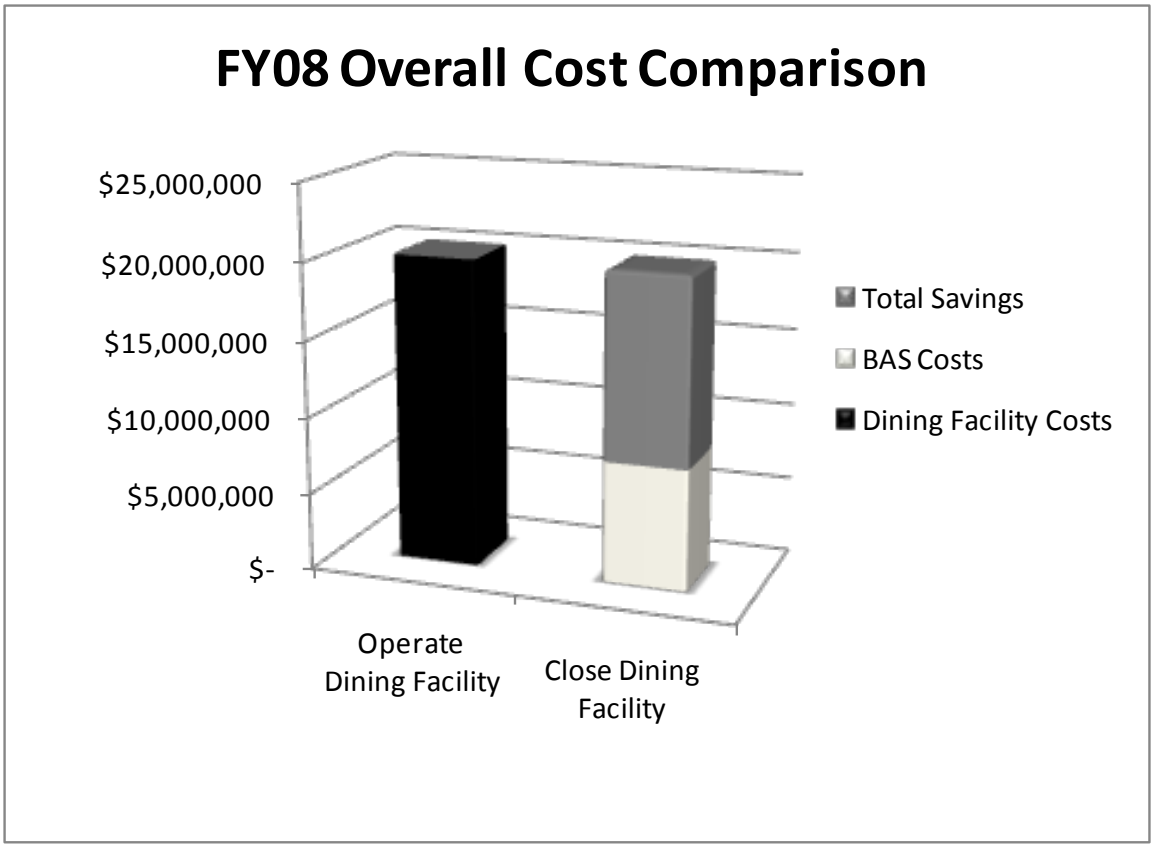

Figure 4-10 FY08 Overall Cost Comparison

V. Discussion

This final chapter will discuss the options facing Air Force leaders if they do choose to close dining facilities and pay all enlisted members BAS. First, I will compare the amount of dollars spend within AETC to fund dining facility contracts. After discussing AETC, we will examine the possibility of even larger savings than those shown here. Finally, we will discuss several concerns related to closing base dining facilities.

AETC Contract Costs

As stated earlier, the dining facility contracts within AETC account for over 44% of all stateside dining facility contract costs (Table 2-1). AETC also does not appear to have the leeway other commands have in deciding to close their dining facilities. First, AETC does have a unique mission in training basic trainees who do not have dining options available to them. These airmen are kept in barracks and escorted to dining facilities by military training instructors in order to maintain strict time tables while at the same time ensuring training guidelines are met. For this reason, the option of closing dining facility at Lackland AFB is not an option.

Second, although most AETC bases do not support basic trainees, they do support many technical school trainees. These trainees may be TDY from other units throughout the Air Force or pipeline students directly out of basic training. Pipeline students directly out of basic training are housed in dormitories and their off duty times are strictly phased. For example, students just out of basic training usually cannot be out of uniform or leave the base for the first month of training. As time goes by, those with good performance

are allowed more freedoms such as wearing civilian clothes when off duty and being allowed to leave the base on evenings and weekends. For these students, although they can dine in various restaurants on base, there is no healthy alternative to dining facilities which again limits the ability of AETC commanders to close their dining facilities.

Technical schools are also attended by students who are sent from other units throughout the Air Force. They are either cross trainees or trainees who have been in the military for some time and the same phase restrictions do not apply to them. These students are however, paid per_diem either by their home units or through AETC. Since dining facilities are available, the per_diem paid is relatively small. If the base dining facilities were closed, full rate per_diem would need to be paid. Full rate per_diem varies from base to base, but the range is usually somewhere between $30 and $45 per day. A large increase from the normal $3 per day paid to those authorized to eat in dining facilities.

With the large number of individuals completely reliant on dining facilities in order to eat and the huge cost increases associated with per_diem, the option of closing dining facilities within AETC dramatically reduced.

Increased Savings

Throughout this thesis, some costs were calculated using conservative values while other costs were not calculated at all. The dining facility contract costs for example were calculated using the annual contract value. Contract options were not taken into consideration. These options vary widely from base to base. Table 5-1 gives the increase in annual savings if options are realized each year. While Travis and Peterson would not

realize any other savings, it is possible for both Wright Patterson and Langley to both realize a larger annual savings by closing dining facilities.

Table 5-1 Annual Savings Increase if Options are realized (Hamilton, 2008)

Travis	$	-
WPAFB	$	46,784
Langley	$	420,000
Peterson	$	-

Utility charges were also not calculated. As discussed in chapter three, until utilities are actually metered, there is no accurate way to estimate the annual usage of electricity, gas, and water. However, if these costs were included, they would have only increased the annual savings each of these bases would realize by closing dining facilities and paying all airmen BAS.

There may also be savings which cannot be directly calculated. For instance, commanders and supervisors would no longer need to plan breakfast, lunch, and dinner breaks around the dining facility operating hours. If urgent work needs to be completed, airmen can continue working until a convenient time becomes available to take a break.

Finally, with only 43% of all available meals being consumed, airmen have already shown their disapproval of dining facilities (Wood, 08). Closing dining facilities and paying all airmen BAS may improve moral.

Concerns

While doing research for this thesis, several individuals have expressed concern in a few areas with respect to closing dining facilities. First, shift workers would not have meals readily available to them during late evening hours. The answer depends on the

location of the installation. While there are some establishments which operate 24 hours, many do not. In higher populated areas, restaurants like McDonalds and Wendy's do offer late night meals. However, in areas where late night restaurants are not available, airmen would need to bring meals with them. This is no different from married airmen who already either have to buy their meal or bring it with them. In truth, as it stands right now, an 18 year old single airmen would have meals available to them at the base dining facility, however, the 18 year old married airmen is either required to purchase their meal or bring one from home.

Concern has also been expressed about meals available for the base fire department. Currently, firefighters either bring their meals from home or eat in the base dining facility. To explore this concern, we contacted Mr. Bob Hildreth, the fire chief at Hanscom AFB, where the dining facility has been closed since 1999. According to Mr. Hildreth (2008), the fire department has not experienced any problems related to the dining facility closure. Because kitchens are standard in base fire department construction, all fire departments across the Air Force have them (Hildreth, 2008). Once the dining facility closed at Hanscom, fire department personnel created a "dining club" where everyone contributed to the cost of groceries and they prepared their own meals in the fire department kitchen.

While there may be some concerns in closing base dining facilities, these concerns can be addressed. Hanscom AFB has shown through nine years of operating without a dining facility that it can be done without a negative impact to their operations.

Future Research

The closure of base dining facilities would mean an increased cost to the Air Force in TDY per-diem payments. With base dining facilities closed, members would be paid full rate per-diem. While these changes would not necessarily impact the savings realized at base level by closing dining facilities, the Air Force TDY budget would be increased. It is recommended future researchers analyze TDY data and perform financial analysis on increased travel costs associated with closing dining facilities.

The per-diem study would be made even more valuable if it was combined with a larger sample of bases. This thesis only looked at four bases. Because of this, an estimate for total Air Force savings cannot be obtained. With the study expanded to a larger portion of non-AETC bases, an overall estimate for Air Force savings could be performed. With work was completed in these two areas, an overall Air Force recommendation on closing or operating dining facilities could be made.

Conclusion

This thesis has taken the operating costs associated with a base dining facility and compared those costs with the alternative of paying all airmen BAS. In all four test bases, substantial savings could be realized by closing dining facilities and paying BAS. With available funds becoming smaller, closing dining facilities would undoubtedly generate large savings across the Air Force. Airmen now have facilities available to them to prepare their own meals and dining facility usage rates already indicate airmen are already doing so.

Appendix A (Langley AFB Results)

LANGLEY AFB MANNING COSTS

Rank	Number	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
SMSgt	1	$ 112,049	$ 103,818	$ 107,297	$ 108,887	$ 99,895
MSgt	1	$ 100,491	$ 92,329	$ 94,947	$ 96,252	$ 88,559
TSgt	3	$ 264,804	$ 244,599	$ 250,233	$ 252,845	$ 231,229
SSgt	10	$ 759,120	$ 715,820	$ 731,102	$ 734,251	$ 661,931
SrA	9	$ 576,162	$ 546,669	$ 544,968	$ 532,330	$ 491,766
A1C	20	$ 1,077,340	$ 1,059,960	$ 1,020,104	$ 989,001	$ 918,581
Amn	6	$ 299,832	$ 296,676	$ 275,526	$ 268,923	$ 258,529
Total Labor Costs		$ 3,189,798	$ 3,059,871	$ 3,024,176	$ 2,982,489	$ 2,750,489

LANGLEY AFB FACILITY OPERATING COSTS

	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
Labor Costs	$ 3,189,798	$ 3,059,871	$ 3,024,176	$ 2,982,489	$ 2,750,489
Mess Attendant Contract	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000
Food Costs	$ 1,320,000	$ 1,320,000	$ 1,320,000	$ 1,320,000	$ 1,320,000
Equipment Maintenance Contract	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000
	$ 5,539,798	$ 5,409,871	$ 5,374,176	$ 5,332,489	$ 5,100,489

Langley AFB Basic Allowance for Subsistence

	Number	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
Active Duty	458	$ 1,618,187	$ 1,538,220	$ 1,496,341	$ 1,433,467	$ 1,398,512
Reserve	730					
Enlisted Equivalent	76	$ 268,520	$ 255,251	$ 248,301	$ 237,868	$ 232,068
Total Annual Card Holders	534	$ 1,886,707	$ 1,793,471	$ 1,744,642	$ 1,671,335	$ 1,630,580

Langley AFB Cost Comparison

	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
Dining Facility Costs	$ 5,539,798	$ 5,409,871	$ 5,374,176	$ 5,332,489	$ 5,100,489
Less BAS Costs	$ 1,886,707	$ 1,793,471	$ 1,744,642	$ 1,671,335	$ 1,630,580
Total Savings	$ 3,653,091	$ 3,616,400	$ 3,629,534	$ 3,661,154	$ 3,469,909

Appendix B (Travis AFB Results)

TRAVIS AFB MANNING COSTS

Rank	Number	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
MSgt	1	$ 100,491	$ 92,329	$ 83,411	$ 96,252	$ 88,559
TSgt	3	$ 264,804	$ 244,599	$ 219,330	$ 252,845	$ 231,229
SSgt	5	$ 379,560	$ 357,910	$ 302,760	$ 367,125	$ 330,965
SrA	2	$ 128,036	$ 121,482	$ 102,010	$ 118,296	$ 109,281
A1C	14	$ 754,138	$ 741,972	$ 642,893	$ 692,301	$ 643,007
Amn	4	$ 199,888	$ 197,784	$ 160,210	$ 179,282	$ 172,353
Total Labor Costs		$ 1,826,917	$ 1,756,076	$ 1,510,615	$ 1,706,101	$ 1,575,394

TRAVIS AFB FACILITY OPERATING COSTS

	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
Labor Costs	$ 1,826,917	$ 1,756,076	$ 1,510,615	$ 1,706,101	$ 1,575,394
Mess Attendant Contract	$ 5,000,000	$ 5,000,000	$ 5,000,000	$ 5,000,000	$ 5,000,000
Food Costs	$ 1,380,000	$ 1,380,000	$ 1,380,000	$ 1,380,000	$ 1,380,000
Equipment Maintenance Contract	$ -	$ -	$ -	$ -	$ -
	$ 8,206,917	$ 8,136,076	$ 7,890,615	$ 8,086,101	$ 7,955,394

Travis AFB Basic Allowance for Subsistence

	Number	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
Active Duty	950	$ 3,356,502	$ 3,190,632	$ 3,103,764	$ 2,973,348	$ 2,900,844
Reserve	650					
Enlisted Equivalent	68	$ 239,093	$ 227,278	$ 221,090	$ 211,800	$ 206,635
Total Annual Card Holders	1018	$ 3,595,595	$ 3,417,910	$ 3,324,854	$ 3,185,148	$ 3,107,479

Travis AFB Cost Comparison

	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
Dining Facility Costs	$ 8,206,917	$ 8,136,076	$ 7,890,615	$ 8,086,101	$ 7,955,394
Less BAS Costs	$ 3,595,595	$ 3,417,910	$ 3,324,854	$ 3,185,148	$ 3,107,479
Total Savings	$ 4,611,322	$ 4,718,166	$ 4,565,761	$ 4,900,953	$ 4,847,914

Appendix C (Peterson AFB Results)

PETERSON AFB MANNING COSTS

Rank	Number	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
MSgt	1	$ 100,491	$ 92,329	$ 94,947	$ 96,252	$ 88,559
TSgt	2	$ 176,536	$ 163,066	$ 166,822	$ 168,563	$ 154,152
SSgt	5	$ 379,560	$ 357,910	$ 365,551	$ 367,125	$ 330,965
SrA	2	$ 128,036	$ 121,482	$ 121,104	$ 118,296	$ 109,281
A1C	7	$ 377,069	$ 370,986	$ 357,036	$ 346,150	$ 321,503
Amn	4	$ 199,888	$ 197,784	$ 183,684	$ 179,282	$ 172,353
Total Labor Costs		$ 1,361,580	$ 1,303,557	$ 1,289,144	$ 1,275,669	$ 1,176,814

PETERSON AFB FACILITY OPERATING COSTS

	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
Labor Costs	$ 1,361,580	$ 1,303,557	$ 1,289,144	$ 1,275,669	$ 1,176,814
Mess Attendant Contract	$ 2,750,252	$ 2,750,252	$ 2,750,252	$ 2,750,252	$ 2,750,252
Food Costs	$ 360,000	$ 360,000	$ 360,000	$ 360,000	$ 360,000
Equipment Maintenance Contract	$ -	$ -	$ -	$ -	$ -
	$ 4,471,832	$ 4,413,809	$ 4,399,396	$ 4,385,921	$ 4,287,066

Peterson AFB Basic Allowance for Subsistence

	Number	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
Active Duty	243	$ 858,558	$ 816,130	$ 793,910	$ 760,551	$ 742,005
Reserve	300					
Enlisted Equivalent	31	$ 110,351	$ 104,897	$ 102,042	$ 97,754	$ 95,370
Total Annual Card Holders	274	$ 968,909	$ 921,028	$ 895,952	$ 858,305	$ 837,376

Peterson AFB Cost Comparison

	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
Dining Facility Costs	$ 4,471,832	$ 4,413,809	$ 4,399,396	$ 4,385,921	$ 4,287,066
Less BAS Costs	$ 968,909	$ 921,028	$ 895,952	$ 858,305	$ 837,376
Total Savings	$ 3,502,923	$ 3,492,781	$ 3,503,444	$ 3,527,616	$ 3,449,691

Appendix D (Wright Patterson AFB Results)

WPAFB FACILITY OPERATING COSTS

	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
Labor Costs	$ -	$ -	$ -	$ -	$ -
Mess Attendant Contract	$ 1,200,000	$ 1,200,000	$ 1,200,000	$ 1,200,000	$ 1,200,000
Food Costs	$ 360,000	$ 360,000	$ 360,000	$ 360,000	$ 360,000
Equipment Maintenance Contract	$ 312,000	$ 312,000	$ 312,000	$ 312,000	$ 312,000
	$ 1,872,000	$ 1,872,000	$ 1,872,000	$ 1,872,000	$ 1,872,000

WPAFB Basic Allowance for Subsistence

	Number	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
Active Duty	247	$ 872,691	$ 829,564	$ 806,979	$ 773,070	$ 754,219
Reserve	1574					
Enlisted Equivalent	164	$ 578,974	$ 550,362	$ 535,378	$ 512,882	$ 500,376
Total Annual Card Holders	411	$ 1,451,664	$ 1,379,926	$ 1,342,357	$ 1,285,953	$ 1,254,595

WPAFB Cost Comparison

	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
Dining Facility Costs	$ 1,872,000	$ 1,872,000	$ 1,872,000	$ 1,872,000	$ 1,872,000
Less BAS Costs	$ 1,451,664	$ 1,379,926	$ 1,342,357	$ 1,285,953	$ 1,254,595
Total Savings	$ 420,336	$ 492,074	$ 529,643	$ 586,047	$ 617,405

Appendix E (Overall Results)

OVERALL MANNING COSTS

Rank	Number	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
SMSgt	1	$ 112,049	$ 103,818	$ 107,297	$ 108,887	$ 99,895
MSgt	3	$ 301,473	$ 276,987	$ 273,305	$ 288,757	$ 265,677
TSgt	8	$ 706,144	$ 652,264	$ 636,385	$ 674,253	$ 616,610
SSgt	20	$ 1,518,240	$ 1,431,640	$ 1,399,412	$ 1,468,502	$ 1,323,862
SrA	13	$ 832,234	$ 789,633	$ 768,082	$ 768,921	$ 710,328
A1C	41	$ 2,208,547	$ 2,172,918	$ 2,020,033	$ 2,027,452	$ 1,883,091
Amn	14	$ 699,608	$ 692,244	$ 619,419	$ 627,486	$ 603,235
Total Labor Costs		$ 6,378,295	$ 6,119,504	$ 5,823,934	$ 5,964,258	$ 5,502,697

OVERALL OPERATING COSTS

	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
Labor Costs	$ 6,378,295	$ 6,119,504	$ 5,823,934	$ 5,964,258	$ 5,502,697
Mess Attendant Contract	$ 9,950,252	$ 9,950,252	$ 9,950,252	$ 9,950,252	$ 9,950,252
Food Costs	$ 3,420,000	$ 3,420,000	$ 3,420,000	$ 3,420,000	$ 3,420,000
Equipment Maintenance Contract	$ 342,000	$ 342,000	$ 342,000	$ 342,000	$ 342,000
	$ 20,090,547	$ 19,831,756	$ 19,536,186	$ 19,676,510	$ 19,214,949

Overall Basic Allowance for Subsistence

	Number	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
Active Duty	1898	$ 6,705,938	$ 6,374,547	$ 6,200,994	$ 5,940,436	$ 5,795,581
Reserve	3254					
Enlisted Equivalent	339	$ 1,196,938	$ 1,137,788	$ 1,106,811	$ 1,060,304	$ 1,034,449
Total Annual Card Holders	2237	$ 7,902,875	$ 7,512,335	$ 7,307,805	$ 7,000,740	$ 6,830,030

Overall Benefits

	FY08 Costs	FY07 Costs	FY06 Costs	FY05 Costs	FY04 Costs
Dining Facility Costs	$ 20,090,547	$ 19,831,756	$ 19,536,186	$ 19,676,510	$ 19,214,949
Less BAS Costs	$ 7,902,875	$ 7,512,335	$ 7,307,805	$ 7,000,740	$ 6,830,030
Total Savings	$ 12,187,672	$ 12,319,421	$ 12,228,382	$ 12,675,770	$ 12,384,919

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Graduate School of Engineering and Management (AFIT/EN)
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Major Christopher Harris	Capt John Coats
Headquarters Air Combat Command	Air Force Cost Analysis Agency
114 Douglas St, Suite 334	1130 AF Pentagon
Langley AFB, VA 23664-2773	Washington DC 20330
(757) 764-5688	703-697-1912

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14. ABSTRACT

The Air Force is currently spending approximately $128M per year for food service contracts alone (Hamilton, 2008). These costs do not even account for the costs of labor, supplying food, maintenance contracts, or even utilities. With available annual dollars becoming smaller, the Air Force must examine its current processes and eliminate those which are not mission essential.

The Air Force is currently testing new ways of providing meals for their enlisted members. In, 2009, several bases will begin using a swipe card system where airmen can use their swipe card to eat at any services operated facility. In addition, several bases have decided to close their dining facilities. Hanscom AFB closed their dining facility in 1999 and Andrews AFB estimates closure of one of their dining facilities will save an annual $1M.

This thesis used a cost effectiveness analysis to evaluate the Air Force's dining facilities. It was found that at all four bases included in the analysis, a cost savings would be realized by closing dining facilities and paying all airmen BAS. The savings ranged from $420K to $4.6M annually and a total savings from all four bases totaling over $12.1M. With such a large savings possible by closing dining facilities, the option of closing base dining facilities should be strongly considered.

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