FAA-00-7018

82847

ARTHUR ANDERSEN (6

FAA-00-7018-6

Costing Methodology Report

Development of Enroute and Oceanic Air Traffic Control Service Costs

Prepared for:
Federal Aviation Administration
Assistant Administrator for Financial Services

May 23, 2000

ARTHUR ANDERSEN

Ms. Donna McLean
Assistant Administrator for Financial Services
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591

Arthur Andersen LLP
Suite 900
1150 17th Street NW
Washington DC 20036-4613
Writer's Direct Dial
(202) 481-3918

May 23, 2000

Dear Ms. McLean:

Arthur Andersen is pleased to deliver one original and 10 copies of our report entitled "Costing Methodology Report; Development of Enroute and Oceanic Air Traffic Control Service Costs." This report is being delivered in accordance with contract number DTFA01-99-A-08511 and contract number DTFA01-00-A-85006. This report reflects the costing methodology used to derive the FAA's full cost to provide Enroute and Oceanic air traffic control services in fiscal year 1999, using the FAA's Cost Accounting System.

We appreciate the opportunity to assist you.

Very truly yours,

ARTHUR ANDERSEN LLP

By Barry Kaufman
Barry Kaufman

LGW
cc:
Randall Fiertz, APF-1
Tim Lawler, ABA-20

TABLE OF CONTENTS

Executive Summary

Purpose and Scope of Report

The primary purpose of this report is to describe (1) how the Federal Aviation Administration's (FAA) Cost Accounting System (CAS) captures costs for al FAA lines of business, and (2) how costs were assigned to the Enroute and Oceanic air traffic control (ATC) services.

The scope of this report is limited to detailing those actions taken in assigning costs to those specific air traffic services mentioned above. Arthur Andersen did not participate in any FAA process to determine any user fees based on this costing methodology. In addition, Arthur Andersen did not review the underlying cost data for integrity or accuracy and, therefore, offers no opinion or comment as to the validity of the data. Furthermore, Arthur Andersen has relied on the FAA to disclose all material facts affecting this report.

This report may discuss topics raised in previously issued Department of Transportation Inspector General and General Accounting Office reports. This report is not intended to address or respond specifically to any of those issues.

This report discusses only those cost elements included in the CAS Cost-to-Serve model (the term "Cost-to-Serve model" refers to the set of business rules and related processing implemented specifically to develop the cost of Enroute and Oceanic services).

CAS Methodology Utilized

Before discussing the methodology used to identify the cost of Enroute and Oceanic services (complete definitions of which can be found Section 2 of this report:), one must understand the role of a cost accounting system within a large organization like the FAA. A managerial cost accounting system is especially important for assessing operating performance from a financial perspective. A managerial cost accounting system should help its users:

- Determine the costs of specific services, programs, activities, etc. and the composition of, and changes in, those costs;
- Determine the efforts and accomplishments associated with programs and delivery of services and their changes over time and in relation to costs; and
- Measure the efficiency and effectiveness of the organization's management of services, programs, assets, etc.

Effective cost accounting and cost management is supported by underlying processes and systems that generate data and information to achieve the objectives described above.

FAA collected and assigned costs to services using the following guiding principles:

- To the greatest extent possible, associate labor costs directly with specific services to reduce the amount of common costs that need to be allocated among multiple services;
- Base overhead and general and administrative allocations on a non-econometric, cost accounting approach using best available data;

- Determine the cost to provide air traffic control (ATC) services to the aviation community in the most direct manner possible, without regard to effect on users;
- Place costs into homogeneous' pools reflecting distinct services provided to groups of users, preserving opportunities for the FAA to approach user fee pricing from a wide spectrum of policy choices;
- Comply with Federal Accounting Standards Advisory Board (FASAB) Standards, and with relevant elements of the Chief Financial Officers Act and Office of Management and Budget guidelines for cost accounting.

There are essentially three main areas within which the above guidelines can be applied to the overall costing methodology used for the FAA's CAS:

1. Source Data – Identifying the source systems for the appropriate cost and statistical data to be incorporated into the CAS.
2. Cost Targets – Identifying the cost objects or services to be costed.
3. Cost Assignments – Determining how the costs, from the source systems, will be assigned to the identified services.

Source Data

The costing methodology uses actual costs incurred, derived from several source systems to determine the total cost of each service. Labor costs are primarily provided by FAA's payroll system. Most non-labor costs are provided by FAA's financial system, while some costs are entered into the CAS manually (e.g., depreciation). Other data, including statistical information used to facilitate allocations, is provided by numerous other operational and financial systems.

Cost Targets

The Air Traffic Services (ATS) line of business (LOB), along with each major FAA LOB, defined the products and services provided to its users. The following ground rules were provided to ATS when defining the services provided to its users: 1) the unit of service should be based upon measurable events; and 2) they should make maximum use of homogeneous cost pools (logical grouping of costs incurred for the same business purpose). With this guidance, ATS identified four air traffic services, or cost objects, provided to its user community:

1. Enroute;
2. Oceanic;
3. Terminal; and
4. Flight Services.

The principle of unit of service definition based upon measurable events, and best available data, has been successfully undertaken because automation systems readily track events

‡ Homogeneous cost pools are logical grouping of costs incurred for the same business purpose.

related to these services. For example, a "handle"† is a measurable event tracked by automation systems at each service delivery point and can be considered a unit of service. Use of homogeneous cost pools is maximized since each of the four services is typically provided to customers from a discrete service delivery point.

Cost Assignments

The methodology described in this report focuses on the cost of projects. "Projects" is the mechanism used to capture cost objects (e.g., a service). Costs are attributed to projects which are then attributed to services. This attribution of costs is done using several methods, all recognized by the Federal Accounting Standards Advisory Board (FASAB).

In addition, adherence to the guidance previously described resulted in assignments based on rational application of business rules that allocate costs to all services that benefit without regard to its effect on users.

The cost assignments employed in the Cost-to-Serve model can be organized into six major categories:

1. Air Traffic (AT) Operations Assignments;
2. Airway Facilities (AF) Operations Assignments;
3. Herndon Allocation
4. Overhead Allocations;
5. Capital Investment Assignments, and
6. Other Assignments

All of the AT costs incurred at an ATC facility level are directly assigned to the services. This has been accomplished using information contained on the transactions themselves. Other AT costs incurred are allocated. Examples include contract weather services, contract and Academy-provided training, controller-related drug testing and medical exam costs, as well as facility security costs. For each allocation the pool is defined using available accounting classification information and a meaningful basis is determined to allocate these costs to each ATC facility as appropriate.

AF is structured geographically rather than around ATC facilities. Therefore costs must first be attributed to the equipment maintained; equipment is then attributed to ATC facilities. Labor costs related to maintenance system specialists are assigned to the services using two information systems: a detailed facility inventory file and a system that indicates the required (standard) staffing for each facility. Using the information contained in these systems along with additional information on the labor transaction, a basis is determined to assign these costs to the services. Other AF assignments include telecommunications, utilities, specialized maintenance, logistics, Academy-related training, and flight inspection. Similar to AT allocations, each pool is derived using available accounting classification information and assigned to the services using a basis that represented the best available approach.

Overhead costs consist of LOB specific overhead, which includes the cost of ATS staff at each Regional Office as well as at FAA Headquarters, and FAA wide overhead. FAA-wide

† A handle is generally defined as the transfer of control of an aircraft from one controller to another, between regions of airspace.

overhead generally represents the cost of human resources, accounting and budget operations, as well as executive leadership at each of the Regional Offices and FAA Headquarters. These pools, like the other ATS assignments were derived and assigned to the Services using a basis that represented the best available approach.

Most capital investment costs are captured at a project level which enables he CAS to directly assign these costs to a particular service. In some cases, however, a direct assignment was not possible. In these cases, a standard basis was used to allocate these costs across each service. This basis was developed by ATS examining historical capital expenditures by service.

Other assignments include workers compensation, and various year-end financial adjustments. Each assignment was analyzed for its applicability to ATS and the four services. A basis that represented the most appropriate distribution of these costs was selected.

This costing methodology is not expected to remain static. Rather, it should evolve as better operational and financial information becomes available and as FAA management gains more experience with the cost and performance information provided by the CAS.

1 Introduction

This section serves to introduce the purpose of this report, define a common framework for discussion of the costing methodology employed by the Federal Aviation Administration (FAA), and finally to provide a basic overview of the design of the cost accounting system and its components.

1.1 Purpose of Report

The primary purpose of this report is to describe (1) how the Federal Aviation Administration's (FAA) Cost Accounting System (CAS) captures costs for a l FAA lines of business, and (2) how costs were assigned to the Enroute and Oceanic air traffic control (ATC) services (a detailed discussion of these services can be found in section 2).

1.2 Scope of Report

The scope of this report is limited to detailing those actions taken in assigning costs to those specific air traffic services mentioned above. Arthur Andersen did not participate in any FAA process to determine any user fees based on this costing methodology. In addition, Arthur Andersen did not review the underlying cost data for integrity or accuracy and, therefore, offers no opinion or comment as to the validity of the data. Furthermore, Arthur Andersen has relied on the FAA to disclose all material facts affecting this report.

This report may discuss topics raised in previously issued Department of Transportation Inspector General and General Accounting Office reports. This report is no intended to address or respond specifically to any of those issues.

This report discusses only those cost elements included in the CAS Cost-to-Serve model. The term "Cost-to-Serve model" refers to the set of business rules and related processing implemented specifically to develop the cost of Enroute and Oceanic services.

1.3 CAS Design Objectives

The Federal Aviation Reauthorization Act of 1996, which became law in October, 1996, called for the FAA to develop a cost accounting system. The Act also called for the FAA to adopt "overflight" fees for aircraft flights that neither take-off from, nor land in, the United Sates. FAA management chose to use the CAS to determine the costs to be used in establishing the overflight fees.

To satisfy this statute, and to also develop a system capable of improving financial and operational performance, several general requirements were added, and collectively these remain as guiding principles for the cost accounting system design:

- Using best available data, provide a transparent, full cost of services provided to aviation users;
- Measure and control the cost of resources consumed and output produced;
- Support management decisions and plans based on reliable cost information;
- Direct and control operations, processes, and projects; and

- Measure and benchmark the performance of organizations and managerrent in financial terms.

In an effort to minimize, and to the extent possible eliminate, instances of cross-subsidization of the services defined, the following items were added to the list of CAS requirements:

- To the greatest extent possible, associate labor costs directly with specif c services to reduce the amount of common costs that need to be allocated among multiple services;
- Base overhead and general and administrative allocations on a cost accounting approach using best available data;
- Determine the cost to provide air traffic control (ATC) services to the aviation community in the most direct manner possible, without regard to effect on users;
- Place costs into homogeneous pools reflecting distinct services provided to groups of users, preserving opportunities for the FAA to approach user fee pricing from a wide spectrum of policy choices;
- Comply with Federal Accounting Standards Advisory Board (FASAB) Standards, and with relevant elements of the Chief Financial Officer's Act and Office of Management and Budget guidelines for cost accounting.

In addition, various policies related to the information systems from which CAS receives its data, affected the design of the cost accounting system. These policies included the following:

- **FAA Financial Systems Policies and Procedures -** these sources included existing FAA systems and procedures that govern the collection, formatting, and processing of financial data that is interfaced into the CAS; and
- **FAA Operational Systems -** these sources included existing operational systems and procedures that determine the collection, formatting, and processing of operational (statistical) data that is interfaced into the CAS.

FM considered these policy and procedural issues during the detailed design phase of the CAS implementation. Consideration of these policies ensures that the CAS design is sufficiently flexible to meet the information capability and reporting requirements defined by internal users and external entities for financial and cost accounting systems.

1.4 Overview of Key System Functionality

There are essentially three major components of the CAS. These components are described below and depicted in Figure I-l.

1. **Current FAA Information Systems.** These include the information systems that will provide financial and statistical data to the CAS. These systems contain different levels of detail that will be required to meet the reporting and internal control requirements of the CAS.
2. **Front End Control System.** The Front End Control System (FECS) includes the procedures and software programs that control the loading of data from current FAA information systems into the CAS. FECS also performs accounting maintenance and limited labor distribution functions.

3. **PeopleSoft Projects Application.** PeopleSoft Projects (public sector version) is a commercial, off-the-shelf software application. This software product maintains the financial, statistical, and control data residing in the database, performs cost assignments, provides reporting capabilities, and provides application security.

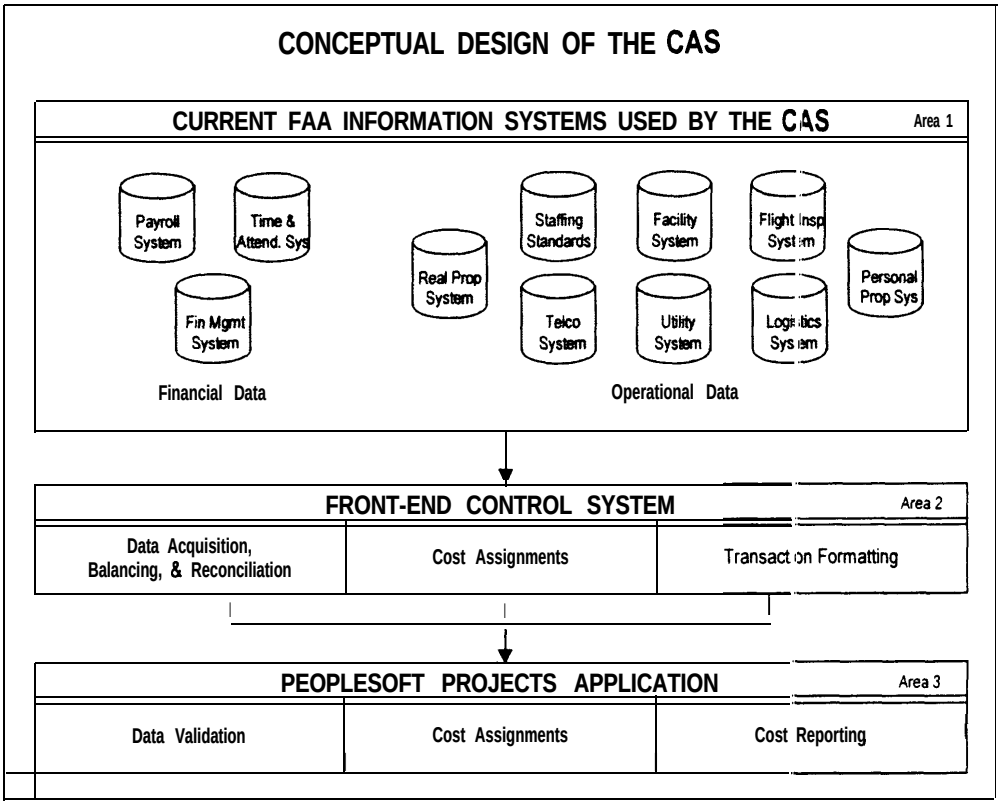


Figure I-I

1.5 Costing Terminology

There are several sources of guidance that provide common definitions of terms and concepts for use in determining the cost of government services as well as alternative acceptable methods for assigning costs within a cost management system like the CAS.

The primary source is the Federal Accounting Standards Advisory Board (FASAB) which has issued fifteen Statements of Federal Financial Accounting Standards (SFFAS) and two concept statements. Each of these standards has varying relevance to the CAS. Most of these standards have a substantial impact on the accounting procedures and systems which provide data to the CAS. SFFAS Number 4 (typically referred to as FASAB No. 4) and its related amendments, set forth broad standards for managerial cost accounting which need to be incorporated in the design of cost accounting systems. FAA considered these standards and used them as the basis for the design of the cost accounting system.

The information contained in this report, to be useful, must rely on consistent and uniform terminology for concepts, practices, and techniques. The following terms, some of which have been defined by FASAB, provide a common framework to achieve this goal:

Term & Definition	Example
Direct Cost – The cost of resources that can be specifically identified with an output. (FASAB No. 4)	• Cost of an air traffic controller's salary • Cost of a maintenance technician's salary
Indirect Cost – The cost of resources that are jointly or commonly used to produce two or more types of outputs but are not specifically identifiable with any of the outputs. (FASAB No. 4)	• Cost of the FAA Administrator's salary • Cost of a human resources specialist's salary
Project – For the purposes of the CAS, a project is a collective set of distinct activities that, when performed, represent a discrete product or service, an ongoing process step, or engineering project. Whatever the representation, projects serve as the primary "cost objects" in the CAS. Furthermore, projects are sometimes referred to as "programs."	Projects are used to capture the cost of: • developing a new radar system • paying the agency's bills (accounts payable) • providing the Enroute service
Activity – The actual work task or step performed in producing and delivering products and services. An aggregation of actions performed within an organization that is useful for purposes of activity-based costing. (FASAB No. 4)	The cost to maintain a navigational device (a project) is further broken down into the cost of: • Periodic Maintenance • Corrective Maintenance • Modifications
Cost Assignment – A process that identifies costs with activities, outputs, or other cost objects. In a broad sense, costs can be assigned to processes, activities, organizational divisions, products, and services. There are three methods of cost assignment: (a) directly tracing costs wherever economically feasible, (b) cause-and-effect, and (c) allocating costs on a reasonable and consistent basis. (FASAB No. 4)	• Spreading the cost of the human resources department to all FAA services provided to users • Spreading the cost of a line of business executive management team to the services that line of business provides to users • Associating an engineering project with a particular service • See Section 4.1 for examples of each type of FASAB assignment
Cost Pool – A collection of homogeneous costs that are to be assigned to cost objects.	• All costs incurred to provide human resources services to FAA employees; can include the cost of salaries, supplies, or any other cost incurred for the purpose of providing human resources services to FAA employees.
Basis – A measure that is used to distribute a pool of costs to pre-defined cost objects. This	• The cost of the accounting department can be allocated to

Term & Definition	Example
measure can be financial or statistical in nature.	each organization based on *the number of invoices paid by organization*
Cost Object – An activity output, or item whose cost is to be measured. In a broad sense, a cost object can be an organizational division, a function, task, product, service, or a customer. (FASAB No. 4)	• All engineering projects are the cost objects to which the engineering department's overhead costs are assigned

Table 1

2 Cost Targets/Services and Activities

The Air Traffic Services (ATS) line of business (LOB) defined four broad services which represent cost objects for managerial cost accounting purposes. The services include Enroute, Oceanic, Terminal, and Flight Services. These services are defined as follows:

- **Enroute -** Defined as air traffic control services provided to aircraft operating primarily on instrument flight rules flight plans in controlled airspace between their departure and destination terminal areas. Twenty-one service delivery points, referred to as Air Route Traffic Control Centers (ARTCCs), provide these services.
- **Oceanic -** Defined as air traffic control services provided to aircraft operating within international airspace where oceanic separation minima and procedures per ICAO standards are applied. Oceanic services are provided at four of the 21 ARTCCs (or service delivery points) referred to above.
- **Terminal -** Defined as air traffic control services provided to aircraft arriving and departing airport facilities under Instrument Flight Rules or Visual Flight Rules. These services are provided via over 400 service delivery points. Terminal facilities are referred to as either Terminal Radar Approach Control (TRACON), Combined EnRoute Radar Approach Control (CERAP), Radar Approach Control (RAPCON), or Airport Traffic Control Tower (ATCT).
- **Flight Services -** Defined as services, provided to users of the National Airspace System (NAS), including pilot briefings, search and rescue coordination, aviation weather information, and other flight advisory services. Sixty-one service delivery points referred to as Automated Flight Service Stations (AFSS) provide these services.

2.1 The ATS Organization

Three major organizations - Air Traffic (AT), Airway Facilities Operations (AF OPS), and Airway Facilities Implementation (AF IMP) - participate in the delivery of the four services. The functions provided by each of the three organizations are as follows:

- **Air Traffic -** This organization is responsible for managing the safe and efficient flow of air traffic through U.S. controlled air space. This is accomplished by a workforce of over 18,000 air traffic controllers and managers working at air traffic control facilities located throughout the United States.
- **Airway Facilities Operations** -This organization ensures the safe and efficient flow of air traffic through U.S. controlled air space by maintaining and flight inspecting over 50,000 facilities. This is accomplished by a workforce of over 8,100 system specialists and managers.

- **Airway Facilities implementation -** This organization supports the safe and efficient flow of air traffic by managing the many NAS facility modernization projects. This is accomplished by a workforce of over 2,000 engineering and project management personnel.

2.2 ATS Management Information Requirements

In addition to the four services described above, ATS defined additional managerial cost accounting requirements based on goals for improved financial performance. These requirements have been translated into intermediate projects (which ATS refers to as "programs") and associated activity breakdowns, which have been grouped into a hierarchical "tree" structure (that have the services as the final cost objects) Note that this structure of intermediate cost objects has little impact on the costing methodology used to develop the cost of Enroute and Oceanic service. This is because each program is linked to a specific Service at the outset. Intermediate "roll-up" points serve only to meet management reporting needs.

It is also important to note that some cost elements could not be readily associated with these programs. When a particular cost element could not be associated with a program, it was assigned at the "service" level (or final cost object level) of the hierarchy. For each cost element discussed in this document, it is indicated whether it was associated with a program or at the service level.

Costs are assigned to elements of a hierarchical structure consisting of Program, Category, Capability, and Service. For example, the AF OPS organization maintains a special type of long range radar system, used to support only the Enroute service, with sites located around the country. The cost of maintenance technicians' salaries who maintain those systems are collected in a project established in the CAS for only that type of long range radar. This is the "Program" level. The cost of this project can then be aggregated to a level called "Category" which, in this case, is called the Long Range Radar category where the cost of other types of long range radar systems are added. These cost:; can then be aggregated again to another level called "Capability" which, in this case is the Surveillance capability, where the costs of other systems performing a surveillance function are added.

Finally, the costs can be aggregated yet again to the "Service" level where all costs incurred in support of a specific service, in this case the Enroute service, are combined to provide the total cost. Each ATS organization has unique elements within this shared hierarchy. Figure 2-1 depicts a conceptual view of the hierarchical structure just described. Note that, in the diagram, elements of the hierarchy are shaded. A shaded element indicates that it has been implemented in the Cost-to-Serve model. Unshaded areas will be implemented in later phases of the Cost Accounting System development effort.

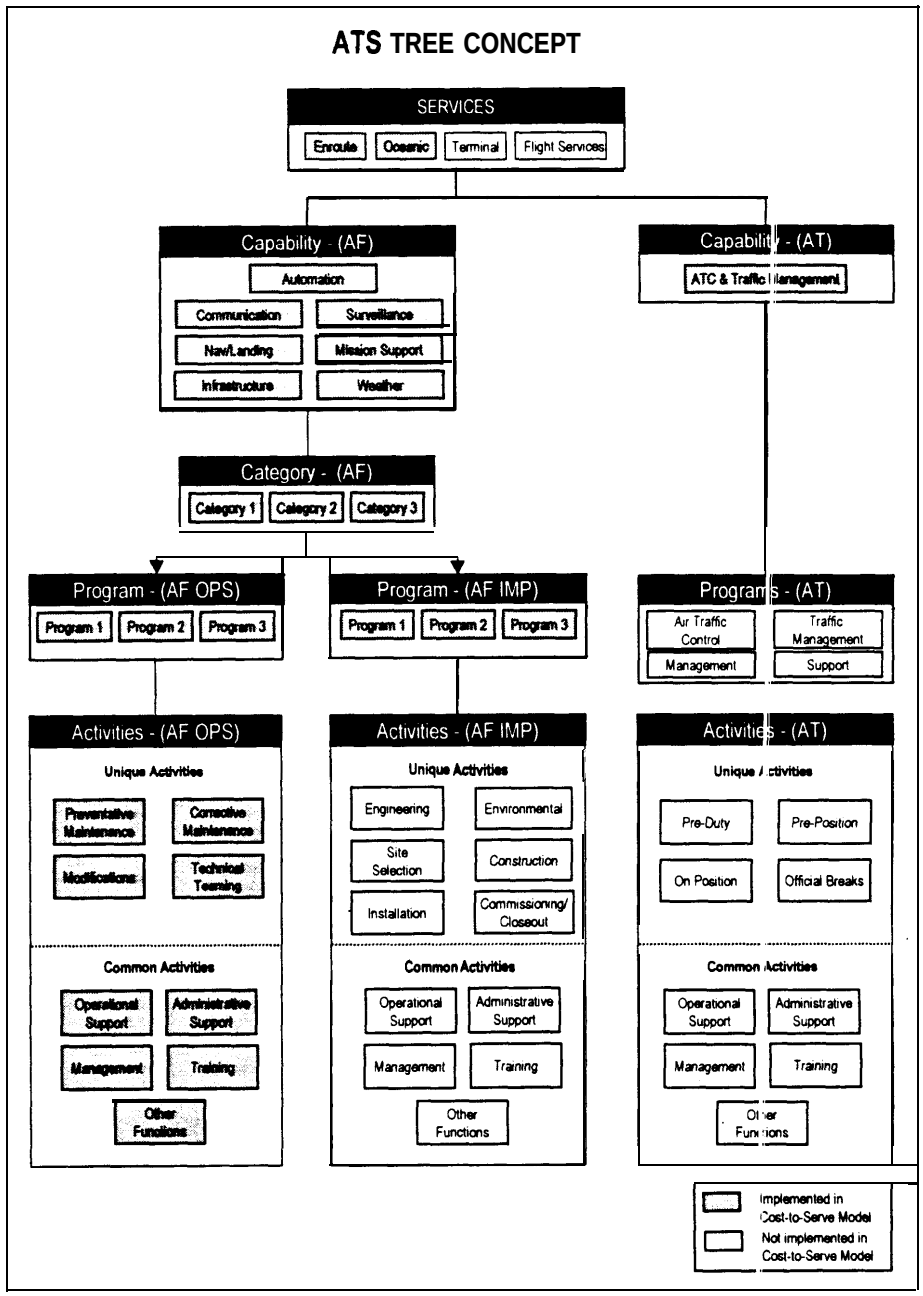


Figure 2-1

Appendix A provides detailed descriptions of the activities shown as well as a listing of each ATS project included in the CAS and the Category, Capability, and Service o which it is assigned. Section 4 provides a detailed discussion of the cost assignment methods and rationale used to populate this structure with cost information.

A concept not portrayed in Figure 2-1 includes what is referred to as the "Service Delivery Point" (SDP) concept. Services provided to external users are delivered from a facility managing contact with the customer. This facility is termed a SDP. To the extent practical, all costs associated with the structure depicted in Figure 2-1 are also identified with the SDP where service is provided to the user. Returning to the radar example discussed above, each radar system located throughout the country is assigned to one and only one SDP. This concept is also discussed and illustrated in greater detail in Section 4 and Appendix C.

3 Resource Costs

The CAS receives financial data from several source systems. All systems referred to below constitute the FAA's systems of record for the respective cost elements. The following sections describe the nature of the financial information provided by each of the source systems.

3.1 Financial Accounting System

The Departmental Accounting and Financial Information System (DAFIS) is the core accounting and financial reporting system of the Department of Transportation and each of its constituent agencies, including FAA. DAFIS maintains general ledger balances, provides accounts payable and receivable, and other appropriation fund accounting capabilities.

FASAB No. 4 discusses cost accounting as it relates to financial (proprietary) accounting and budgetary accounting. DAFIS performs financial and budgetary accounting while CAS performs cost accounting. While FASAB recognizes a relationship between cost accounting and budgetary accounting, they do not state a requirement to include budgetary transactions in the cost accounting system. Thus, only those transactions relevant to cost accounting are included in the CAS. See Appendix D for a list of general ledger account series included in the CAS.

It is important to note several key distinctions of a federal government accounting system designed for fund control purposes (e.g., DAFIS). DAFIS has limited capabilities to provide the full range of cost accounting and other financial management information required by FASAB and FAA management. DAFIS was not designed to perform the complex cost assignments required to determine the cost of services and activities. The CAS resolves this problem because it is able to perform the cost assignments and provides much needed flexibility in accessing the data for reporting and other management purposes.

In the past, FAA relied on periodic cost allocation studies to attribute costs 'to various categories of users. However, the studies were not comprehensive or represented only one point in time (not updated regularly). The CAS, on the other hand, is an ongoing system that, when properly maintained by systems personnel and users, keeps the data and associated business rules current and relevant as FAA's business needs and environment evolve.

3.2 Payroll System

Since labor costs represent the vast majority of the Agency's total resource costs, direct recording of labor utilization is considered the most appropriate method to accurately trace these costs to the specific projects and activities performed. In order to enhance the quality of information used for cost accounting and management purposes, an initial labor distribution capability has been developed and integrated into the FAA's personnel and payroll systems. This information, in turn, will assist management in asses sing resource allocation options.

The FAA's personnel and payroll system comprises three separate components. The first component, Integrated Personnel Payroll System (IPPS), provides the time and attendance function. Hours reported include overtime hours as well as leave hours taken by type of leave. The second component, the Consolidated Personnel Management Information System (CPMIS), provides pay rate information by employee series and classification, while the third component , Consolidated Uniform Payroll System (CUPS) calculates pay, benefits, and withholding amounts. This information is then recorded in DAFIS at a summary level where posting to the appropriate general ledger accounts and updating of fund balances takes place.

Figure 3-1 summarizes FAA's labor distribution process. The process begins with timesheets, completed by employees indicating time spent by activity and project. The process ends with management reports detailing labor costs by activity and project to assist management with resource decisions.

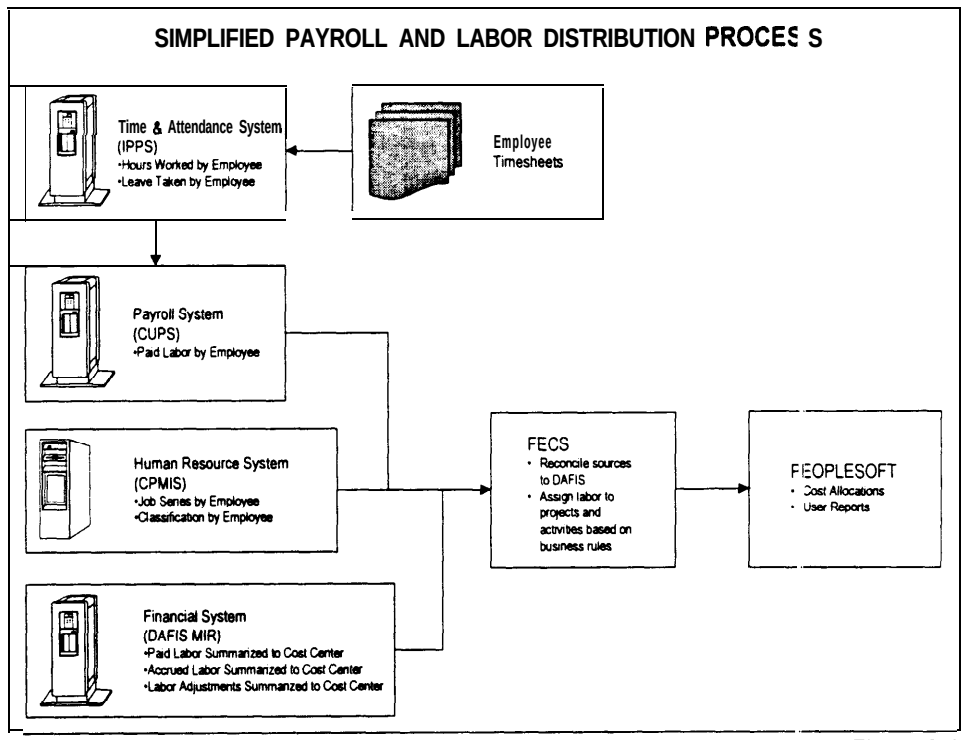


Figure 3-1

Once labor distribution is fully adopted and implemented, FAA employees will be expected to record their time worked against established projects and activities. This information is entered as part of the bi-weekly payroll process and the resulting information is provided to the CAS. For this Cost-to-Serve model, only one organization (representing approximately 2,000 employees), the Office of Research and Acquisitions (ARA), is using the labor distribution capability at the project level only.

The ATS organization is not using the IPPS/CUPS labor distribution system. The "field" employees of the Air Traffic Service (AAT or AT) and the Airway Facilities Service (AAF or AF) instead, use alternative approaches of assigning labor costs in this Cost-to-Serve model. See Section 4 for details of these alternative approaches.

3.3 Other Systems

Other systems serve as the source of cost transactions for depreciation and workers compensation. Because these costs are derived from systems outside of the financial accounting system, they generally result in entries being recorded within DAFIS to adjust fund balances and/or for financial reporting purposes.

3.3.1 Depreciation

FAA began recording depreciation as an operating expense for the first time in fiscal year 1998. This recognition is in response to the implementation of FASAB Number 6 (and its related amendments) which deals with accounting standards for federally owned property, plant, and equipment.

FAA has two categories of depreciable assets: Personal Property and Real Property. These two asset categories are subdivided into additional groupings for management purposes. FAA Order 2700.31 describes the criteria and procedures related to capitalization of assets as well as the accounting entries made to reflect work-in-process, asset, and depreciation amounts. In addition, an Economic Service Life analysis, developed by the Research and Acquisitions organization, serves as a guideline for the determination of useful life values.

Two systems serve as the primary sources for asset valuation information. The Real Property Record (RPR) system is the official source for recording all real property assets including land, buildings and other structures (roads, sidewalks, etc.). The Personal Property In-Use Management System (PPIMS) is the official FAA source for recording systems (this includes most NAS facilities) and other accountable property including personal computers, desks, etc.

Three organizations participate in the capitalization process and are responsible for closing out most capital projects. These organizations are Airway Facilities, regional logistics offices, and regional accounting offices. The capitalization process, among other things, involves identifying the costs that are to be capitalized and entering the required asset valuation information into RPR and PPIMS, as appropriate. This data is then used to calculate the depreciation amount for each asset.

Because of the volume of records contained in these systems, FAA aggregated the data found in RPR and PPIMS and entered two depreciation transactions in DAVIS for each of FAA's nine regions for fiscal year 1999. These summary transactions along with the detailed information from RPR and PPIMS are then used in a process, described in Section 4, to incorporate depreciation costs into the Cost-to-Serve model.

3.3.2 Workers Compensation

Workers Compensation (WC) is managed and administered by the Department of Labor (DOL). FAA's total WC liability is made up of actual benefits paid to employees (referred to as an accrued liability) as well as an actuarial estimate reflecting future liabilities.

- **Accrued WC Liability.** DOL operates using a *chargeback* fiscal year (July 1 to June 30) that differs from the standard federal fiscal year (October 1 to September 30). At the end of each chargeback fiscal year DOL provides FAA with actual workers compensation amounts paid for the previous fiscal year. The Office of Human Resources Management receives the invoice from DOL and allocates the amounts to the lines of business using supporting information provided by DOL. This information is then forwarded to the accounting organization where the required transactions are entered into DAFIS. Payment of these costs to DOL occurs two federal fiscal years following receipt of the actual paid amounts from DOL due to lags between receipt of the DOL invoice and inclusion of the costs in subsequent budget requests and final appropriations. See Section 4 for a description of the treatment of the ATS portion of workers compensation.

- **Actuarial WC Liability.** This amount reflects the unfunded actuarial liability that includes estimates for death, disability, medical, and miscellaneous costs for approved compensation cases. The amount was originally calculated, as of June 30, 1994, by DOT's Office of the Secretary using a paid losses extrapolation method covering the ensuing 23 years. This method uses historical benefit payment patterns related to a specific incurred period to predict the ultimate payments related to that period. DOL adjusts this estimate annually by applying actuarial procedures. This amount is provided to FAA's accounting organization at the beginning of each fiscal year where entries are made to adjust the financial statements for the previous fiscal year and enter the amount into DAFIS as a prior period expense.

4 Cost Assignments

This section of the report discusses the methods of assigning costs allowed by FASAB No. 4 and how the FAA employs those methods in the Cost-to-Serve model. Included is a detailed discussion of each major cost assignment performed in the model. The discussion will cover the cost pool to be assigned, the method of assignment, the basis used, and the target of the assignment.

4.1 Methods for Assigning Costs

As previously stated, FASAB provides guidance as to acceptable cost accounting practices, particularly cost assignments. FAA used each of the three types of cost assignment methods described by FASAB. Each method is described below with examples of its application.

- **Direct Tracing.** The assignment of costs to a chosen cost object.
  - **Example 1:** An employee completes a time sheet indicating the hours worked on a particular project (cost object). The payroll system uses this information to calculate the cost of that project based on that employee's paid salary. This information is then provided as an input to the cost accounting system.
  - **Example 2:** An employee takes a business trip in support of a specific project. On the employee's expense report he or she charges the cost of the trip to the specific project code assigned to the project.

- **Cause and Effect.** A distribution of costs where the basis serves as an indicator as to changes in costs.
  - **Example 1:** Distributing building lease costs to operating organizations using square footage occupied as the basis.
  - **Example 2:** Distributing training costs to cost objects using attendance as the basis.

- **Allocation.** The assignment of costs to multiple cost objects on a reasonable and consistent basis.
  - **Example 1:** Distributing the human resources department's costs to the operating organizations using headcount as the basis.
  - **Example 2:** Distributing overhead costs to cost objects using labor cost as the basis.

These above assignments are chosen on a cost-benefit and data source availability basis. The FAA selected assignments by considering the cost to implement a specific method relative to the expected benefits of alternative assignment methods.

4.2 Enroute Assignments

The purpose of this section is to describe the process developed by FAA lo assign each of the cost elements found in the Cost-to-Serve model. In some cases the process is complex. In other cases, the assignment was a simple one developed in PeopleSoft. Regardless of the complexity of the assignment, each was based on an analysis of the best

available data. Note that the cost assignments used to cost both the Enroute and Oceanic services are discussed below; Enroute assignments are discussed first followed by the Oceanic assignments. In addition, all allocation bases were derived using fiscal year 1999 source data unless otherwise noted.

4.2.1 Air Traffic Operations Assignments

This section discusses the treatment of costs associated with the Air Traffic organization. As previously stated labor makes up the majority of costs incurred for ATS and especially for AT. These assignments reflect the alternative approach to labor distribution employed by ATS, also discussed previously. Other cost assignments discussed below include non-labor, centralized contract costs, and medical and security costs.

4.2.1.1 Air Traffic Field Labor

Despite the size of the air traffic controller workforce (approximately 40 percent of total FAA headcount), this pool of labor costs was relatively straightforward to assign. It is comprised of personnel compensation and benefits costs of controllers, supervisors and staff assigned at ATC facilities. As part of the FAA's existing financial management structure, each ARTCC has been assigned a unique region/cost center combination. ATS provided business rules that correlated each ARTCC cost center with a SDP (service delivery point) value. Using this information, FECS derives the SDP value and assigns it to each labor transaction before passing it to PeopleSoft. Labor *costs* associated with terminal or flight service SDPs are also identified but are assigned a unique SDP value so as not to commingle these costs with Enroute.

4.2.1.2 Air Traffic Field Non-Labor

These costs, incurred primarily for office supplies and travel expenses, are minor when compared to the corresponding labor costs. However, like the labor costs, these non-labor costs are relatively straightforward to assign. Enroute related AT field non labor costs are assigned to SDPs in the same fashion as labor costs. Using business rules that correlate each ARTCC cost center with a SDP value, FECS derives the SDP value and assigns it to each non-labor transaction before passing it to PeopleSoft. Like labor costs, those non-labor costs associated with terminal and flight service SDPs are also identified so as not to commingle these costs with Enroute.

4.2.1.3 Enroute Contract Weather Services

In order to provide timely and accurate weather information to controllers and pilots, weather personnel are on-site at each ARTCC. These individuals, working under contract, interpret weather readings and forecasts. The cost of this service has been assigned to the Enroute service and spread evenly across all 21 Enroute SDPs (each ARTCC has approximately three contract personnel on-site). A detailed description of the pool of costs assigned in this allocation can be found in Appendix B.

4.2.1.4 Air Traffic Training

The ATS organization obtains training both from the FAA Academy and from contractors who provide specialized training. Since training represents a significant cost of providing ATC services, it is receiving special treatment within the CAS. Since AT training costs are collected in several different pools, the assignment of these costs was performed in several ways.

Contract Training

All air traffic controllers receive Academy training throughout their careers. However, because of the specialized needs of controllers at each ATC facility, additional, localized training is provided under contract.

Using detailed data provided by the training vendor, the cost of the contract training program was assigned to SDPs based on the actual amount of training hours invoiced by the contractor. A detailed description of the pool definition can be found in Appendix B.

Academy Training

The FAA Academy, located in Oklahoma City, is a large training facility that provides agency-wide centralized training services. The campus provides classroom and hands-on training to controllers using sophisticated simulators as well as operating versions of equipment found in the field.

The approach used involves identifying the portion of Academy costs incurred attributable to the Enroute Service. These percentages were identified by analyzing attendance data provided by the Academy. This attendance data included course number, course hours, and cost center of the student where each record represented a single student.

Using this information, AT identified those course hours attributable to Enroute. The total Enroute course hours as a percent of the total course hours equates to 26.55 percent for AT courses. A fixed basis allocation was performed in PeopleSoft to assign the percentage of the Academy training pool to the Enroute service. The diagram below depicts this analysis. A more detailed description of the analysis and the pool definition can be found in Appendix B.

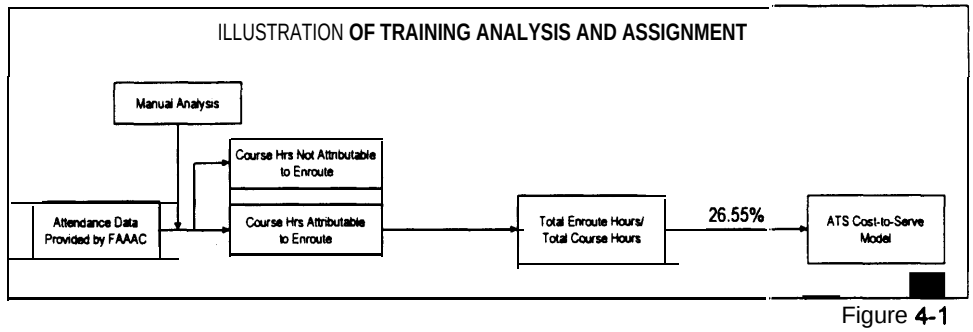


Figure 4-1

4.2.1.5 Aviation Medical Costs

Air traffic controllers and maintenance technicians receive regular medical exams as well as drug tests, An organization within the FAA's Office of Aviation Medicine (AAM), which resides within the Aviation Regulation and Certification (AVR) line of business, funds, conducts, and manages these exams and tests.

With the help of AAM personnel, the cost to provide regular medical exams and conduct drug tests was identified (by analyzing AAM financial data) as 32.78 percent of total AAM annual expenditures. Thus, 32.78 percent of total AAM annual expenditures were allocated to all SDPs based on personnel compensation and benefits. See Appendix B for a detailed description of the pool of costs assigned.

4.2.1.6 Aviation Security

The Civil Aviation Security (ACS) line of business provides physical security of ATC and NAS facilities; conducts background checks on FAA and contract personnel; and conducts investigations of security incidents involving FAA employees and property. ACS funds these activities, the cost of which has been incorporated into the ATS services.

With the help of ACS personnel, the cost to provide physical security and conduct background checks was identified (by analyzing ACS financial data) as 5.39 percent of total ACS expenditures. Thus, 5.39 percent of total ACS annual expenditures were allocated to all SDPs based on personnel compensation and benefits. See Appendix B for a detailed description of the pool of costs assigned.

4.2.1.7 Air Traffic Workers Compensation

Year-end adjustments were made in order to recognize the appropriate level of unfunded liabilities related to workers compensation. AT's share of the workers compensation liability was identified using FY97 Workers Compensation Information System (WCIS) data. WCIS provides access to the most accurate and detailed workers compensation information, by line of business, available from the Department of Labor. The FY99 workers compensation liability was prorated to programs and SDPs based on labor costs. An actuarial liability for workers compensation was also recorded. AT's share of that liability was calculated using the methodology described in Section 3.3.2. These adjustments were also allocated to SDPs and programs using labor cost as the basis.

4.2.2 Airway Facilities Operations Assignments

This section discusses the treatment of costs associated with the Airway Facilities organization. These assignments reflect the alternative approach to labor distribution employed by ATS, discussed previously. Other cost assignments discussed below include non-labor, centralized contract costs, and other miscellaneous support costs.

4.2.2.1 Airway Facilities Operations Field Labor

The National Airspace System (NAS) consists of a vast network of navigation, communications, surveillance, and other miscellaneous equipment. This section addresses the costing methodology employed to determine the cost to operate this equipment (referred to as NAS facilities) and how these costs are integrated into the overall ATS service cost structure.

To appreciate the AF labor assignment process it is important to understand the AF organizational structure. The AF line operating units are organized into 33 System Management Offices (SMO). Each SMO is divided into varying numbers of System Support Centers (SSC). The individuals responsible for maintaining the NAS are assigned to SSCs.

As previously discussed in Section 2, as part of the requirements identification process, ATS used a "bottom-up" approach to developing the cost of services. This approach logically groups NAS facilities into "programs." Each program is assigned to one and only one ATS service. Programs can exist at multiple locations. Each program/location combination is assigned to one and only one SDP. As well, each program is located in a hierarchy which enables ATS to aggregate similar programs into Categories and similar Categories into Capabilities for management reporting purposes. For example, the long range radar program has 126 sites throughout the country. The long range radar program has been assigned to the Enroute service. Each long range radar site has been assigned to one and only one SDP.

SSC Labor Assignment

To assign SSC labor costs to NAS facilities (or program/locations) a series of custom-developed cost assignment processes were developed within FECS. The sources of data include the Staffing Standards Analysis System (SSAS) and the Facility/Service/ Equipment Profile (FSEP). These standards represent FAA's approximation of actual time incurred to maintain facilities.

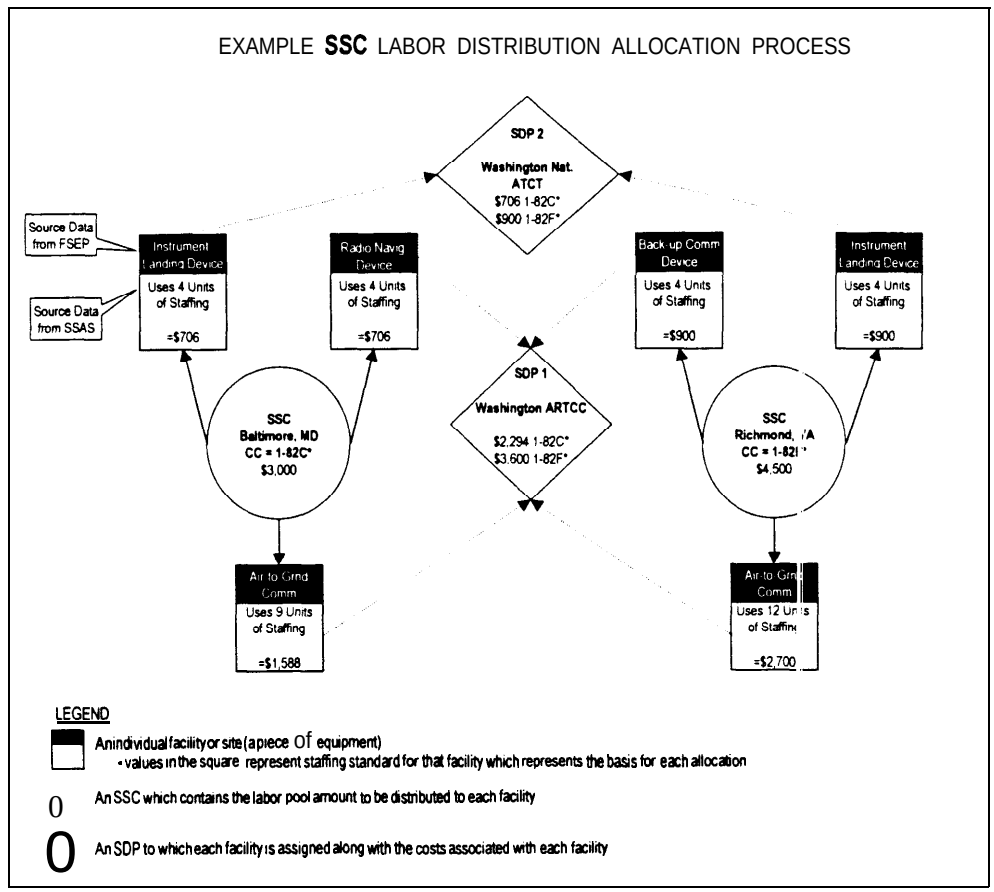


Figure 4-2

The FSEP provides a very detailed listing of all facilities by type and cost center within the NAS. It includes a linkage between a particular facility and its associated control facility. This linkage enables the CAS to relate NAS facilities to SDPs. SSAS provides standard staffing levels required to maintain each type of NAS facility. The standards are based largely on functional analyses and measured task times for existing facilities and engineering estimates for new facilities. Using these two data sources, FECS identifies all commissioned facilities, by cost center, in FSEP and distributes actual SSC labor costs (provided by CUPS) using the staffing standards as a basis. Figure 4-2 illustrates the SSC labor distribution process. See Appendix B for a detailed description of the pool of costs assigned.

A particular segment of SSC labor cost was afforded special treatment because of the unique nature of the work performed. It is a local remote maintenance monitoring function (referred to as AMCC) performed at each of the 21 ARTCCs. The labor costs associated with each AMCC can be identified by unique region/cost center codes. These codes were identified with business rules and an approach was developed, similar to the way AT labor costs are handled. This process results in AMCC-related labor transactions being assigned a project code, activity code, and SDP.

One type of facility, due to the nature of the data found in FSEP, in many instances, could not be mapped to an SDP as described above. This facility type, a critical navigational

device called a VHF Omnidirectional Range (VOR), happens to have significant staffing levels typically associated with it and can be related to either the Enroute or Terminal service (but not both). For these specific VORs, ATS developed a table which mapped each to a valid SDP. This mapping was then added to the FECS labor processing programs.

Among the nearly 50,000 records contained in FSEP are numerous records for support equipment. Support equipment includes vehicles, generic computer terminals, miscellaneous buildings, and other equipment designed to support AF in performing its mission. Like most entries in FSEP, this equipment requires staffing. Using the information in FSEP, it is not possible to relate this equipment to specific Services or SDPs. Therefore, a general allocation was used to distribute these costs to Services and SDF's.

Of the labor costs where an SDP could not be determined, twenty-three percent is re-assigned to Enroute SDPs on the basis of previously assigned labor costs. This default basis, used when no other meaningful basis is available, was determined by calculating the number of entries in FSEP assigned to the Enroute Service as a percentage of total FSEP entries.

SMO Labor Assignment

A similar process was developed to assign SMO costs to SDPs. SMO labor costs are assigned to SDPs in the same proportion as the SSC labor is assigned to AF facilities for SSCs managed by the SMO. Figure 4-3 illustrates this assignment. See Appendix B for a detailed description of this cost pool.

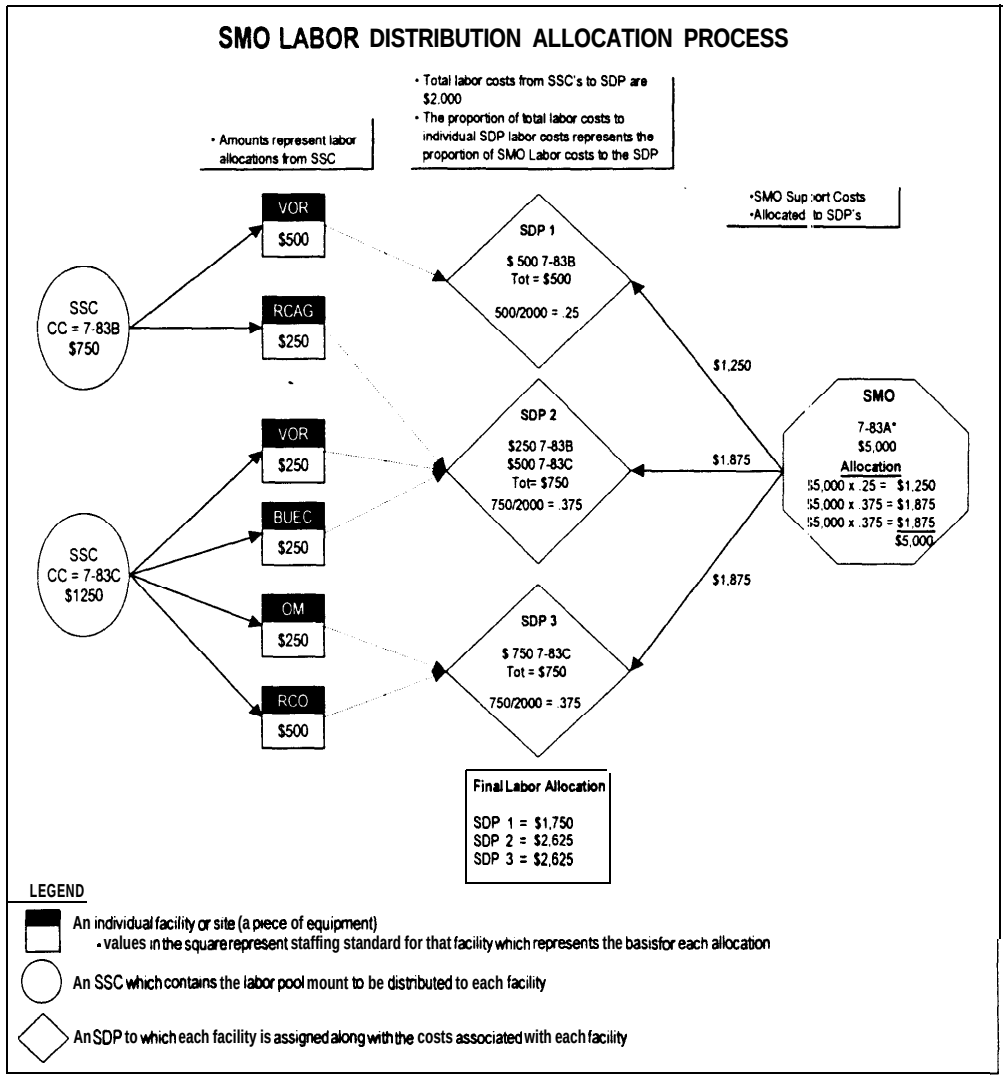


Figure 4-3

Labor Accruals and Adjustments

FAA uses accrual-based accounting to recognize labor costs. At any point during the fiscal year, DAFIS includes accrual transactions for labor not yet paid, through the end of the fiscal year. These accruals are made at a summary level in DAFIS. As a result, these accruals are not subjected to the labor allocation process described throughout this section (4.2.2.1). Since payroll occurs on a biweekly cycle and cost accounting reports are generated monthly, there can be timing differences which cause labor accruals, not treated by the business rules described above, to appear on a cost accounting report.

In addition, as with any organization with a large workforce, payroll adjustments are made to correct errors in payroll detected after a particular cycle has ended. These adjustments are not processed through IPPS and are therefore not treated by the business rules described above. Rather, they are entered directly into DAFIS and are only associated with the appropriate Service (instead of with an SDP and/or program).

National Network Control Center

Certain facilities require special treatment because the costs must be associated with multiple SDPs. The largest of these facilities is a major data network management system.

The National Network Control Center (NNCC) enables the sharing of flight and other data between the 21 ARTCCs. There are two NNCC "hubs," one in Atlanta and the other in Salt Lake City. Limited NNCC-related equipment can also be found at the remaining 19 ARTCCs. Since this system benefits the entire enroute air traffic control system, the costs related to the NNCC are collected and distributed to each ARTCC. All NNCC equipment (and associated staffing value) is identified in FSEP and "tagged" with NNCC-related project codes and a unique SDP value (NNCC).

After the labor assignments have been made in FECS, PeopleSoft allocates these costs to SDPs. The basis for this allocation is number of handles per SDP for the period June 1998 to May 1999, provided by the Office of Aviation Policy and Plans. A handle is defined as a single aircraft departing, arriving, or transiting an ARTCC's airspace.

4.2.2.2 Special Maintenance Programs

Another case where costs must be attributed to multiple facilities includes the labor and non-labor costs associated with special maintenance programs. The cost of these programs includes expenses incurred for environmental compliance projects, safety compliance projects, and other special maintenance projects (which generally include routine plant maintenance activities, painting, road repair, etc.).

The cost of these programs, incurred by SSCs, is tracked in DAFIS using specific program element values (see Appendix B for a detailed description of FAA accounting string values). All transactions that include the specific program element values associated with special maintenance programs are processed like any other SSC labor transaction However, in the reporting process, these transactions are aggregated on a specific line on the report.

4.2.2.3 Airway Facilities Operations Non-Labor

The Airway Facilities organization also incurs miscellaneous non-labor costs for such things as office supplies, generic spare parts, and local travel. This assignment consists of two separate assignments: SMO and SSC. The SMO non-labor pools are assigned to SDPs in the same proportion as the direct SSC labor is assigned to SDPs for SSCs managed by the SMO. The SSC non-labor pools are assigned to the AF Programs and SDP's in the same proportion as the direct SSC labor is assigned. See Section 4.2.2.1 for a complete description of how these labor costs are assigned.

4.2.2.4 Telecommunications

The FAA uses an intricate telecommunications network to provide services to their user community. In addition to air-to-ground and ground-to-ground communications, this network is used to communicate radar, flight plan, and remote maintenance monitoring information. Since telecommunications costs are substantial to the ATC system, they are

receiving specific treatment within the CAS. It is important to point out that this assignment only addresses the cost of leased telecommunications lines. Owned lines are considered part of the real property assets to which they are attached and are capitalized and depreciated accordingly.

ATS maintains the Telecommunications Information Management System (TIMS) that tracks, for each circuit, the recurring and non-recurring costs, the "owning" facility (which could be a facility project and/or SDP), and facilities served by a circuit. Using a semi-automated process this data is combined with data from FECS (orginally derived from FSEP) to determine the project and SDP to which each leased line should be attributed. This data is converted to a statistical transaction and entered into PeopleSoft.

A pro rata allocation is performed in PeopleSoft to assign these costs to the facility projects and/or SDPs that are connected via leased lines based on these statistical transactions. A detailed description of the pool of costs assigned in this allocation can be found in Appendix B.

4.2.2.5 Flight Inspection

As part of FAA's facility maintenance effort, the flight inspection function consumes significant resources. This function inspects surveillance, navigational, landing, and automation equipment by flying within the range of the equipment to ensure that it is functioning properly. To perform this function, the FAA maintains a fleet of specialized aircraft as well as specially trained pilots and maintenance technicians.

The flight inspection group maintains the Aircraft Management Information System (AMIS) that tracks flight inspection activity by facilities inspected and hours flown. This data, provided by AMIS, is combined with data from FECS (originally derived from FSEP) to derive the SDP to which a particular facility is assigned. FECS then formats the hours flown per facility into transactions that PeopleSoft uses as a basis to allocate the flight inspection cost pool.

A pro rata allocation is performed in PeopleSoft to assign these costs to the facility projects that were inspected based on the inspection hours flown. A detailed description of the pool of costs assigned in this allocation can be found in Appendix B.

4.2.2.6 Utilities

The FAA's utility costs are significant due to its running of safety critical equipment 24 hours a day with full back-up power sources.

ATS maintains the Energy Management and Reporting System (EMRS) which provides data on energy consumption by FAA facilities (e.g., electricity, gas, coal, water, etc.). Combining data from EMRS with data from FECS (originally derived from FSEP), a semi-automated process was developed to map each facility reported in EMRS to a facility project and SDP. In some cases, a facility is shared across Services. In this case the applicable EMRS entries are removed from the basis.

A pro rata allocation is performed in PeopleSoft to assign energy costs to facility projects (and their associated SDPs) based on the utility costs per facility reported in EMRS for

FY99. A detailed description of the pool of costs assigned in this allocation can be found in Appendix B.

4.2.2.7 Maintenance Contracts

FAA procures services from commercial vendors to maintain certain hardware and software items used in the NAS. These contracts are large-dollar, multi-year, national contracts that are assigned to the ATS services.

All centralized maintenance contracts are managed by a single organization within ATS. This organization has established unique cost centers to which all maintenance contract costs are charged. As in similar assignments discussed previously, ATS analyzed the maintenance contract's purpose (what system(s) are being maintained) and the associated costs to arrive at the following assignments to each ATS service and to the ATCSCC project.

Service/Project	% Distribution
Enroute	49.34%
Oceanic	4.30%
Terminal	35.23%
Flight Services	8.91%
ATCSCC Project	1.57%
NNCC Project	0.65%
TOTAL	100.00%

Table 2

4.2.2.8 Logistics

The FAA Logistics Center is a large depot that is responsible for maintaining stocks and stores of spare parts for issuance to the field, performing facility refurbishment services, and providing on-site repair services. In addition, the Logistics Center supports the Regional Offices and other LOBs as a source of office supplies and other support equipment. However, the majority of logistics costs are incurred for the provision of ATC services.

These costs would normally be assigned to the Services using a traditional inventory valuation and expensing model. However, because the Logistics Center is not currently structured (organizationally or financially) to operate under such a model, an alternative approach was developed to assign these costs. Logistics Center costs were first divided between ATS and all other LOBs. This was accomplished by analyzing four year average spend patterns (covering fiscal years 1995 through 1998) for each LOB, Regional Office, or National Center. Once identified, the ATS portion was allocated to facility projects and SDPs using statistical transactions derived from the Logistics Information System (LIS).

LIS is used to track the issuance of equipment from the Logistics Center to 'he field (it tracks part information, cost data on the part requisitioned, quantities, the requisitioning cost center, and related customer information). This basis information is convened into statistical transactions and loaded into PeopleSoft. The result is the Logistics Center costs allocated to facility projects (and their associated SDPs) based on the value of spare parts issued to each facility during FY99.

A pro rata allocation is performed in PeopleSoft to assign 94.36 percent (the portion of costs incurred in support of ATS) of the Logistics Center cost pool using the statistical records just described. The diagram below depicts this analysis. A more detailed description of the analysis and the pool definition can be found in Appendix B.

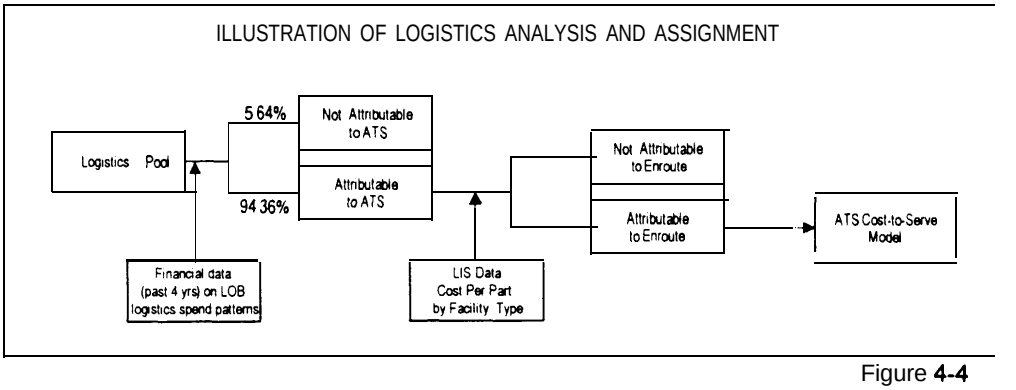


Figure 4-4

4.2.2.9 Airway Facilities Training

As previously described, the ATS organization obtains training primarily fro 'n the FAA Academy. Since training represents a significant cost of providing ATC services, it is receiving special treatment within the CAS.

The FAA Academy, located in Oklahoma City, is a large training facility tha' provides Agency-wide centralized training services. The campus provides classroom and hands-on training to maintenance technicians using sophisticated simulators as well as operating versions of equipment found in the field.

The approach used involves identifying the portion of Academy costs incurred attributable to AF and then to each ATS Service. These percentages were identified by analyzing attendance data provided by the Academy. This attendance data included course number, course hours, and cost center of the student where each record represented a single student.

Using this information, ATS identified those course hours fully attributable to Enroute and those that were partially attributable to Enroute. The total Enroute course hours as a percent of the total course hours equates to 47.19 percent for AF courses. Thus, using the assignment processes within PeopleSoft, 47.19 percent of the AF training pool is assigned to the Enroute service. The diagram below depicts this analysis. A more detailed description of the analysis and the pool definition can be found in Appendix B.

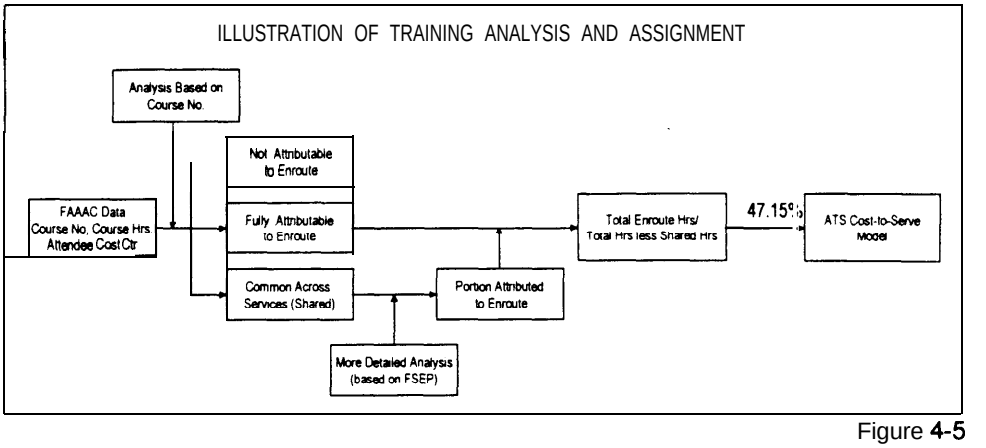


Figure 4-5

4.2.2.10 AF Workers Compensation

Year-end adjustments were made in order to recognize the appropriate level of unfunded liabilities related to workers compensation. AF's share of the workers compensation liability was identified using FY97 Workers Compensation Information System (WCIS) data. WCIS provides access to the most accurate and detailed workers compensation information, by line of business, available from the Department of Labor. The FY99 workers compensation liability was prorated to programs and SDPs based on labor costs. An actuarial liability for workers compensation was also recorded. AF's share of that liability was calculated using the methodology described in Section 3.3.2. These adjustments were allocated to SDPs and programs using labor cost as the basis.

4.2.3 Herndon Facility

A special facility, sometimes referred to as simply the "Herndon facility," received special treatment within the CAS due to the diversity of services and programs provided by the facility and the personnel assigned there. This multipurpose facility provides traffic management and advisory services to air traffic control facilities, centralized NAS management services, and office space for special FAA programs. This complex houses specialized systems that enable the FAA to better manage the flow of air traffic and report facility outage information for the entire country. It has a dedicated controller and maintenance staff as well as a full complement of operational, administrative and management support personnel all of which occupy leased physical space.

Using various region/cost center codes, FECS segregates the costs of the Herndon Facility into three distinct projects: Air Traffic Control System Command Center (ATCSCC), National Maintenance Control Center (NMCC), and Herndon Tenants. Each of these projects is allocated to different targets using a specific basis as follows:

1. **ATCSCC:** The ATCSCC project is allocated to SDPs based on the number of traffic management coordinators (TMCs) residing at each SDP. This is deemed the best available approach because the SDPs with the most TMCs generally benefit most from the service provided by the Command Center. This results in 69.44 pet cent of the

ATCSCC allocated to the Enroute service and the remainder allocated to the Terminal service.

2. **NMCC:** The NMCC project is allocated to SDPs based on the ratio of the number of entries in FSEP assigned to each SDP as a percentage of total FSEP entries. This results in 25.61 percent of the NMCC assigned to the Enroute Service and the remaining 74.39 percent is assigned to the other Services. This basis was deemed the best available approach because the service provided is directly related to the number of facilities.

3. **Tenants:** The Herndon Tenants project is allocated to the Enroute Service on a fixed basis of 52 percent. The remaining 48 percent is assigned to the other Services. This basis (the default for common modernization projects described in 4.2.5.3) is considered the best available approach because no other meaningful basis is available.

4.2.4 Overhead Allocations

A step-down approach was used to allocate all overhead expenses as this approach, when properly implemented, ensures all costs are allocated (i.e., no costs remain in overhead pools after a particular allocation is complete). Within the FAA, overhead costs were classified as LOB-specific or FAA-wide. In either case, these pools represent the costs of support services provided to the line organizations from either the FAA's Washington, DC headquarters or one of its nine regional headquarters. The following sections describe these allocations.

4.2.4.1 ATS Overhead Expense

Each FAA line of business has support organizations designed to provide oversight and support services to the line organizations. ATS' support organizations reside in each of the nine FAA regional headquarters and in FAA's main headquarters. These costs should not be confused with FAA general and administrative costs discussed in Section 4.2.4.2. Figure 4-6 illustrates the ATS step-down overhead allocation. The ATS overhead allocation can be described as two steps: ATS Regional Overhead and ATS Headquarters Overhead.

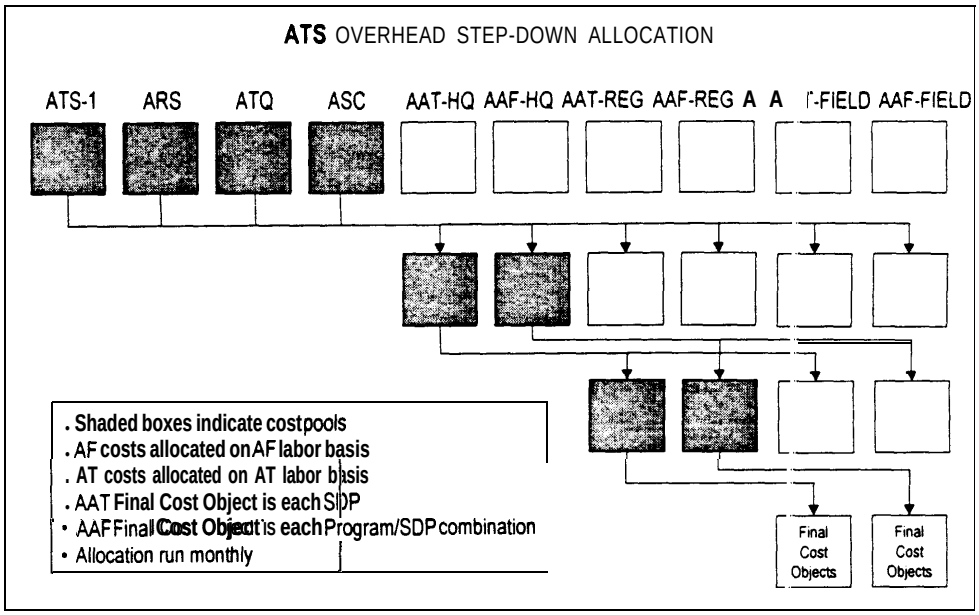


Figure 4-6

A TS Regional Overhead

These costs represent the cost of ATS support services provided to the field by personnel **residing at ATS' regional** offices. The basis for allocating these costs to SDPs/projects is labor cost or personnel compensation and benefits costs (defined as major object classes 1100 and 1200).

A TS Headquarters Overhead

These costs represent the cost of ATS support services provided to the field by personnel residing at FAA headquarters. The basis for allocating these costs to SDPs/projects is labor cost or personnel compensation and benefits costs (defined as major object classes 1100 and 1200).

4.2.4.2 General & Administrative Expense

The FAA is organized such that a majority of its general and administrative (G&A) services are provided by centralized organizations. These organizations provide accounting and budget services; human resources management; government, public and industry affairs; legal and policy services; as well as executive leadership. In order to fully allocate these costs, a step-down model was implemented consisting of several high level steps. The costs of the organizations were identified by cost centers to form each pool of G&A costs. The FAA general and administrative allocation can be described as two steps: FM Regional G&A and FAA Headquarters G&A.

FAA Regional G&A

These costs represent the cost of FAA general and administrative services provided to the lines of business by personnel residing at FAA regional headquarters offices. Note that ARA and AMC don't receive an allocation because these organizations don" have a Regional component. The basis for allocating the cost of finance and accounting related services to each LOB is total cost while the basis for allocating the cost of human resources services and executive leadership (also to each LOB) is labor cost. Within ATS, these costs were allocated to SDPs and programs. Figure 4-7, below, illustrates this allocation in more detail.

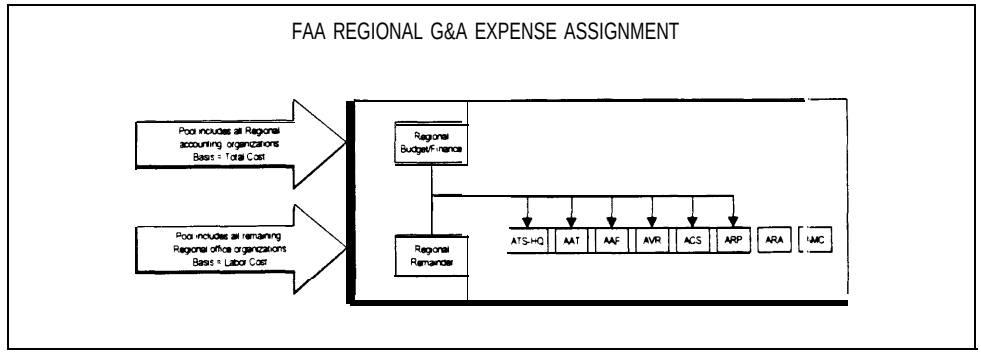


Figure 4-7

FAA Headquarters G&A

These costs represent the cost of FAA general and administrative services provided to the lines of business by personnel residing at FAA headquarters and the Aeronautical Center. The basis for allocating the cost of finance and accounting related services lo each LOB is total cost while the basis for allocating the cost of human resources servicer:; and executive leadership (also to each LOB) is labor cost. Within ATS, these costs were allocated to SDPs and programs. Figure 4-8, below, illustrates this allocation in more detail.

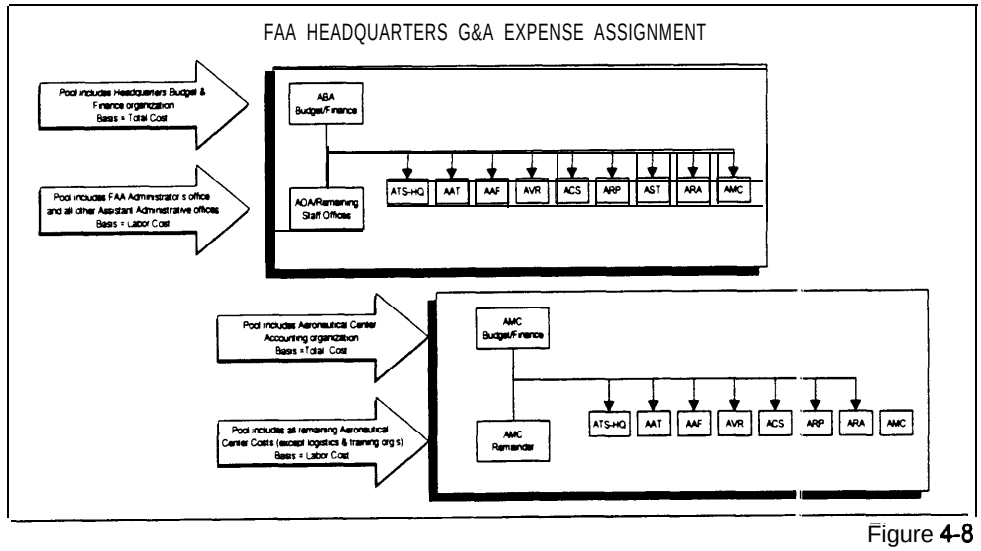


Figure 4-8

4.2.5 Capital Investment

The FAA is in the midst of a major modernization effort in order to update the nation's aging ATC system and infrastructure. The costs described in this section include those costs expensed (as opposed to capitalized) in the course of developing and implementing these new ATC systems. Research and development costs as well as depreciation expenses are also discussed in this section.

4.2.5.1 Airway Facilities Implementation Labor

The FAA is continuously working to modernize the NAS and this requires a skilled workforce to install, integrate, and verify new equipment. The primary FAA organization responsible for this work is the NAS Implementation office (ANI).

Most of the individuals in this organization are required to charge their time worked against projects using an electronic labor distribution system. This system should not be confused with the Agency-wide labor distribution system. The ANI system was designed and implemented several years ago to satisfy different requirements than those identified for cost accounting. However, the resulting information, labor costs by project, is available in DAFIS. This information is brought into PeopleSoft via FECS where project codes have been related to the four services (Enroute, Oceanic, Terminal and Flight Services) using a project tree structure.

Since only a portion of this organization uses the labor distribution system, the CAS must account for the labor costs associated with those not using the system. These labor costs are included in the ATS overhead cost pool. See Section 4.2.4.1 for details on this assignment.

4.2.5.2 Airway Facilities Implementation Non-Labor

As described in Section 4.2.5.1, the majority of employees in this organization charge their time to NAS modernization projects. Likewise, most non-labor costs are also charged to these projects. This is accomplished through existing systems and processes not related to the CAS. However, this information is brought into PeopleSoft via FECS where the project codes have been related to the four ATS services using project trees.

Since only a portion of this organization follows these direct charging practices, the CAS must account for those costs not being charged to projects. These non-labor costs were included in the ATS overhead cost pool. This assignment is described in Section 4.2.4.1.

4.2.5.3 ARA Acquisition and Development Costs

As previously described, the NAS Implementation Office is responsible for installing equipment in the NAS as part of FAA's ongoing modernization effort. Another line of business, Research and Acquisitions (ARA), develops and acquires the systems being implemented by ANI.

All of the costs, labor and non-labor, incurred by ARA are charged to project codes. Project codes have been established to capture direct work (in support of a NAS modernization project) as well as indirect work (such as budgeting activities). All indirect project costs are allocated to direct projects using total cost as the basis. In turn, those direct projects that result in an ATS product (a piece of equipment or capability used in the provision of ATC services) are assigned to one of the four ATS services.

In some cases a particular direct project may need to be attributed to more than one service. In these cases, a fixed distribution of the project's costs was determined and PeopleSoft uses this information to perform a fixed basis allocation. The table below indicates each scenario where this approach was used and the rationale for the assignment.

Cost Element and Rationale	[redacted]	Oceanic	Terminal	Flight Svc	Total
Leases (captured as a project): based on an analysis of actual lease costs for FY99 in FAA's Southern Region.	18.1%	0%	52.1%	20.6%	90.8%^
Tech. Svcs. Contract (TSSC): based on an analysis of actual TSSC invoices performed by the TSSC program office.	14%	0%	84%	2%	100%
Engineering Svcs. Contract (NISC): based on an analysis of actual tasks performed by the NISC program office.	52%	3%	45%	0%	100%
Other Miscellaneous Projects: based on an analysis of three years of Agency-wide F&E funding authorization levels.	52%	0%	47%	1%	100%

Table 3

Notice that Oceanic receives no allocation during this process except for the Engineering Services Contract costs. This is because the Oceanic service receives allocations from the other three categories as a result of assignments that move costs from the Enroute service to the Oceanic service. Section 5 describes the assignment of cost from Enroute to Oceanic. See Appendix A for the ATS project tree illustrating to which Service each ARA project was assigned.

^ The Lease assignment percentages do not total to 100 percent because a portion (9.2%) of the Lease project is assigned to the Herndon Facility.

4.2.5.4 Research and Development

In order to sustain the technology currently deployed in the field, the FAA must maintain a certain level of research and development (R&D). Expenses related to this R&D are captured in various project codes to which labor and non-labor costs are charged. Due to the general nature of R&D, this cost was assigned to the service level only. Based on an analysis of the past two years of R&D project expenditures and the nature of the research, ATS assigned the following percentages of R&D costs to each Service:

Service/Project	% Distribution
Enroute	42%
Oceanic	4%
Terminal	50%
Flight Services	4%

Table 4

4.2.5.5 Depreciation

Depreciation is defined as the proportionate amount of an asset's acquisition cost expensed over its estimated useful life and assigned to the period during which it is in use. This cost was recently recorded in DAFIS (see Section 3 for more information on the source of these costs). Eighteen transactions were entered (two for each FAA region representing Real Property and Personal Property) that covered the period October 1, 1998 to September 30, 1999. This information was passed to PeopleSoft using standard DAFIS transaction processing. Further analysis of these transactions revealed that 95.72 percent of FAA's depreciation was attributable to the ATS LOB.

These summary depreciation transactions do not satisfy the detailed cost accounting requirements identified by ATS. Therefore, an allocation was developed to dis-aggregate the summary transactions using a PeopleSoft allocation and the detailed data found in the source systems (RPR and PPIMS). This data includes the nature of the asset (equipment, land, building, etc.), the site at which it resides (equivalent to FSEP sites), and, when applicable, the facility type to which it relates.

Using this detailed information as the basis, 95.72 percent of the depreciation pool is allocated to all ATS services, programs, and SDPs.

4.2.6 Other Costs

This section describes assignments required to distribute certain unique cost pools. These cost pools consist of labor accruals and adjustments, special transactions made at year-end, and workers compensation costs. For reporting purposes these transactions were grouped into two categories: gain and loss, and accrued liabilities. Within each category there are adjustments made at a 'high level" and adjustments made at a "detailed level." High level adjustments were those adjustments where transactional detail was not available

to treat at a detailed level. Detailed adjustments were made when detailed transactional values (e.g., cost center) permitted the transaction to be treated by established business rules within the CAS. Each category is discussed in greater detail below.

Gain *and Loss*

At each year-end, FAA enters various transactions in order to recognize financial gains and/or losses. These adjustments were made in order to recognize financial gains or losses on inventory and assets, reclassification of certain labor costs from a current year expense to a capitalized cost, accounts payable, and other miscellaneous adjustments. Once each year-end adjustment has been identified, the transactions are entered into the CAS. The treatment of each of these transactions is determined by the values contained in the transaction and established business rules. For example, if a particular adjustment contains detailed information, such as an AF SSC cost center, the transaction is treated by the business rules established for AF field non-labor. However, ii a particular adjustment lacks sufficient detail, the cost is allocated to the four services based on total cost.

Accrued Lia bilities

Also at each year-end, FAA enters various transactions in order to recognize the appropriate level of unfunded liabilities. These adjustments were made in order to recognize the appropriate level of unfunded liabilities for retirement, pension, sick and annual leave, in addition to unfunded expenses related to environmental remediation projects. All accrued liability transactions were entered at a high level due to the lack of sufficient transactional detail. The leave and retirement liabilities are readily indentifiable to LOBs through employee personnel and payroll data. ATS' share of these liabilities are allocated to the four services based on PC&B costs. The liability associated with environmental remediation projects is assigned to ATS because ATS is the primary user of fuel storage tanks which support power generating systems throughout the NAS. This liability is allocated to the four services using the same percentages as Other Miscellaneous Projects F&E allocation (see Table 3).

4.3 Oceanic Assignments

Oceanic services, as described in Section 2, are provided to aircraft operating outside radar and communication coverage generally over international waters. Oceanic procedures among other things, require pilots to report predetermined flight information (position, heading, etc.) at fixed time intervals throughout the flight. This information is relayed to controllers who then assure proper separation.

Based on the definition above, Oceanic service is provided at four of the Enroute SDPs. It shares all of the Enroute-related support and communication equipment but has its own dedicated automation equipment as well as specific additional telecommunications costs. The approach to costing this service was to first isolate those costs directly attributable to Oceanic. Next, ATS assigned a portion of the Enroute costs to Oceanic al: each of the four SDPs. The table below indicates those cost elements not transferred to the Oceanic service and the rationale for not performing the transfer.

Cost Element	Reason for not Transferring
ATCSCC	The ATCSCC does not provide traffic management services specifically to the Oceanic operation
Contract Weather	The Oceanic operation obtains weather data from different sources
Flight Inspection	The Oceanic operation does not use equipment that requires flight inspections

Table 5

To determine the portion of costs incurred at an ARTCC that should be attributed to Oceanic, an analysis was performed that considered a variety of information to arrive at the most meaningful basis. The costs assigned using the method described below include all Air Traffic cost elements and all AF cost elements except general AF support and training. Assignment of these costs is described separately below.

For AF-related costs, the ratio of Oceanic "sectors" to total "sectors" at each of the four Oceanic SDPs was concluded as the most appropriate basis. This is because other bases produced results that could not be supported by the underlying business operations. A sector is a region of airspace assigned to a single controller. ATS will re-evaluate the figures on a yearly basis. The basis used for each Oceanic SDP is shown in the table below. These bases only apply to those programs shared between Enroute and Oceanic. See Appendix A for a detailed list of the programs assigned to Oceanic.

For AT-related costs, historical Oceanic on-position time as a percentage of total ARTCC on-position time was considered the most appropriate basis. This is because this measure reflects the work effort required to provide the Oceanic service. To determine approximate Oceanic on-position time as a percentage of total on-position time, a statistically valid analysis was conducted on a sample of sign-in, sign-out time records logged by controllers in the normal course of performing their duties at each of the four Oceanic SDPs. The table below indicates the actual percentages derived from that analysis and USE d for each Oceanic SDP assignment.

SDP	Basis Amount (AF Costs)	Basis Amount (AT Costs)
New York ARTCC	17%	19.11%
Oakland ARTCC	17%	18.65%
Houston ARTCC	5%	2.96%
Anchorage ARTCC	14%	5.1%

Table 6

As mentioned above, the assignment of general AF support and training was not performed using the percentages discussed above. This is because assigning these costs using the

above percentages would result in an over-allocation of costs to Oceanic due to the nature of these costs elements.

In addition, the Oceanic service uses unique communications services provided by Aeronautical Radio, Inc. (ARINC). The cost of these services were identified using actual ARINC invoices. This amount was assigned directly to the Oceanic service at the service level.

The remaining cost elements (general AF support and training) were assigned using the percentages described below. These percentages were determined specifically for each Oceanic SDP. They reflect the number of dedicated Oceanic facilities, and a portion of shared facilities, as a percent of total facilities at each SDP. These bases were applied to each of the amounts assigned to Enroute (e.g., 8.25 percent of New York ARTCC's Enroute cost of training was assigned to Oceanic).

SDP	Basis Amount for General AF Support and Training
New York ARTCC	8.25%
Oakland ARTCC	8.11%
Houston ARTCC	2.14%
Anchorage ARTCC	4.16%

Table 7

4.4 Service Level Assignments

Throughout Section 4 of this report, numerous assignments have been described. Some cost elements were assigned at the "service level" while other assignments were made to a more detailed level (e.g., SDP or program). The following table identifies those cost elements assigned to the service level, and the reasoning for such assignment.

Cost Element	Reason
Expensed F&E Costs	
• Leases (captured as a project)	Not economically feasible to assign at lower level of detail
• Tech. Svcs. Contract (TSSC)	Not economically feasible to assign at lower level of detail
• Engineering Svcs. Contract (NISC)	Not economically feasible to assign at lower level of detail
• Field-Level F&E Project Costs	Gaps in operational data result in the system being unable to determine SDP
• Other Miscellaneous Projects	No compelling business reason to assign at lower level of detail
Expensed RE&D Costs	No compelling business reason to assign at lower level of detail

Cost Element	Reason
Gain/Loss	Transactions lack sufficient detail to assign at a lower level of detail
Accrued Liabilities	Transactions lack sufficient detail to assign at a lower level of detail

Table 8

A. ATS Project & Activity Dictionary

This Appendix illustrates the hierarchical organization of the projects and activities defined by ATS to meet financial performance management requirements. The first section contains all activities defined by ATS. Activities are assigned to projects based on the organization who "owns" the project. For example, an AT project is assigned AT activities, and so forth. This table does not differentiate between AT and AF projects The following section lists all the projects established by ATS. This list may not be 100 percent inclusive of all ATS projects defined in the CAS. As there are hundreds of projects defined in the system, with new projects added daily, this list is intended to provide a snapshot of the structure of ATS projects in the CAS. Note that many of the projects are modernization projects while others are operational projects.

ATS Activities

Description	Definition
Service	
Capability	
Category	
Program	
ATS Service	
Pre-Duty	Time spent for familiarization with the current air traffic control operation prior to assuming on-position air traffic control duties. This time includes any such familiarization at the beginning of a work shift and any periodic familiarization
Pre-Position	The method and step-by-step process for conducting a position relief briefing and transferring position responsibility from one controller to another.
On-Position	Time spent directly providing air traffic control services.
Corrective Maintenance	Performing equipment repair, system restoration, and certification, as required.
Periodic Maintenance/ Certification	All activities associated with preventive maintenance of hardware and software to include activities specific for certification.
Technical Teaming	Activities and costs associated with information sharing and collaboration with associates.
Shift Augmentation	All additional activity associated with meeting "watch standing" coverage beyond stated staffing requirements.
Modifications	Alterations and/or replacement of hardware, software, and firmware, as required.
Installation	All Activities related to providing installation oversight, telecommunications availsbility, site preparation/integration, materials and final installation testing.
Construction Oversight	All activities related to actual construction or modification of the facility. This includes all activities

Description	Definition
	to execute, control, schedule, quality control, and secure plant equipment to ensure the facility provides a safe environment for its life.
Site Selection	Evaluation of potential sites and preparation of cost/benefit studies and site selection reports.
Implementation Engineering	All engineering activities related to the plants site surveys, design, analysis, and studies. This includes airspace studies, coordination with O&M organizations, and development of plans and specifications.
ATS Commissioning	Participation in JAI, ensure creation of Notice to Airman. and project closeout activities
Environmental, OSHA Compliance Activities	All activities related to satisfying environmental, occupational safety and health and hazardous materials laws and regulations for the program and its products. This includes environmental impact statements, assessments, and Occupational Safety and Health Administration compliance.
ATS Support	
Administrative	Includes activities such as training coordination, time and attendance processing, office administration, budgeting. etc.
Operational	For AT, includes activities such as quality assurance, plans and procedures work, etc. For AF Ops, the activities to provide technical assistance or second-level engineering support, as required, for system restoration or to increase service availability
ATS Training, Technical	For AT, time spent by air traffic control and traffic management personnel to receive documented training. This includes such training as classroom, familiarization, and On-The-Job. For AF, Training designed to increase the Specialist's proficiency in maintaining the NAS systems for which he/she is responsible and has certification authority. For F&E, training directly associated with implementation of NAS programs or equipment.
Official Breaks	Time spent away from operational areas when no duties are assigned.
Other Functions	The time spent by air traffic control and traffic management personnel that excludes service and training time. Activities conducted during this time include, in part, performance evaluations, other breaks, administrative tasks, and time and attendance problem resolution.
Program Support and Oversight	Activities and costs related to internal and external coordination and review of work products
ATS Training, Non-Tech.	Activities associated with attending training designed to make the individual more efficient in operating the tools provided to aid in the support of

Description	Definition
	the mission. This includes computer applications, EEO, CPR, diversity, etc.
Training, Technical	Training designed to increase the Specialist's proficiency in maintaining the NAS systems for which he/she is responsible and has certification authority. For F&E, training directly associated with implementation of NAS programs or equipment.
Union Representative	That time authorized by the negotiated agreement to conduct union business.

ATS Projects

ENROUTE

Air Traffic Enroute

Traffic Control Enroute

Traffic Management Enroute

Support Enroute

Management Enroute

Other Direct Cost Enroute

ATCSSC (Alloc from Herndon)

Automation

Common Avoidance

Auto Dependent Surveillance

ATC Func. Dev/Deploy. – URET Conflict Probe Prototypes

Full Scale Development

Display Access Radar Channel

Enroute Autom. Equip – Improve/Sustain – DA RC SW Mod.

DARC

Display

Additional Operating Positions – Establish

A RTCC Sectorization – Establish High Altitude Sector Operating Positions - Improve

A RTCC Sectorization – Improve

Host & Oceanic Co

Display Complex Channel Rehost

Enroute Domain Infrastructure

Advanced Automation System – E,D,T, & E

AAS – Center Modernization

DCCR

Display Channel Complex Rehost

DCCR – ACT

DCCR – AOS

Display System Replacement (DSR)

DSR - Dismantle M-I Consoles

DSR – Technical Center

DSR – AMC

DSR – AOS

DSR - Seattle, WA

DSR – Production

DSR – Training Simulator

DSR – Dismantle ARTCC M-I Consoles

Micro EARTS

Enroute Stand-Alone Radar Training System

Operating Positions – Reconfiguration

Display

Operating Positions - Improve

- Host
  - FDIO – Establish
  - FDIO – Replace
  - Enroute SW Development & Integration
  - ERDI – Enroute Automation Equipment – Sustain
  - ERDI – HID/CD UN
  - HID/NAS LAN
  - Automated Enroute ATC
  - ERDI – Enroute Automation Equipment – Sustain
  - ERDI – HID/NAS LAN
  - AERA -ACT
  - AERA – AOS
  - HOST – Replace
  - Host
  - OCS
- **Traffic Management Unit**
  - TFM Infrastructure – Re-engineering
  - TFM Functionality Dev/Deploy – Departure Sequencing System
  - Central Altitude Reservation Function
  - TFM Functionality Dev/Deploy – Decision Support Tools
  - TFM Infrastructure – Sustain
  - TFM Infrastructure – Sustain/Traffic Management System Upgrade
  - TFM Functionality Dev/Deploy – TMS Sustain
  - TFM Functionality Dev/Deploy – Collaborative Decision Making
  - TFM Infrastructure – ETMS Operations
  - TFM Functionality Dev/Deploy – Data Exchange
  - TFM Functionality Dev/Deploy – Hub HW Replacement
  - ATM Y2K
  - TMS – Enroute Analysis and Reporting System
  - BUEC Improve
  - TRM Infra-New ETMS Installation
  - TFM – Automated Enroute A TC
  - TFM Functionality Dev/Depl- TMA AD
  - TFM Functionality Dev/Depl TMA
  - A TC Functionality Dev/Depl-CTAS
  - TFM Y2K
  - TMU
  - DOTS
- **ODAPS**
  - ODAPS

Communication

- **Air to Ground Communications**
  - Gulf of Mexico Offshore Program
  - RCAG – Establish
  - VFSS – Convert to Digital
  - RCAG Equipment – Improve
  - RCAG – Add Antenna Towers
  - RCAG Frequencies – Improve/Reterminate
  - RCA G – Replace/Upgrade/Relocate
  - VFSS – Replace Obsolete VFSS
  - RMTE COMM FAC (RCF)EXP/RELO
  - RCF Expand/Relocate
  - Next Generation VHF A/G Comm System
  - NAS Telecommunications for the 21st Century
  - Remote Air to Ground Comm
- **Back-Up Emergency Communications**
  - Backup Emrergency Communications (BUEC)
  - BUEC
- **Contractor Support**

Enroute Communications and Control Facilities – In-Service Engineering
Aeronautical Data Link (ADL)
Aeronautical Data Link (ADL)
ADL Applications
ADL -HID NAS LAN
ADL - Communic Appl-EDT&E
A TN Consortium
AERONA Data Link (ADL) CPDLC
A ERONA Data Link (ADL) A TNSI
Data Multiplexing Network
DMN – Sustain
DMN
National Airspace Data Interchange Network
NA DIN II Enhancements – Provide
AWOS DATA ACQ SYSTEM
Provide ADAS
NADIN
Microwave Communication
Radar Microwave Link Establish
LW Dens RAD COM Link (LDRCL)
RCR-Expan/Reconfiguation
Spectrum Auct Impact-LDRCL
Radar Microwave Link Replacement
Radar Microwave Link Site Work
Microwave Comm
Satellite Communications
Alaskan NAS Interfacility Comm System
Satellite Communications Circuit Backup
Voice Switch and Recording
High Capacity Voice Recorder
VSCS – E, D, T, & E
VSCS – Prime Contract
VSCS Emergency Access Radio System
VSCS Training and Backup System
VSCS Supplemental ORD No. 7
VSCS Field Support
VSCS Four Channel Removal
VSCS WECO Removal
VSCS – Technical Center
VSCS – AOS
VSCS – AMC
VSCS – Albuquerque, NM
VSCS – Anchorage, AK
VSCS – Atlanta, GA
VSCS – Boston, MA
VSCS – Chicago, IL
VSCS – Cleveland, OH
VSCS – Denver, CO
VSCS – Fort Worth, TX
VSCS – Honolulu, HI
VSCS – Houston, TX
VSCS – Indianapolis, IN
VSCS – Jacksonville, FL
VSCS – Kansas City, MO
VSCS – Los Angeles, CA
VSCS – Memphis, TN
VSCS – Miami, FL
VSCS – Minneapolis, MN
VSCS – New York, NY

VSCS – NY TRACON
VSCS – Oakland, CA
VSCS – Salt Lake City, UT
VSCS – Seattle, WA
VSCS – Washington, DC
VSCS – Seattle RO
Radio Control Equipment (RCE) Prov
Multichannel Voice Record Estb
Southern California TRACON CONS HCVR
DFW - HCVR
Multichannel Voice Recd Rep/
Voice Switch and Record

RFI
Air/Ground RFI Elimination
Freq Interference Resolve
Freq and Spectrum Eng
Radio Freq Interference. VANS

support
Critical Comm Support
Leased Telecommunications
Sustain Telecomm Support
NARACS
NAS Reocov Commun (RCOM)

Infrastructure

Buildings
A RTCC – Imporvements
A RTCC – Operational Sppt Space
A RTCC – Sustain
A RTCC Bldg Plant Imporvement
Integ Securitity MGMT Sys
A RTCC Satcom USA/Mexico
ARTCC Bldg Imprve Regional
Enroute Radar Facility Improvement Regional
FAA Bldg And Equip Improve
FAA Building and Equipment Improvement
FAA Buildings & Equipment - Improvements
Structures
Systems

Child Care
ARTCC Child Care Facilities
Child Care Facilities

Environmental Compliance
Hazard Materials Management
Energy Conserva tion Implementa tion
Environmental Standards Compliance
Eng Supp F/Asses Eqrthquake
Fuel Storage Tank Repl Monitor
Facility Decommisioning

Traffic Management Unit
Central Flow Control Facility – Relocate

Power Systems
DC Systems
Light Prot. Gmd, Bond & Shield
Battery Monitoring
Electrical Power Systems
Battery Replacements
Engine Replacements
UPS Replacements & Power Distrib
Power Systems

Real Estate
FAA Employee Housing - Provide
Purchase Land/Easement
Program Support **Leases**
Safety Compliance
Employee Safety A TC Fac
NAS OSHA and Environ Standards
Mission Support
CTERM
CTERM
Contract Support
Technical Services (TSSC)
Transition Engineering Supp
Logistics Supp Serv (LSS)
Flight Check
Aircraft Related Equip Prog.
Aircraft Flight Modernization
Aircraft Dist Meas Equip Pro/IN
Mode S Transponders Proc/Inst
Noise Cancelling Headset Sys
(VHF)Aircraft Comm Equipment
Ground Proximity Warning Sys
Flight Inspect Runaway UPDA Sys D
Global Posit Sys Receivers P/I
Aircraft Mgmt Info Sys Enhan
Medium Size/Rnge Flt Insp A/C
Multi-Mission Flt Insp Aircraft
R & D B727 Aircraft Upgrade
R & D CV-580 Aircraft Upgrade
Maintenance Automation
NIMS - ERMS
NIMS Implemen ta tion Support
NIMS - Sensor Connectivity
NAS Infrastructure Management
NIMS - Mobile Comm
NIMS - Retrofit Rmm
NIMS - MDT
Future AAF Technology
RMMS-RMMS MMS MDT Software
Remote Maintenance Monitoring
Maintenance Control Center
Retofit RMMS
Provide MCC
Maintenance Control Center
Maintenance Automation
Mission Support
Tech Ctr Test Equipment
Airway Science Program
Air Nav And ATC Fac Locl Prj
Innovative Infrared Deicing
Replenishment Spares
FAA-DOD\JTIDS Class 2 Termin
FAA - Defense Comm Agency
Facility Security Risk Mgmt
HR MGMT **Plan** *for NAS Trans/Imp*
Computer Aided Engr Graph
Auto Doc Dev & Maint (Addm)
CA EG Replacement
Integrated Material Mgmt (IMM)

Perf Monitoring Anal System
Warehoused Equip-Install
Air Traffic Cont Chairs - Repl
Resource Tracking Prog
NAS Integr Logistics Supp
NAS Management Auto Prg
Advanced Design & Mgmt Control
Spec Use Airspace Mgmt Sys
Resource Tracking Prg (RTP)
ADP Facilities Mgmt (CORN)
Project Acquire
Modernization Proc Auto - Proj Acq
ATOMS -LAN/WAN
Ind Operational Test (IOT&E)
Year 2000 Date Change Prog
FAA/Dept of Transportation
FAA-US Army R&D & Eng Cntr
Info Sec-NAS Info Coord
Info Sec Security ACO Support
Info Set-Prod Integr Supp
NAS Info System - NAS Info ARC
NAS info Sys (NIS) NAS Lev Corn
Facility Security Risk Mgmt
Airport Datum Monument Prog
Staff
Contract Support
Technical Services (TSSC)
Transition Engineering Supp
Logistics Supp Serv (LSS)
Natural Disaster
Midwest Flood Damage
California Floods
Upper Midwest Flood Damage
EL Nino Floods
Hurricane Bertha
Typhoon Dale
Hurricane Fran
Hurricane Hortense
Huricane Iniki
Hurricane Marilyn
Typhoon PACA
Information
Volcano Monitor
Televideo Conf. NTWK - TVCN
National Barcoding
Staff
AMCC
Telex
Telex
Navigation/Landing
GPS
WAAS for GPS
WAAS for GPS – E,D, T&E
New Austin Airport – GPS
WAAS Lease
Omega Termination Costs
National Satellite Test Bed
WASS
VHF Omnidirectional Range

VOR/DME/TACAN Network Plan – Convert VOR to Doppler VOR
VOR/DME/TACAN Network Plan – Improve VORTAC
New Austin Airport – VORTAC
VOR/DME/TACAN Network Plan – /n-Service Engineering
VOR/VORTAC – Sustain
VOR/DME/TACAN Network Plan – Relocate VORTAC
VOR/DME/TACAN Network Plan – Establish VOR/DME
VOR/DME/TACAN Network Plan – Relocate VOR/DME
VOR Test Signal – Establish
Replace TA CA N Antennas
DME to VOR – Establish/Add
VOR/DME/TACAN Network Plan – Rep/ace non RMM VC Rs
DOD Base Closure – DME
Loran-C
Loran-C Supp
Replace TACAN Antennas
VOR
NMCC (Alloc from Herndon)
SMO Support Project
Surveillance
Contract Support
Long Range Radars
Long Range Radar- Establish
Radar Pedestal Vibration Indicator
Long Range Radar – Improve/A RSR-3 Relocation
Long Range Radar- Improve
Long Range Radar- Improve/Infrastructure Upgrades
Spectrum Auction Impact
Long Range Radar- Replace
Replace Radomes at LRR Fac
Long Range Radar- Refurbish AN/FPS-20 Radars
Long Range Radar- Rep/ace Radome
Common Digitizer – Improve
ARSR
Tenants (Alloc from Herndon)
Weather
Aviation Weather Processor
Natcom Closure
WX Message Switching Center - Repl
ADAS
AWP
Next Generation Radar
NEXRAD – Provide
Aviation Weather Service Technology Enhancements
NEXRAD – Open Systems Upgrade
Weather & Radar Procs Prod Improvement
WARP – Product Improvements
Central Weather Processor
WARP – MWP II
WARP
NEXRAD
Weather Advisory
CNTRL Weather Processor

OCEANIC

Air Traffic Oceanic
Traffic Control Oceanic
Traffic Management Oceanic
Support Oceanic
Management Oceanic

- ***Other Direct Cost Oceanic***
  - Automation
    - ***Display***
      - *Oceanic Auto Sys - Build 1.5*
      - *Oceanic Automation System*
    - ***Traffic Management Unit***
      - *Dyna* Ocean *Reack Sys - Integ*
      - *TFM Y2K*
      - *DOTS*
    - ***Information***
    - ***ODAPS***
      - *ODAPS*
  - Communication
    - ***NADIN***
      - *NADIN*
    - ***Voice Switch and Recording***
      - *High Capacity Voice Recorder*
      - *VSCS – E,D,T, & E*
      - *VSCS – Prime Contract*
      - *VSCS Emergency Access Radio System*
      - *VSCS Training and Backup System*
      - *VSCS Supplemental ORD No. 7*
      - *VSCS Field Support*
      - *VSCS Four Channel Removal*
      - *VSCS WECO Removal*
      - *VSCS Technical Center*
      - *VSCS – AOS*
      - *VSCS – AMC*
      - *VSCS – Albuquerque, NM*
      - *VSCS – Anchorage, AK*
      - *VSCS – Atlanta, GA*
      - *VSCS – Boston, MA*
      - *VSCS – Chicago, IL*
      - *VSCS – C/eve/and, OH*
      - *VSCS – Denver, CO*
      - *VSCS – Fort Worth, TX*
      - *VSCS – Honolulu, HI*
      - *VSCS – Houston, TX*
      - *VSCS – Indianapolis, IN*
      - *VSCS – Jacksonville, FL*
      - *VSCS – Kansas City, MO*
      - *VSCS – Los Angeles, CA*
      - *VSCS – Memphis, TN*
      - *VSCS – Miami, FL*
      - *VSCS – Minneapolis, MN*
      - *VSCS – New York, NY*
      - *VSCS – NY TRACON*
      - *VSCS – Oakland, CA*
      - *VSCS – Salt Lake City, UT*
      - *VSCS – Seattle, WA*
      - *VSCS – Washington, DC*
      - *VSCS – Seattle RO*
      - *Radio Control Equipment (RCD) Prov*
      - *Multichannel VCE Record Estb*
      - *Southern California TRACON Cons HCVR*
      - *DFW - HCVR*
      - *Multichannel VCE Recd Repl*
      - *VS&R*
    - ***support***

- Sustain Telecomm Support
- Infrastructure
  - **Child Care**
    - ARTCC Child Care Facilities
  - **Power**
    - DC Systems
    - Light Prot, GRND, BOND & Shiel
    - Battery Monitoring
    - Electrical Power Systems
    - Battery Replacements
    - Engine Replacements
    - UPS Replacements & PWR DISTRIB
  - **Buildings**
    - ARTCC – Improvements
    - ARTCC – Operational Sppt Space
    - A RTCC – Sustain
    - ARTCC BLDG P/ant Improv
    - Integ Secur Mgmt Sys (ISMS)
    - A RTCC Sa tcom USA/Mexico
    - ARTCC Bldg Imprve Regional
    - Enrte Radr Fac Imprv Regional
    - FAA Bldg And Equip Improve
    - FAA Bldgs REG Improvements
    - FAA Bldgs & Equipment – Improve
  - **Envirnomental Compliance**
    - Hazard Materials Management
    - Energy Conserva Implem
    - Environmental Stds Compliance
    - Eng Supp F/Asses Earthquake
    - Fuel Strge Tnk Repl Monitor
    - Facility Decommissioning
  - **TMU**
    - Relocate CFCF
  - **Real Estate**
    - Purchase Land/Easement
    - Program Support - Leases
- Mission Support
  - **Computer Terminals**
    - CTERMs
  - **Contract Support**
    - Technical Services (TSSC)
    - Transition Engineering Supp
    - Logistics Supp Serv (LSS)
  - **Flight Check**
    - Aircraft Related Equip Prog.
    - Aircraft Flight Modernization
    - Aircraft Dist Meas Equip Pro/IN
    - Mode S Transponders Proc/Inst
    - Noise Cancelling Headset Sys
    - (VHF)Aircraft Comm Equipment
    - Ground Proximity Warning Sys
    - Flight Inspect Runaway UPDA Sys D
    - Global Posit Sys Receivers P/I
    - Aircraft Mgmt Info Sys Enhan
    - Medium Size/Rnge F/t Insp A/C
    - Lrge Size Flight Insp Aircraft
    - Multi-Mission Flt Insp Aircraft
    - R & D B727 Aircraft Upgrade
    - R & D CV-580 Aircraft Upgrade

Maintenance Automation

Maintenance Processor Subsystem
NIMS - ERMS
NIMS Implementation Support
NIMS - Sensosr Connectivity
NAS Infrastructure Management
NIMS Mobile Comm
NIMS - Retrofit RMM
NIMS - MDT
Future AA F Technology
RMMS – RMMS MMS MDT Software
Remote Main t Monitoring
Maintenance Control Center
Retrofit RMMS
Provide MCC
Maint Control *Center*

Mission Support

Staff
Tech Center Test Equipment
Airway Science Program
Air Nav and *ATC FAC Locl Prj*
Innovative Infrared Deicing
Replenishment Spares
FAA-DODVTIDS Class *2 Terminals*
FAA Empl Housing - Provide
FAA - Defense Comm Agency
Facility Security Risk Mgmt
HR Mgmt Plan for NAS Trans/Imp
Computer Aided Engr Graph
Auto Doc Dev & Maint (ADDM)
CAEG Replacement
Integrated Material *Mgmt (IMM)*
Perf Monitoring Anal System
Warehoused Equip-Install
Air Traffic Cont Chairs *- Repl*
Resource Tracking Prog
NAS Integr Logistics Supp
NAS Management Auto Prg
Advanced Design & Mgmt Control
Spec Use Airspace Mgmt Sys
Resource Tracking Prg (RTP)
ADP Facilities Mgmt (CORN)
Project Acquire
Modernize Proc Auto-Proacq
ATOMS - LAN/WAN
Ind Operational Test (IOT&E)
Year 2000 Date Change *Prog*
FAA/Dept of Transportation
FAA-US Army R&D & Eng. Center
Info SEC_NAS Info Coord
Info SEC Security ACO Support
Info SEC-Prod Integr Support
NAS Info System - NAS Info ARC
NAS Info Sys (NIS)NAS Lev Corn
Facility Security Risk Mgmt
Airport DATUM Monument Prog

Natural Disaster

Midwest Flood Damage
California Floods

Upper Midwest Flood Damage
El *Nino Floods*
Hum-cane Bertha
Typhoon Dale
Hurricane Fran
Hurricane Hortense
Hurricane Iniki
Hurricane Marilyn
Typhoon PA CA

Information

Volcano *Monitor*
Televideo Conf. NTWK - TVCN
National Barcoding

Staff

AMCC

Telex

Telex

NMCC
OC SMO Support
Weather

AWP

AWP

UNIDENTIFIED F&E PROJECTS

[Placeholder for programs which can't be associated with a particular service]

B. Allocation Accounting Details

The information below describes the detailed financial data elements used to define allocation pools, bases, and targets. The sections below the table correspond to the sections found in Section 4.2. They contain additional details regarding any analysis performed to identify allocation bases.

To understand this section it is important to have a basic understanding of the FAA's accounting string (also referred to as an accounting classification). The table below indicates each field and its primary purpose.

Each of the fields below can be used to define a pool of costs for allocation purposes. When developing these allocations the FAA followed certain design premises:

1. Only consider "relevant costs" of providing the service;
2. Exclude reimbursables to avoid overstatement of costs; and
3. Select costs consistently using specific general ledger accounts so as to report and allocate only those items that represent "costs."

Proper selection criteria applied to each of the fields, which are described in the table below, help ensure that the design premises above are consistently adhered to throughout the allocation process.

Field	Description
Region	Single digit code which identifies the geographic location of FAA regions. In the CAS, this field is generally used to make sure costs are allocated within the region they are incurred.
Appropriation	Four-digit code which identifies the appropriation (Congressional act that permits Federal agencies to incur expenditures out of Treasury for a specified purpose) that authorized the obligation and expenditure of funds. FAA typically receives four Appropriations: Operations (Ops); Facilities & Equipment (F&E); Research, Engineering & Development (RE&D); and Airport Grants. In the CAS, most cost pools are developed to allocate Ops appropriation costs because F&E and RE&D costs are captured at a project level which generally limits the need to allocate these costs. Airport Grant costs are not included in the CAS.
Limitation	Three-digit code which identifies limitations on the usage of funds established by the appropriation of those funds or other laws governing usage of funds. In the CAS, the primary purpose of this field is to identify reimbursable costs. The CAS excludes reimbursables from cost determination so as to avoid overstating costs.
At lotment Fund Control	A sub-division of the appropriation, it further classifies the appropriation for specific allotments to fund managers. This field helps to identify large pools of costs used for specific purposes. For example, ATS allots a portion of its budget to the Academy for training purposes. This field is used to identify that pool of costs.

Field	Description
Program Element	Six-digit code that represents budget programs or "missions" which are functional activities to which the funds were budgeted. Similar to an allotment, in the CAS, the program element field is used to identify large pools of costs used for specific purposes. For example, ATS uses a specific program element to capture all costs related to environmental remediation projects. The CAS uses this element to allocate and report these costs.
Cost Center	Six-digit code which represents cost collection points such as organizations, functions, geographical locations, or it may represent a combination of these elements. In the CAS, this is the most common field used to develop pools and specify bases for allocations. With this field, one can specify with relative certainty, the pool of costs that represent the human resources department, for example, which is composed of numerous cost centers.
Object Class	Four-digit code which identifies the nature of services, articles, and other items for which obligations and expenditures are incurred. In the CAS, this field is typically used for reporting purposes. For example, utility costs can be identified using specific object class values. The cost associated with these values can then be consolidated on a single line on a report.
General Ledger Account	The account to which the debit or credit amount should be charged. In the CAS, this field is used to identify items as "cost.' See Appendix D for a complete listing of all general ledger accounts included in the CAS.
Amount	Dollar amount of the particular transaction.

The sections below indicate which fields and corresponding values were used to develop the cost pools.

B.1. SSC & SMO Labor Assignment (refers to section 4.2.2.1)

The pool of SSC labor costs to be assigned has been defined as follows:

Appropriation:	All Operations
Limitation:	Non-reimbursable
GL Account:	Expense
Region:	All but Washington HQ, Technical Center, and Aeronautical Center
Cost Center:	SSC-related organizations defined by: 1st and 2nd characters equal '81' through '89', the 3rd and 4th characters not all numeric, and the 4th character not equal to 'A

Note: Special Maintenance Program labor costs are identified in the same manner as above except Program Elements 213, 215, and 216 are added to the criteria

The pool of SMO labor costs to be assigned has been defined as follows:

Appropriation:	All Operations
Limitation:	Non-reimbursable
GL Account:	Expense
Region:	All but Washington HQ, Technical Center, and Aeronautical Center
Cost Center:	SMO-related organizations defined by: 1st and 2nd characters equal '81' through '89', and the 3rd character equal to 'A'

B.2. SSC & SMO Non-Labor Assignment (refers to section 4.2.2.3)

The pool of costs assigned for the SSC non-labor allocation was specified as follows:

Appropriation:	All Operations
Limitation:	Non-reimbursable
GL Account:	Expense
Region:	All but Washington HQ, Technical Center, and Aeronautical Center
Cost Center:	SSC-related organizations defined by: 1st two positions equal '81' through '89'; 3rd position does not equal 'A'; and Not all numeric.

The pool of costs assigned for the SMO non-labor allocation was specified as follows:

Appropriation:	All Operations
Limitation:	Non-reimbursable
GL Account:	Expense
Region:	All but Washington HQ, Technical Center, and Aeronautical Center
Cost Center:	SMO-related organizations defined by: 1st two positions equal '81' through '89' and 3rd position equals 'A'

B. 3. Telecommunications Assignment (refers to section 4.2.2.4)

A pro rata allocation was performed in PeopleSoft to assign these costs to the facility projects and/or SDPs that are connected via leased lines. A detailed description of the leased telecommunications pool of costs assigned in this allocation is described below.

Appropriation:	All Operations
Limitation:	Non-reimbursable
GL Account:	Expense
Region:	Washington HQ
Program Elmnt:	Values for leased telco programs: '511', '513'

B.4. Flight Inspection (refers to section 4.2.2.5)

A pro rata allocation was performed in PeopleSoft to assign these costs to the facility projects that were inspected. A detailed description of the flight inspection pool of costs assigned in this allocation is described below:

Appropriation:	All Operations
Limitation:	Non-reimbursable
GL Account:	Expense
Region:	Aeronautical Center
Cost Center:	All flight inspection organizations

B.5. Utilities Assignment (refers to section 4.2.2.6)

A pro rata allocation was performed in PeopleSoft to assign these costs to facility projects (and their associated SDPs). A detailed description of the utilities pool of cost assigned in this allocation is described below:

Appropriation:	All Operations
Limitation:	Non-reimbursable
GL Account:	Expense
Region:	All but Washington HQ, Technical Center, and Aeronautical Center
Cost Center:	All AF organizations: '8%' (% equals wildcard)
Object Class:	All energy-related values: '233P', '233Q', '233R', '233T', '233U', and '233V'

B. 6. Logistics Assignment (refers to section 4.2.2.8)

A pro rata allocation was performed in PeopleSoft to assign 94.36% of the logistics pool (the portion of costs incurred in support of ATS) to each service and SDP. A detailed description of the logistics pool of cost assigned in this allocation is described below.

Appropriation:	All Operations
Limitation:	Non-reimbursable
GL Account:	Expense
Region:	Aeronautical Center
Cost Center:	All Logistics Center organizations: '1Q%' (% equals wildcard)

B.7. Academy Training Assignment (refers to section 4.2.1. 4 and 4.2.2.9)

ATS performed the following analysis of the Academy attendance data to identify a percentage of the pool of training costs that should be assigned to the Enroute Service.

- Began with attendance data provided by the Academy covering FY99 where each record correlates to a single student and contains the course number, course hours, and cost center of the student;
- Identified all records that were 100 percent attributable to Enroute;
- Identified all records that were 100 percent not attributable to Enroute;
- Remaining records represent course hours shared across services (only AF data had courses that were shared across services);
- Calculated the percent of pool to be assigned to Enroute by identifying the total Enroute assigned hours as a percentage of total course hours less shared hours which resulted in 47.19 percent for AF and 26.55 percent for AT.

A straightforward fixed basis allocation was performed in PeopleSoft to assign the above percentages of the pools, described below, to the Enroute Service.

Appropriation:	All Operations
Limitation:	Non-reimbursable
GL Account:	Expense
Region:	Aeronautical Center
AFC:	AF training funds: '4C0'; AT training funds: '4K0'
Program Elemt.	AF training program: '260'; AT training program '182'
Cost Center:	All Academy-related organizations: '1A%' (% equals wildcard)

B.8. Contract Weather Services (refers to section 4.2.1.3)

These costs were identified in PeopleSoft and allocated evenly across all Enroute SDPs. A detailed description of the contract weather pool of costs assigned in this allocation is described below:

Appropriation:	All Operations
Limitation:	Non-reimbursable
GL Account:	Expense
Region:	Washington HQ
Cost Center:	The value for ATO-10, the organization that manages the contract weather program: '2111'
Object Class	All contract services related values: '25%' (% equals wildcard)

B. 9. Contract Training Assignment (refers to section 4.2.1.4)

ATX-100 provided a breakdown of costs invoiced under the contract training program by SDP. A pro rata allocation was performed in PeopleSoft to assign these costs to the SDPs.

Appropriation:	All Operations
Limitation:	Non-reimbursable
GL Account:	Expense
Region:	Washington HQ
Program Elemt.	AT contract training program: '181'
Cost Center:	Value for ATX-100 the organization responsible for managing the contract training program: '2220'

B.10. Aviation Medical Assignment (refers to section 4.2.1.5)

Following detailed analysis of budget data by AAM-130, ATS concluded that 32.78 percent of AAM costs incurred are in support of ATS to administer medical exam and drug testing programs. A pro rata allocation was performed in PeopleSoft to assign these costs to the SDPs using PC&B as the basis.

Appropriation:	All Operations
Limitation:	Non-reimbursable
GL Account:	Expense
Region:	All FAA Regions
Cost Center:	All AAM cost center codes

B.11. Aviation Security Assignment (refers to section 4.2.1.6)

Based on a detailed analysis of budget data by ACS personnel, ATS concluded that 5.39 percent of ACS costs incurred are in support of ATS. A pro rata allocation was performed in PeopleSoft to assign these costs to the SDPs using PC&B as the basis.

Appropriation:	All Operations
Limitation:	Non-reimbursable
GL Account:	Expense
Region:	All FAA Regions
Cost Center:	All ACS cost center codes

B.12. Contract Maintenance Assignment (refers to section 4.2.2.7)

Based on a detailed analysis of each maintenance contract, ATS concluded that the following percentages reflect an accurate distribution of the costs to each Service:

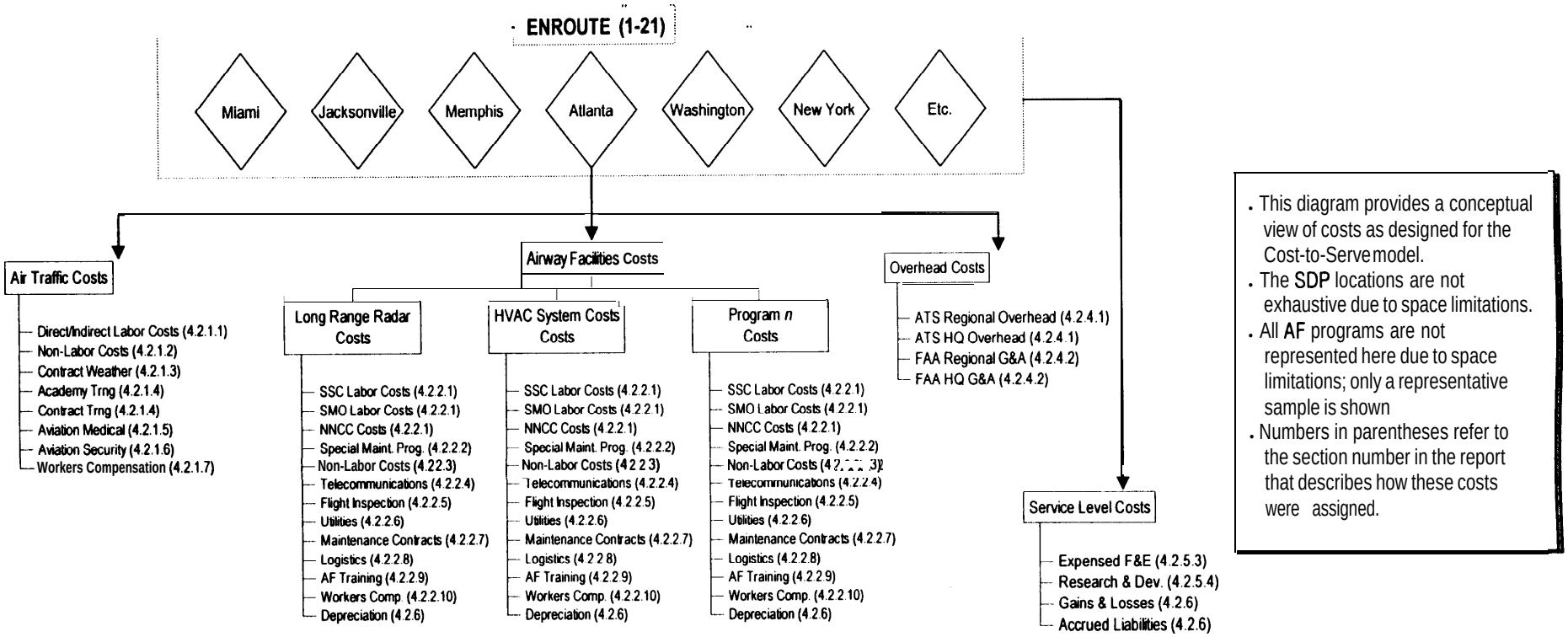
Service/Project	Basis Amount
Enroute	49.34%
Oceanic	4.30%
Terminal	35.23%
Flight Services	8.91%

Service/Project	Basis Amount
ATCSCC Project	1.57%
NNCC Project	0.65%
TOTAL	100.00%

A detailed description of the contract weather pool of costs assigned in this allocation is described below:

Appropriation:	All Operations
Limitation:	Non-reimbursable
GL Account:	Expense
Region:	Washington HQ
Cost Center:	Values for AOS-10 and AOS-100; the organizations responsible for managing the contract maintenance program: '8810', '8840'

C. Conceptual Decomposition of Costs at a Service Delivery Point



- This diagram provides a conceptual view of costs as designed for the Cost-to-Serve model.
- The SDP locations are not exhaustive due to space limitations.
- All AF programs are not represented here due to space limitations; only a representative sample is shown
- Numbers in parentheses refer to the section number in the report that describes how these costs were assigned.

D. General Ledger Account Detail

The following general ledger account series are used to extract transaction':; from DAFIS for processing through FECS (Front End Control System):

GL Account Series	Account Type
15--	Proprietary - Inventory
48--	Budgetary
49--	Budgetary
51--	I Proprietary - Revenue
52--	) Proprietary – Revenue
55--	Proprietary – Revenue
59--	Proprietary – Revenue
61--	Proprietary – Expense
63--	T Proprietary – Expense
64--	Proprietary – Expense
65--	Proprietary – Expense
69--	I Proprietary – Expense
71--	Proprietary – Gain/Loss

The Office of Management and Budget prescribes these standard general ledger account series to be used by each federal entity. Within each series there can be many individual accounts each sharing the overall description of the series.

E. Documents Used in Report

Below is an index of all documents, and their source, used in writing this report.

Title	Source
FAA Policy and Procedures for Accounting for Other Governmental Liabilities	ABA-20
FAA Policy and Procedures for Accounting for Federal Employees' Compensation Act for Workers Compensation	ABA-20
FASAB SFFAS No. 4 - Managerial Cost Accounting Concepts and Standards for the Federal Government	FASAB
JFMIP FFMSR-8 Exposure Draft, Managerial Cost Accounting System Requirements, April 1997	JFMIP
OMB Letter dated 6 April 1996 re: Recognition of Inter-Entity Costs	ABA-600
FAA Order 2700.31, Section 1 - Capitalization of Property, Plant, and Equipment	ABA-20
FAA Order 2700.31, Section 26 - Depreciation of Real Property	ABA-20
FAA Order 1380.40C - Airway Facilities Sector Level Staffing Standard System	ABA-20
Statements by the Council (ICAO) to Contracting States on Charges for Airports and Air Navigation Services, Fifth Edition - 1997	ICAO
White Paper on Choice of ESL for FAA Analysis Purposes, Revision 2	ABA-20
CAS Labor Distribution User's Guide	AFM-600
Allocation Set-Up Reports (GLS6000)	AFM-600
Allocation Steps and Groups Document – Updated 16 March 2000	AFM-600
List of General Ledger Accounts Used in the CAS	FECS
Process/Data Flows Related to F&E Spending/Project Capitalization	C&L Study
ATS Business Rules	ATS-8
ATS Supporting Documentation	ATS-8
DOT Inspector General Audit Report dated August 10, 1998 and FAA Response.	ABA-20

F. Acronym List

Below is a list of acronyms used throughout this document.

AAD	Office of the Associate Administrator for Administration
AAF	Airway Facilities Service
AAT	Air Traffic Service
ABC	Activity Based Costing
ACS	Office of the Associate Administrator for Civil Aviation Security
AF	Airways Facilities
AF IMP	Airway Facilities Implementation Organization
AF OPS	Airway Facilities Operations Organization
AFSS	Automated Flight Service Station
AMC	Mike Monroney Aeronautical Center
AMCC	remote maintenance function
AMIS	Aircraft Management Information System
ANI	National Airspace System Implementation Program
AOA	Office of the Administrator
ARA	Office of the Associate Administrator for Research & Acquisitions
ARP	Office of the Associate Administrator for Airports
ARTCC	Air Route Traffic Control Center
AST	Office of the Associate Administrator for Commercial Space Transp.
AT	Air Traffic Organization
ATCSCC	Air Traffic Control System Command Center
ATCT	Airport Traffic Control Tower
ATS	Office of the Associate Administrator for Air Traffic Services
AVR	Office of the Associate Administrator for Regulation & Certification
CAS	Cost Accounting System
CCF	Combined Control Facility
CPMIS	Consolidated Personnel Management Information System
CUPS	Consolidated Uniform Payroll System
DAFIS	Departmental Accounting and Financial Information System
DOL	Department of Labor
DOT	Department of Transportation
EMRS	Energy Management Reporting System

FAA	Federal Aviation Administration
FASAB	Federal Accounting Standards Advisory Board
FECS	Front-End Control System
FSEP	Facility Services and Equipment Profile
G&A	General & Administrative Expense
GAO	General Accounting Office
GPRA	Government Performance and Results Act of 1993
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
IPPS	Integrated Personnel Payroll System
JFMIP	Joint Financial Management Improvement Program
LIS	Logistics Information System
LOB	Line of Business
MRC	Monthly Recurring Cost
NAS	National Airspace System
NCARC	National Civilian Aviation Review Commission
NISC	NAS Infrastructure Support Contract (Engineering Services Contract)
NMCC	National Maintenance Control Center
NNCC	National Network Control Center
OIG	Office of the Inspector General
OMB	Office of Management and Budget
OPM	Office of Personnel Management
PPIMS	Personal Property In-Use Management System
RPR	Real Property Record
SDP	Service Delivery Point
SFFAS	Statement of Federal Financial Accounting Standards
SMO	System Management Office
SSAS	Staffing Standards Analysis System
SSC	System Support Center
TIMS	Telecommunications Information Management System
TRACON	Terminal Radar Approach Control
TSSC	Technical Services Support Contract
VFR	Visual Flight Rules
VOR	VHF Omnidirectional Range

WC	Workers Compensation